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Environmental Liability and Ecological Damage in European Law

EDITED BY
MONIKA HINTEREGGER

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Environmental Liability and Ecological Damage in European Law

Providing a comprehensive analysis of environmental liability law in Europe, this book offers a general introduction to the status of environmental liability in Europe. It describes the relevant international treaties and the EC Environmental Liability Directive and discusses the conflict of laws issues regarding transfrontier environmental damage. It also contains the results of a comparative project covering fourteen jurisdictions in thirteen European countries (Austria, Belgium, England, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Scotland, Spain and Sweden) on the private law aspects of environmental liability. It addresses the main problems of the application of tort law in environmental law, such as the availability of no-fault liability, the establishment of causation, the scope of available remedies and the issue of legal standing. Due to the very limited harmonizing effect of the EC Environmental Liability Directive national tort law will keep its importance in the field of environmental liability.

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The Common Core of European Private Law

For the transnational lawyer the present European situation is equivalent to that of a traveller compelled to cross legal Europe using a number of different local maps. To assist lawyers in the journey beyond their own locality *The Common Core of European Private Law Project* was launched in 1993 at the University of Trento under the auspices of the late Professor Rudolf B. Schlesinger.

The aim of this collective scholarly enterprise is to unearth what is already common to the legal systems of European Union member states. Case studies widely circulated and discussed between lawyers of different traditions are employed to draw at least the main lines of a reliable map of the law of Europe.

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Preface

The notion of environmental damage is a rather recent development in tort law on both a national and an international level. Constant degradation of environmental goods, such as air, water and wildlife, by emissions and old dumpsites and spectacular industrial accidents causing pollution created a new awareness by the public of the environment. National legislation and new international treaties show that tort liability is attributed an increasing role in the protection of the environment by decision-makers. The most recent example is EC Directive 2004/35/EC on Environmental Liability with Regard to the Prevention and Remedying of Environmental Damage (OJ L 143, p. 56, 30 April 2004). The Directive, however, provides for a rather narrow concept of environmental liability. Although Member States are not prevented from maintaining or enacting more stringent provisions, it must be expected that the Directive will only provide for limited harmonisation of Member State laws with regard to the prevention and remediation of environmental damage. National tort law will therefore continue to play a major part in the field of environmental liability.

This book provides an analysis of how private law regimes in Europe cope with the problem of damage to the environment. In Part I, there are general introductions to the status of environmental liability in Europe and conflict of laws issues regarding transfrontier environmental damage.

Part II of the book contains the comparative project covering fourteen jurisdictions in thirteen European countries. It concentrates on the private law aspects of environmental liability. Thus, the main problems of the application of tort law in the field of environmental law – such as the availability of no-fault liability, the establishment of causation, the scope of available remedies and the crucial issue of legal standing – are addressed.

The 'Environmental liability and ecological damage in European Law' project was launched in July 2000 at the general meeting of the Common Core project in Trento, where a first draft questionnaire, developed by the editor of this book, was discussed by several scholars of the environmental group of the Trento project. Already at that meeting, the first participants in the project joined in, and, in 2001, again at the general meeting of the Common Core project, the questionnaire was finalised and presented to the members of the tort group of the Common Core project (chaired by Professor Mathias Reimann, University of Michigan Law School), who were very supportive of the idea to engage in a comparative study on environmental liability law. The following years were spent recruiting legal experts from those states that were not yet covered and preparing the responses, which were discussed during several meetings of the project team.

By including fourteen reports from thirteen countries (Austria, Belgium, England, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Scotland, Spain and Sweden), the rather ambitious plan to cover all the (then) fifteen Member States of the European Union was nearly achieved. It was, however, not possible to expand the scope of the project when the enlargement of the European Union to twenty-five Member States took place on 1 May 2004, as the project was already in a very advanced stage at that time. The same applies for the accession of Bulgaria and Romania on 1 January 2007. The challenging and extremely interesting endeavour of a comparative analysis of the environmental liability laws of these jurisdictions must therefore be left to a follow-up project.

Acknowledgments

The editor of and the contributors to this volume wish to thank all those who have made this book possible. First of all, thanks to Ugo Mattei and Mauro Bussani, the general editors of the Common Core project, for including this volume in the Common Core of European Private Law series, and to Franz Werro, the new chairman of the tort group of the Trento project, for reviewing the first draft of the volume and for his helpful comments and suggestions. We are very indebted to all those who so efficiently organised the numerous meetings in Trento during which the project was developed, discussed and finalised, namely, Mrs Carla Boninsegna and her team. Many thanks also go to Cambridge University Press for accepting the volume for publication and all those at Cambridge University Press who helped in the publishing process.

During the long process of writing this book, many persons have helped to bring this project to fruition. I thank Manuela Weissenbacher, Elke Buchwalder and Georg Aichinger for the assistance they have provided throughout the preparation of the project, Monika Lammer for the technical preparation of the manuscript and Rachel Tripp for her help with linguistic matters.

Monika Hinteregger, Graz, 2008

General editors' preface

This is the eighth book in the Common Core of European Private Law series published within Cambridge Studies in International and Comparative Law. The project was launched in 1993 at the University of Trento under the auspices of the late Professor Rudolf B. Schlesinger.

The methodology used in the Trento project is novel. By making use of case studies it goes beyond mere description to detailed inquiry into how most European Union legal systems resolve specific legal questions in practice, and provides a thorough comparison between those systems. It is our hope that these volumes will provide scholars with a valuable tool for research in comparative law and in their own national legal systems. The collection of materials that the Common Core project is offering to the scholarly community is already quite extensive and will become even more so when more volumes are published. The availability of materials attempting a genuine analysis of how things are is, in our opinion, a prerequisite for an intelligent and critical discussion on how they should be. Perhaps in the future European private law will be authoritatively restated or even codified. The analytical work carried on today by the almost 200 scholars involved in the Common Core project is also a precious asset of knowledge and legitimisation for any such normative enterprise.

We must thank the editors of and contributors to these first published results. With a sense of deep gratitude we also wish to recall our late Honorary Editor, Professor Rudolf B. Schlesinger. We are sad that we have not been able to present him with the results of a project in which he believed so firmly.

No scholarly project can survive without committed sponsors. The Italian Ministry of Scientific Research is funding the project, having recognised it as a 'research of national interest'. The International

University College of Turin with the Compagnia di San Paolo and the Consiglio Nazionale del Notariato allow us to organise the general meetings. The European Commission has partially sponsored some of our past general meetings, having included them in their High Level Conferences Program. The University of Turin, the University of Trieste, the Fromm Chair in International and Comparative Law at the University of California and the Hastings College of Law, and the Centro Studi di Diritto Comparato of Trieste, have all contributed to the funding of this project. Last but not least, we must thank all those involved in our ongoing projects in contract law, property, tort and other areas, whose results will be the subject of future published volumes.

Our home page on the internet is at http://www.iuctorino.it. There you can follow our progress in mapping the common core of European private law.

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Abbreviations

§	paragraph (section number for German, Austrian and Scandinavian legislation)
AbfG	Abfallgesetz (Disposal Act)
ABGB	Allgemeines Bürgerliches Gesetzbuch (Austrian Civil Code)
AC	Law Reports: Appeal Cases
AcP	*Archiv für die civilistische Praxis* (legal journal)
ADC	*Anuario de Derecho Civil* (legal journal)
ADEME	Agence de l'environnement et de la maîtrise de l'énergie
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AHG	Amtshaftungsgesetz (Official Liability Act)
AIR (SC)	All India Reporter, Supreme Court
AJCL	*American Journal of Comparative Law*
AK	Astikos Kodikas (Civil Code)
All ER	All England Law Reports
ANW	Algemene Nabestaandenwet (Surviving Dependants Act)
AP	Areios Pagos (Greek Supreme Court of Cassation)
AP	Audiencia Provincial (Court of Appeal)
App Cas	Law Reports: Appeal Cases, House of Lords
APR	Algemene Praktische Rechtsverzameling
ArchN	*Archeio Nomologhias* (Jurisprudence Archive, legal journal)
Art.	Article

ASVG	Allgemeines Sozialversicherungsgesetz (General Social Security Insurance Act)
AtomG	Atomgesetz (Atomic Energy Act)
AtomHG	Atomhaftungsgesetz (Nuclear Liability Act)
AWBZ	Algemene Wet Bijzondere Ziektekosten (Exceptional Medical Expenses Act)
AWG	Abfallwirtschaftsgesetz (Waste Management Act)
BAT	Best Available Technology
BATNEEC	Best Available Technology Not Entailing Excessive Cost
BayLStVG	Bayrisches Landesstraf- und Verordnungsgesetz (Bavarian Penal and Regulation Code)
BayPAG	Bayrisches Polizeiaufgabengesetz (Bavarian Police Duty Code)
BayRS	*Bayerische Rechtssache* (Bavarian Law Gazette)
BF	Belgian francs
BGB	Bürgerliches Gesetzbuch (German Civil Code)
BGBl	*Bundesgesetzblatt* (Federal Law Gazette, Austria)
BGBl	*Bundesgesetzblatt* (Federal Law Gazette, Germany)
BGH	Bundesgerichtshof (Federal Supreme Court)
BGHZ	Entscheidungen des Bundesgerichtshofes in Zivilsachen (Decisions of the Federal Supreme Court in Private Law Matters)
BIMJ	*Boletín de Información del Ministerio de Justicia* (legal journal)
BImSchG	Bundes-Immissionsschutzgesetz (Federal Immission Control Act)
BImSchV	Bundes-Immissionenschutzverordnung (Federal Immission Control Regulation)
BLE	*Boletin de Legislacion Extranjera*
BLR	*Business Law Review*
BOE	*Boletín Oficial del Estado* (Official Journal of Spain)
BR	*Bouwrecht* (legal journal)
BT	Bundestag
Bull. Ass.	*Bulletin des Assurances*
BW	Burgerlijk Wetboek (Belgian Civil Code)

BW	Burgerlijk Wetboek (Dutch Civil Code)
CA	Cour d'appel (Court of Appeal)
CAA	Cour Administrative d'appel
Cass.	Cour de cassation, Hof van cassatie (Belgian Supreme Court)
Cass.	Cour de cassation (High Court of France)
CBR	Centrum voor Beroepsvervolmaking Rechten
CC	Code Civil (French Civil Code)
CC	Codice Civile (Italian Civil Code)
CC	Código Civil (Portuguese Civil Code)
CC	Código Civil (Spanish Civil Code)
CCJC	*Cuadernos Civitas de Jurisprudencia Civil* (legal journal)
CCP	Code of Civil Procedure
CE	Conseil d'Etat (Highest Administrative Court)
CE	Comunità Europea (European Community)
CE	Constitución Española (Spanish Constitution)
CEE	Comunità Economica Europea (European Economic Community)
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (US)
CFR	United States Code of Federal Regulations
CGPJ	Consejo General del Poder Judicial (General Council of the Judiciary)
Ch	Chapter
Ch	Law Reports: Chancery Division (1891 onwards)
ChD	Law Reports: Chancery Division 1875–90
civ.	Cour de cassation, Chambre civile (civil case)
civ.	civil case
civ. 1	First Civil Chamber of the Cour de cassation
civ. 3	Third Civil Chamber of the Cour de cassation
CJHB	C. J. H. Brunner (annotator)
CLC	Civil Liability Convention
CMD	Common Ministerial Decision
CMLR	*Common Market Law Reports*
CMLR	*Common Market Law Review*
COD	*Crown Office Digest*
COM	Document of the European Commission

CP	Ley Orgánica 10/1995, de 23 de noviembre, del Código Penal (Criminal Code)
crim.	Cour de cassation, Chambre criminal (criminal case)
CRP	Constitution of the Portuguese Republic
CRTD	Convention of October 10, 1989 on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels
CVM	Contingent Valuation Methodology
CWA	Clean Water Act (US)
DB	*Der Betrieb* (German-based legal journal)
DC Cir.	District of Columbia Circuit
DEFRA	Department of the Environment, Food and Rural Affairs
DEM	Deutsche Mark (former German currency)
DETR	Department of the Environment, Transport and the Regions
Dfl	Dutch guilders
Dni	*Dikaiosini* (Justice, legal journal)
DOGC	*Diari Oficial de la Generalitat de Catalunya* (Oficial Journal of Catalonia)
DOI	Department of the Interior (US)
dRGBl	*Deutsches Reichsgesetzblatt* (German Reich Law Gazette)
EB	Erläuternde Bemerkungen (explanatory comments)
ECHR	European Convention on Human Rights
Ecolex	*Fachzeitschrift für Wirtschaftsrecht* (legal journal)
Ecology LQ	*Ecology Law Quarterly* (US journal)
ECR	*European Court Reports*
ECtHR	European Court of Human Rights
EDF	Electricité de France
EED	*Ephitheorisis tou Emporikou Dikaiou* (Review of Commercial Law, legal journal)
EELR	*European Environmental Law Review*
EEN	*Efimeris Ellinon Nomikon* (Journal of Greek Jurists, legal journal)

EEZ	exclusive economic zone
EfAth	Efeteio Athinon (Athens Court of Appeal)
EFSlg	*Sammlung ehe- und familienrechtlicher Entscheidungen* (case reports)
EGBGB	Einführungsgesetz zum Bürgerlichen Gesetzbuch (Introductory Law to the Civil Code, Germany)
EKHG	Eisenbahn- und Kraftfahrzeughaftpflichtgesetz (Act on Railway and Motor Vehicle Liability)
EllDni	*Elliniki Dikaiosini* (Greek Justice, legal journal)
ELM	*Environmental Law and Management* (UK-based journal)
ELR	*European Law Review* (UK-based journal)
EMM	E. M. Meijers (annotator)
Env Law	*Environmental Law* (US legal journal)
Env Liability	*Environmental Liability* (UK-based legal journal)
Env LR	*Environmental Law Review* (UK-based journal)
Env LR	Environmental Law Reports
Env.	Environment/Environmental
EPA	Environmental Protection Agency/ Environmental Protection Agency Act
EPA	Environmental Protection Act 1990
EvBl	*Evidenzblatt der Rechtsmittelentscheidungen* (included in the *Österreichische Juristenzeitung*, ÖJZ) (case reports)
Exch	Exchequer Reports Welsby, Hurlstone & Gordon (1847–56)
ExD	Exchequer Division, Law Reports
FAPAS	Fondo Asturiano para la Protección de los Animales Salvajes (NGO in Asturias)
FBILL	Revised version of the biological index of the Besòs and Llobregat rivers (BILL) developed in 1999 by researchers of the University of Barcelona
FEK	Greek Official Gazette
FF	French franc
ForstG	Forstgesetz (Forestry Act)
GenTG	Gentechnikgesetz (Genetic Engineering Act)

GerW	Gerechtelijk Wetboek
GewO	Gewerbeordnung
GG	Grundgesetz (Basic Law)
Giust.civ.	*Giustizia civile* (legal journal)
GlUNF	Glaser/Unger Neue Folge, *Sammlung zivilrechtlicher Entscheidungen des OGH* (case reports)
GMO	genetically modified organism
GP	Gesetzgebungsperiode (legislative period)
GTG	Gentechnikgesetz (Gene Technology Act)
GU	*Gazzetta Ufficiale della Repùbblica Italiana* (Official Law Gazette, Italy)
HaftpflG	Haftpflichtgesetz (Legal Liability Act)
Harvard Env LR	*Harvard Environmental Law Review*
HL	House of Lords
HLC	House of Lords Cases (1847–66)
HR	Hoge Raad (Supreme Court)
IAEA	International Atomic Energy Agency
IBS	Interim Wet Bodemsanering (Interim Soil Clean-up Act)
ICLQ	*International and Comparative Law Quarterly* (UK-based journal)
ILM	*International Legal Materials* (US legal journal)
ILRM	Irish Law Reports Monthly
ILTR	Irish Law Times Reports
IOPCF	International Oil Pollution Compensation Fund
IPC	Integrated Pollution Control
JBl	*Juristische Blätter* (legal journal)
JCP	*Jurisclasseur périodique* (law report; otherwise known as *La Semaine Juridique*), édition générale
JCS	J. C. Schultsz (annotator)
JEEPL	*Journal for European Environmental and Planning Law*
JHN	J. H. Nieuwenhuis (annotator)
JJP	*Journal des Juges de Paix*
Journ. Proc.	*Journal des proces*
JT	*Journal des Tribunaux*
JZ	*Juristenzeitung* (legal journal)
KB	Law Reports: King's Bench Division
KG	*Kort Geding* (legal journal)

KHVG	Kraftfahrzeug-Haftpflichtversicherungsgesetz (Third Party Motor Insurance Law)
LA	Real Decreto Legislativo 1/2001, de 20 de julio, por el que se aprueba el texto refundido de la Ley de Aguas (Waters Act)
LAAPC	Local Authority Air Pollution Control
LANISRV	Ley 13/1990, de 9 de juliol, de l'acció negatòria, les immissions, les servituds i les relacions de veïnatge (Catalan Nuisance Act)
LAP	Law No. 83/95, 31 August 1995
LBA	Base Law on the Environment
LC	Ley 1/1970, de 4 de abril, de caza (Hunting Act)
LCEN	Ley 4/1989, de 27 de marzo, de conservación de los parques nacionales y de la flora y fauna silvestres (National Parks Act)
LCS	Ley 50/1980, de 8 de octubre, de contrato de seguro (Insurance Contract Act)
LEC	Ley 1/2000, de 7 de enero, de Enjuiciamiento Civil (Civil Procedure Act)
LEN	Ley 25/1964, de 29 de abril, de energía nuclear (Nuclear Energy Act)
LFG	Luftfahrtgesetz (Civil Aviation Act)
LGBl	Landesgesetzblatt (Regional Law Gazette)
LGDCU	Ley 26/1984, de 19 de julio, general para. la defensa de los consumidores y usuarios (Consumers Act)
LGDJ	Librairie générale de droit et de jurisprudence (publisher)
LGGS	Real Decreto Legislativo 1/1994, de 20 de junio, por el que se aprueba el texto refundido de la Ley General de la Seguridad Social (Social Security Act)
LGS	Ley 14/1986, de 25 de abril, General de Sanidad (General Health Act)
Lloyd's Rep	Lloyd's Reports
LNA	Ley 48/1960, de 21 de julio, sobre normas reguladoras de la navegación aérea (Air Navigation Act)

LOE	Ley 38/1999, de 5 de noviembre, de Ordenación de la Edificación (Organisation of the Construction Act)
LOPJ	Ley Orgánica del Poder Judicial (Organic Act of Judicial Power)
LPEMM	Ley 27/1992, de 24 de noviembre, de Puertos del Estado y de la Marina Mercante (State Ports and Merchant Shipping Act)
LQR	*Law Quarterly Review* (UK)
LR	Ley 10/1998, de 21 de abril, de Residuos (Waste Act)
LR App Cas	Law Reports: Appeal Cases
LR ExD	Law Reports: Exchequer (1865–75)
LR Ir	Law Reports (Ireland), Chancery and Common Law
LR QB	Law Reports: Queen's Bench (1865–75)
LRCSCVM	Decreto 632/1968, de 21 de marzo (Road Traffic Liability Act)
LRJAP	Ley 30/1992, de 26 de noviembre, de Régimen Jurídico de las Administraciones Públicas y del Procedimiento Administrativo Común (Public Administration and Common Procedure Act)
LRPD	Ley 22/1994, de 6 de julio, de Responsabilidad civil por daños causados por productos defectuosos (Products Liability Act)
LT	Law Times
M (HL)	Macpherson's Session Cases (3rd Series)
M en R	*Milieu en Recht* (legal journal)
MünchKomm	*Münchener Kommentar*
MinroG	Mineralrohstoffgesetz (Act on Mineral Raw Products Resources)
MMA	Ministerio de Medio Ambiente (Department of the Environment)
Mod	Modern Reports
MS	M. Scheltema (annotator)
Nat. Resources J.	*Natural Resources Journal* (US)
NGO	non-governmental organisation
NHS	National Health Service
NJ	*Nederlandse Jurisprudentie* (legal journal)

NJA	Supreme Court case archive
NJW	*Neue Juristische Wochenschrift* (legal journal)
NOAA	National Oceanic and Atmospheric Administration (US)
Noticias UE	*Noticias de la Unión Europea* (legal journal)
NoV	*Nomiko Vima* (Law Tribune, legal journal)
NRE	*Natural Resources and the Environment* (US legal journal)
NuR	*Natur und Recht* (German-based legal journal)
OECD	Organization for Economic Co-operation and Development
OGH	Oberster Gerichtshof (Austrian High Court of Justice)
OJ	*Official Journal of the European Communities*
ÖJZ	*Österreichische Juristenzeitung* (legal journal)
OPA	Oil Pollution Act (US)
Pas	*Pasicrisie belge* (law reports)
PAS	P. A. Stein (annotator)
PerDik	*Perivallon kai Dikaio* (Environment and Law, legal journal)
PG	*Parlementaire Geschiedenis* (legal history)
PHG	Produkthaftungsgesetz (Product Liability Act)
PHI	*Produkthaftpflicht International* (German-based legal journal)
PIL-Statute	Federal Statute on Private International Law
PIQR	Personal Injuries and Quantum Reports
Pret.	Pretura (District Court)
Pub. L. No.	Public Law Number (for US federal statutes)
PULIM	Presses universitaires de Limoges (publisher)
QB	Law Reports: Queen's Bench Division
RAP	*Revista de Administración Pública* (legal journal)
Rass.dir.civ.	*Rassegna di diritto civile* (legal journal)
Rb	Rechtbank (District Court)
RC	Reglamento de la Ley de Caza (Hunting Regulation)
RCJB	*Revue Critique de Jurisprudence Belge*
RD	Royal Decree
RDCB	*Revue de Droit Civil Belge*
RdU	*Recht der Umwelt* (legal journal)

RDU y MA	*Revista de Derecho Urbanístico y Medio Ambiente* (legal journal)
Rec.	Recueil des Décisions du Conseil d'Etat (reporter)
RECIEL	*Review of European Community and International Environmental Law*
REDA	*Revista Española de Derecho Administrativo* (legal journal)
REDI	*Revista Española de Derecho Internacional* (legal journal)
Resp.civ.prev.	*Responsabilità civile e previdenziale* (legal journal)
Rettie	Session Cases in the series reported by Rettie
Rev.crit.dr.int.pr.	*Revue critique de droit international privé* (legal journal, France)
RGAR	*Revue Génerale des Assurances et des Résponsabilités*
RGBl	*Reichsgesetzblatt* (Reich Law Gazette)
RGD	*Revista General de Derecho* (legal journal)
RGLJ	*Revista General de Legislación y Jurisprudencia* (legal journal)
RGRK	*Reichsgerichtsrätekommentar*
RGZ	*Entscheidungen des Reichsgerichts in Zivilsachen* (collection of cases from the Supreme Court of the German Reich)
RHDI	*Revue Hellenique de droit international* (Hellenic Review of International Law, legal journal)
RHPflG	Reichshaftpflichtgesetz (Reich Act on Liability)
Riv.crit.dir.priv.	*Rivista critica del diritto private* (legal journal)
Riv.dir.civ.	*Rivista di diritto civile* (legal journal)
Riv.dir.comm.	*Rivista di diritto commerciale* (legal journal)
Riv.dir.int.priv.proc.	*Rivista di diritto internazionale privato e processuale* (legal journal, Italy)
RJ	Repertorio Jurisprudencial Westlaw Aranzadi (collection of Supreme Court decisions)
RohrlG	Rohrleitungsgesetz (Pipeline Act)
RTC	Repertorio Tribunal Constitucional Westlaw Aranzadi (collection of Constitutional Court decisions)
RV	Regierungsvorlage (government Bill)
Rv	Wetboek van Burgerlijke Rechtsvordering (Code of Civil Procedure)

RvdW	*Rechtspraak van de Week* (legal journal)
RW	*Rechtskundig weekblad* (law review)
S	*Satz* (sentence)
SAP	Sentencia de la Audiencia Provincial (Decision of the Court of Appeal)
SASEMAR	Sociedad de Salvamento y Seguridad Marítima (Sea Rescue and Security Agency)
SC (HL)	House of Lords cases in Session Cases
SCLR	Scottish Civil Law Reports
SDR	Special Drawing Rights of the International Monetary Fund, special unit of account
SEITA	former French tobacco monopoly
Sez.	Sezione
SFDE	Société française pour le droit de l'environnement (French Society of Environmental Law)
SGB X	Sozialgesetzbuch (Social Security Code, 10th Part)
SI	Statutory Instrument
SLT	Scots Law Times
SME	*The Laws of Scotland: Stair Memorial Encyclopaedia*
SNH	Scottish National Heritage
SSTS	Sentencias del Tribunal Supremo (Decisions of the Supreme Court)
Stb	Staatsblad (The Statute Book)
STC	Sentencia del Tribunal Constitucional (Decision of the Constitutional Court)
StGB	Strafgesetzbuch (Criminal Code)
STS	Sentencia del Tribunal Supremo (Decision of the Supreme Court)
StVG	Straßenverkehrsgesetz (Road Traffic Act)
Supp.	Supplement
SZ	*Entscheidungen des österreichischen Obersten Gerichtshofes in Zivil- (und Justizverwaltungs-) Sachen* (Decisions of the Austrian High Court of Justice relating to Private Law and Administration of Justice)
T. Agr. R.	*Tijdschrift voor Agrarisch Recht*
TA	Tribunal administratif
TBBR	*Tijdschrift voor Belgisch Burgerlijk Recht* (law review)

TBH	*Tijdschrift voor Belgisch Handelsrecht* (law review)
TC	Tribunal Constitucional (Constitutional Court)
Tex. Law Review	*Texas Law Review* (US journal)
TGI	Tribunal de grande instance
TLR	Times Law Reports
TMA	*Tijdschrift voor Milieuschade en Aansprakelijkheidsrecht* (Belgian Environmental Damage and Liability Law Review)
TMR	*Tijdschrift voor Milieurecht*
TPR	*Tijdschrift voor Privaatrecht*
UKHL	House of Lords (United Kingdom)
UL	*Uradni list* (Slovenian Law Gazette)
UmweltHG	Umwelthaftungsgesetz (Environmental Liability Act)
USC	United States Code
VersR	*Zeitschrift für Versicherungsrecht* (legal journal)
Vorbem	*Vorbemerkungen* (preliminary note)
VR	*Verkeersrecht* (legal journal)
WAJong	Wet Arbeidsongeschiktheidsvoorziening Jonggehandicapten (Disability Benefits (Handicapped Young Persons) Act)
WAO	Wet Arbeidsongeschiktheidsverzekering (Disablement Benefits Act)
WAZ	Wet Arbeidsongeschiktheidsverzekering zelfstandigen (Invalidity Insurance (Self-Employed Persons) Act)
WHG	Wasserhaushaltsgesetz (Water Supply Code)
WLR	Weekly Law Reports
WRA 1991	Water Resources Act 1991
WRG	Wasserrechtsgesetz (Water Act)
WvK	Wetboek van Koophandel (Dutch Commercial Code)
ZFW	Ziekenfondswet (Compulsory Health Insurance Act)
ZPO	Zivilprozessordnung (Code of Civil Procedure Rules)
ZVR	*Zeitschrift für Verkehrsrecht* (legal journal)
ZW	Ziektewet (Sickness Benefits)

PART I · ENVIRONMENTAL LIABILITY IN EUROPE

1 International and supranational systems of environmental liability in Europe

Monika Hinteregger

I. General systems of environmental liability

1. Lugano Convention

In 1993, at Lugano, the Council of Europe passed the Convention on Civil Liability for Damage Resulting from Activities Dangerous to the

Environment.[1] The Lugano Convention, which also covers risks with respect to gene technology, has been open to accession since 21 June 1993, though it has not yet entered into force. So far, only nine states (Cyprus, Finland, Greece, Iceland, Italy, Liechtenstein, Luxembourg, Portugal and the Netherlands) have signed the Convention, but no state has yet ratified it.

The Lugano Convention provides for strict liability for damage caused by activities dangerous to the environment, including activities conducted by public authorities. It covers the environmental risks of dangerous substances, genetically modified organisms, dangerous micro-organisms and waste. 'Dangerous substances' are defined according to various EC Directives cited in Annex I to the Convention. With regard to waste, the Convention covers installations or sites for the incineration, treatment, handling or recycling of waste (further specified in its Annex II) and sites for the permanent deposit of waste. Liability is imposed on the operator of the activity, who is defined as the person exercising control over a dangerous activity (Article 2 § 5). A 'person' under the Convention means any individual or partnership or body governed by private or public law, whether corporate or not, including a state or any of its constituent subdivisions (Article 2 § 6). The operator is allowed to escape liability under various defences (Article 8), including contributory negligence (Article 9). The Convention does not modify the victim's burden of proof regarding the establishment of causation. It only requires courts, when deciding on causation, to take due account of the increased risk of causing such damage inherent in the dangerous activity (Article 10) and provides for joint and several liability for multiple sources of causation (Article 11). In addition, the Convention establishes an elaborate system of rules providing access to information held by public authorities, as well as by operators (Articles 13–16). The Convention does not provide for compulsory financial security schemes, but it obliges the Contracting parties to ensure that where appropriate operators are required to participate in a financial security scheme or to acquire and maintain a financial guarantee up to a certain limit (Article 12). The statute of limitations is three years from the date on which the claimant knew or ought reasonably to have known of the damage and the identity

[1] Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment. Lugano, 21 June 1993.

of the operator. The right to bring an action ends, at the latest, after thirty years from the date of the incident that caused the damage (Article 17).

Compensable damage comprises damage to the person (loss of life and personal injury) and property damage, but also 'loss or damage by impairment of the environment' (Article 2 § 7c) and 'the costs of preventive measures and any loss or damage caused by preventive measures' (Article 2 § 7d). 'Preventive measures' are defined as 'any reasonable measures taken by any person, after an incident has occurred to prevent or minimise loss or damage' (Article 2 § 9). Loss or damage by impairment of the environment covers solely damage not otherwise considered to be damage to the person or damage to property, and compensation for such damage is limited to 'the costs of reinstatement actually undertaken or to be undertaken' (Article 2 § 7c). 'Measures of reinstatement' are 'any reasonable measures aiming to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment' (Article 2 § 8). The definition of the term 'environment' is very broad, and includes 'natural resources both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors; property which forms part of the cultural heritage; and the characteristic aspects of the landscape' (Article 2 § 10).

The right to undertake measures of reinstatement and preventive measures shall be regulated by the laws of the Member States. Article 18 also provides for a right to collective action by environmental protection associations or foundations. Such bodies are entitled to request (i) the prohibition of a dangerous activity that is unlawful and poses a grave threat of damage to the environment, or (ii) that the operator be ordered to take preventive measures or measures of reinstatement. National law may formulate further conditions environmental organisations must comply with in order to obtain legal standing.

Damage caused by a nuclear incident governed by the Paris Convention 1960 (and its Additional Protocol 1964), by the Vienna Convention 1963 or by a specific internal law that is as favourable as any of those conventions, is not covered by the Lugano Convention. The Lugano Convention does not apply to damage arising from carriage, except carriage by pipeline or internal carriage inside an installation or site, and the Convention does not affect national rules relating to workmen's compensation or social security schemes (Article 4). The Convention has no retroactivity, with some exceptions regarding the

permanent deposit of waste (Article 5). It also provides for specific rules on jurisdiction (Article 19) and recognition and enforcement (Article 23).

2. EC Directive 2004/35/EC on Environmental Liability with Regard to the Prevention and Remedying of Environmental Damage

A. Genesis

During the last two decades, the European Union made several attempts to establish a uniform European environmental liability regime. The proposal for a Directive on Civil Liability for Damage Caused by Waste,[2] as presented in 1989, and Article 14 of the proposed Directive on the Landfill of Waste,[3] which imposed no-fault liability on the operator of waste disposal sites, never came into effect. Subsequently, the Commission set aside its work in this specific area and initiated a discussion about the establishment of a comprehensive environmental liability regime not confined to waste management, and presented a 'Green Paper on Remedying Environmental Damage'.[4] The main features of such a liability regime were then laid down in the 'White Paper on Environmental Liability'.[5] The White Paper proposed a framework Directive imposing strict liability for damage caused by EC-regulated dangerous activities covering both traditional and environmental damage. It further proposed fault liability for damage to biodiversity caused by non-dangerous activities. The notion of

[2] Proposal for a Council Directive on Civil Liability for Damage Caused by Waste, COM(89) 282 final – SYN 217/OJ C 251, 4.10.1989, p. 3, as amended by the Amended Proposal for a Council Directive on Civil Liability for Damage Caused by Waste, COM(91) 219 final – SYN 217/OJ C 192, 23.07.1991, p. 6.

[3] Amended Proposal for a Council Directive on the Landfill of Waste, COM(93) 275 final – SYN 335/OJ C 212, 05.08.1993, p. 33. Council Directive 99/31/EC, OJ L 182, 16.07.1999, p. 1, does not provide for tort liability.

[4] COM(93) 47 final of 14 May 1993.

[5] COM(2000) 66 final of 9 February 2000. See L. Bergkamp, 'The Commission's White Paper on Environmental Liability: A Weak Case for an EC Strict Liability Regime' (2000) *EELR* 105–14 (Part I) and 141–7 (Part II); M. Faure, 'The White Paper on Environmental Liability: Efficiency and Insurability Analysis' (2001) *Env Liability* 188–201; M. Faure and K. De Smedt, 'Should Europe Harmonise Environmental Liability Legislation?' (2001) *Env Liability* 217–37; E. Rehbinder, 'Towards a Community Environmental Liability Regime: The Commission's White Paper on Environmental Liability' (2000) *Env Liability* 85–96; P. Rice, 'From Lugano to Brussels via Aarhus: Environmental Liability White Paper Published' (2000) *Env Liability* 39–45; E. Brans, *Liability for Damage to Public Natural Resources* (The Hague, 2001), pp. 177 *et seq*.

environmental damage should be restricted to site contamination and damage to biodiversity already under the protection of the Natura 2000 network.

After heated debate on the proposed objectives of the White Paper by the various European institutions,[6] complemented by further expert studies,[7] which concluded in the 2001 Environment Directorate General Working Paper on Prevention and Restoration of Significant Environmental Damage,[8] the Commission launched the first proposal for an environmental liability Directive on 23 January 2002.[9] The proposal was then submitted to the co-decision procedure according to Article 251 EC.[10] On 21 April 2004, the European Parliament and the

[6] See the Opinions of the European Economic and Social Committee of 12 July 2000, the Committee of the Regions of 21 June 2000, and the Environment Committee of the European Parliament of 12 September 2000.

[7] The following studies were commissioned by the Commission for the preparation of the White Paper: McKenna & Co., *Study of Civil Liability Systems for Remedying Environmental Damage* (London, 1996); ERM Economics, *Economic Aspects of Liability and Joint Compensation Systems for Remedying Environmental Damage* (London, 1996); E. Brans and M. Uilhoorn, *Liability for Ecological Damage and Assessment of Ecological Damage* (Erasmus University, Rotterdam, 1997); S. Deloddere and D. Ryckbost, *Liability for Contaminated Sites* (University of Ghent, 1997). Several follow-up studies concerning the availability and cost of financial and insurance coverage are published in M. Faure (ed.), *Deterrence, Insurability and Compensation in Environmental Liability* (Vienna and New York, 2003).

[8] Brussels, Commission of the European Communities, July 2001. For an analysis of this paper, see L. Bergkamp, 'The Commission's July 2001 Working Paper on Environmental Liability: Civil or Administrative Law to Prevent and Restore Environmental Harm?' (2001) *Env Liability* 207–16.

[9] Proposal for a Directive of the European Parliament and of the Council on Environmental Liability with regard to the Prevention and Remedying of Environmental Damage, COM(2002) 17 final of 23 January 2002. See E. Hattan, 'The Environmental Liability Directive' (2002) *Env Liability* 3–10; B. Jones, 'European Commission: Proposal for a Framework Directive on Environmental Liability' (2002) 14 *ELM* 5–10; V. Fogleman, 'Some Questions Answered on the Proposed EC Green Liability Regime' (2002) 14 *ELM* 11–13; E. Brans, 'EC Proposal for an Environmental Liability Directive: Standing and Assessment of Damages' (2002) *Env Liability* 135–46; E. Hagenah, 'Ziel und Konzeption der künftigen EG-Richtlinie zur Umwelthaftung', in M. Oldiges (ed.), *Umwelthaftung vor der Neugestaltung – Erwartungen und Anforderungen aufgrund des künftigen Europäischen Umwelthaftungsrechts* (Baden-Baden, 2004), pp. 15–28; K. De Smedt, 'Is Harmonization of Environmental Liability Rules Needed in an Enlarged European Union?' (2004) 13 *RECIEL* 164–74; N. Farnsworth, 'Is the Directive on Environmental Liability with Regard to Prevention and Remedying of Environmental Damage Justified under the Subsidiarity Principle?' (2004) *EELR* 176–85.

[10] Important steps in this process were: Opinion of the Economic and Social Committee of 18 July 2002; Legislative Resolution of the European Parliament of 14 May 2003; Council Common Position of 18 September 2003, OJ C 277 E, 18.11.2003, p. 10; Communication from the Commission to the European Parliament of 19 September 2003 SEC(2003) 1027 final; Legislative Resolution of the European Parliament of 17 December 2003, OJ

Council adopted Directive 2004/35/EC on Environmental Liability with Regard to the Prevention and Remedying of Environmental Damage.[11] It entered into force on 30 April 2004, and had to be implemented by Member States by 30 April 2007.

B. Contents

a) General features

The Directive is based on Article 175 § 1 EC, and establishes a framework of environmental liability to prevent and remedy environmental damage. It is based on the 'polluter pays principle' and the prevention principle, as provided for in Article 174 EC, while adhering to the principle of sustainable development. Imposing financial responsibilities on the operators of dangerous activities will create an incentive to minimise the risks of environmental damage arising from their activities.[12]

The Directive concentrates on the prevention and restoration of contaminated sites and on loss of biodiversity. In doing so, it draws on

C 91 E, 15.04.2004, p. 232; Opinion of the Commission of 26 January 2004, COM(2004) 55 final; Legislative Resolution of the European Parliament on the joint text of 31 March 2004 and Council Decision of 30 March 2004.

[11] OJ L 143, 30.04.2004, p. 56. See C. Blatch, 'Environmental Liability Directive – Remediation of Damage' (2004) 16 *ELM* 234 *et seq.*; L. Krämer, 'Directive 2004/35/EC on Environmental Liability' (2004) *ELM* 5–13; Institut für Umweltrecht der JKU Linz and Akademie für Umwelt und Natur des Landes Oberösterreich (eds.), *Die neue EG-Umwelthaftung und ihre nationale Umsetzung* (Vienna, 2005); M. Ruffert, 'Zur Konzeption der Umwelthaftung im Europäischen Gemeinschaftsrecht', in R. Hendler, P. Marburger, M. Reinhardt and M. Schröder (eds.), *Umwelthaftung nach neuem EG-Recht* (Berlin, 2005), pp. 43–72; G. Wagner, 'Die gemeinschaftsrechtliche Umwelthaftung aus der Sicht des Zivilrechts', in R. Hendler, P. Marburger, M. Reinhardt and M. Schröder (eds.), *Umwelthaftung nach neuem EG-Recht* (Berlin, 2005), pp. 73–146; G. Betlem, 'Scope and Defences of the 2004 Environmental Liability Directive: Who Is Liable for What?' (2005) *ERA Forum* 376–88; L. Bergkamp, 'Implementation of the Environmental Liability Directive in EU Member States' (2005) *ERA Forum* 389–400; E. Brans, 'Liability for Damage to Public Natural Resources under the 2004 EC Environmental Liability Directive: Standing and Assessment of Damages' (2005) 7 *Env L Rev* 90–109; L. Krämer, 'Directive 2004/35 on Environmental Liability and Environmental Principles' (2005) *TMA* 131–4; L. Krämer, 'Discussions on Directive 2004/35 Concerning Environmental Liability' (2005) *JEEPL* 250–6; P. Wenneras, 'A Progressive Interpretation of the Environmental Liability Directive' (2005) *JEEPL* 257–67; V. Fogleman, 'Enforcing the Environmental Liability Directive: Duties, Powers and Self-Executing Provisions' [2006] 4 *Env Liability* 127–46; R. Slabbinck, H. Descamps and H. Bocken, 'Implementation of the Environmental Damage Directive in Belgium (Flanders)' (2006) 1 *Env Liability* 3–12; H. Bocken, 'Financial Guarantees in the Environmental Liability Directive: Next Time Better' (2006) *EELR* 13–32; G. Betlem and E. Brans (eds.), *Environmental Liability in the EU – The 2004 Directive Compared with US and Member State Law* (London, 2006).

[12] Article 1 and Recital 2 of the Directive.

several points of the US legislation regarding the prevention and restoration of natural-resource damage. During recent decades, US law has produced a comprehensive stock of environmental law that, *inter alia*, provides for compensation of natural-resource damage. The theoretical basis is the traditional Anglo-American public trust doctrine, according to which all land, water and wildlife is held in trust by the state for the benefit of the public.[13] The purpose of such claims is to compensate the public for the loss of the resource itself, for any lost use or enjoyment and for the loss of any service that the resource provided.

In US federal law, claims concerning natural-resource damage are governed by section 107 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),[14] section 311(f)(4) of the Clean Water Act (CWA),[15] section 1002 of the Oil Pollution Act,[16] the Marine Protection Research and Sanctuary Act,[17] and the National Park System Resource Protection Act.[18] In addition, many states have enacted further statutes regarding the cleanup of waste sites and oil spills that include provisions for recovery of natural-resource damages similar to those in federal statutes.[19]

The two most prominent sources for natural-resource damage are CERCLA and the Oil Pollution Act. CERCLA, which deals with the cleanup of old dumpsites, authorises the federal government, state governments and Indian tribes as trustees to recover damages from responsible parties 'for injury to, destruction of, or loss of natural resources, including reasonable costs of assessment', resulting from the release of hazardous

[13] J. Robinson, 'The Role of Nonuse Values in Natural Resource Damages: Past, Present, and Future' (1996) 75 *Tex L Rev* 193.

[14] 42 USC § 9607 (1980).

[15] 33 USC § 1321. Section 311(f)(4) of the Clean Water Act provides that the costs of removal of oil or a hazardous substance recoverable under the statute include any costs or expenses incurred by the federal government or any state government in the restoration or replacement of natural resources damaged or destroyed as a result of a discharge of oil or a hazardous substance.

[16] 33 USC § 2702.

[17] 16 USC § 1443: 'Any person who destroys, causes the loss of, or injures any sanctuary resource is liable to the United States for an amount equal to the sum of (A) the amount of response costs and damages resulting from the destruction, loss, or injury; and (B) interest.'

[18] 16 USC § 19jj: 'Any person who destroys, causes the loss of, or injures any park system resource is liable to the United States for response costs and damages resulting from such destruction, loss, or injury.'

[19] L. Grayson, C. Picker, S. Siros and S. Bettison, 'The Business Dilemma: 21st Century Natural Resource Damage Liabilities for 20th Century Industrial Progress' (2001) 31 *ELR* 11356.

substances.[20] Natural resources are defined as 'land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources' that belong to, are managed by, are held in trust by, or are controlled by public entities such as the federal government, state governments or Indian tribes.[21] Ownership of the resource is not required. It is sufficient that the public entity exercises a certain amount of control over the resource in question.[22] In case of conflicting competences of different trustees, the risk of double recovery, although in principle excluded by law, may exist.[23] Liability is strict, and imposed jointly and severally amongst multiple tortfeasors. There are only a few defences available, such as act of war, act of God, or act or omission of a third party unrelated to the defendant.[24] The 1986 the Superfund Amendments and Reauthorization Act (SARA)[25] amendments also added an innocent purchaser defence.[26] Recovered sums must be used to restore, replace or acquire the equivalent of the damaged natural resources.[27]

Federal trustees are nominated by the US President, and state trustees by the governor of each state.[28] Trustees are obliged to assess damages to natural resources under their trusteeship. The Department of the Interior (DOI), which is the principal federal trustee under CERCLA, was delegated authority to promulgate regulations concerning the assessment of natural-resource damages. These regulations identify the best available procedures to determine such damages, including both direct and indirect injury, destruction or loss, and to take into consideration factors which include, but are not limited to, the replacement value, the use value and the ability of the ecosystem or resource to recover.[29] According to CERCLA,[30] there are two types of procedures for the assessment of natural-resource damages: standard procedures for simplified assessments requiring minimal field investigation[31] and alternative protocols for conducting assessments in individual cases.[32] The DOI promulgated these rules[33] in 1986 and 1987, and, pursuant to court decisions, they have been amended several

[20] 42 USC § 9607(a)(4) (C). [21] 42 USC § 9601(16). [22] *Ohio* v. *DOI*, 880 F 2d 461.
[23] 42 USC § 9607(f)(1). Grayson, Picker, Siros and Bettison, 'The Business Dilemma', p. 11356.
[24] 42 USC § 9607(b). [25] Pub. L. No. 99-499, 100 Stat. 1613 (1986).
[26] 42 USC § 9601(35)(A), (B); and § 9607(b)(3). [27] 42 USC § 9607(f)(1).
[28] 42 USC § 9607(f)(2)(A) and (B). [29] 42 USC § 9651(c)(2)(B). [30] 42 USC § 9651(c)(2).
[31] 42 USC § 9651(c)(2)(A). [32] 42 USC § 9651(c)(2)(B).
[33] 43 CFR Part 11.

times.[34] If a trustee chooses to assess damages according to these regulations, the assessment has 'the force and effect of a rebuttable presumption on behalf of the trustee'.[35]

According to CERCLA and DOI regulations, natural-resource damages include the costs of restoring, replacing, or acquiring the equivalent of, the injured resource, the diminished value of the resource during the time between injury and restoration, and the reasonable costs of assessment incurred by the trustee. The diminished value of the resource also comprises the lost use value, and the lost 'non-use' value ('passive use' or 'option, existence and bequest' value) of the injured resource.[36] For resources that have an objective economic value, the lost value is the diminution in market price. Lost uses that are not market based, such as the recreational use of a natural resource, are calculated using alternative techniques such as the travel cost theory which measures the value of the lost use according to the travel costs associated with undertaking these activities elsewhere. For the calculation of the non-use value of a natural resource, economic theory provides the contingent valuation methodology (CVM). In order to assess the non-use value of a natural resource not traded in the market, this theory creates a hypothetical market of sample individuals measuring their willingness to pay for the preservation of the resource. This method is highly controversial, though it is already acknowledged by courts, in principle.[37]

The Oil Pollution Act (OPA) addresses the discharge of oil into navigable waters or on the adjoining shoreline. Section 1002 of the OPA[38]

[34] The promulgated DOI rules were challenged in court several times: *Ohio* v. *DOI*, 880 F 2d 432 (DC Cir. 1989); *Colorado* v. *DOI*, 880 F 2d 481 (DC Cir. 1989); *Kennecott Utah Copper Corp.* v. *DOI*, 88 F 3d 1191 (DC Cir. 1996); *National Association of Manufacturers* v. *DOI*, 134 F 3d 1095 (DC Cir. 1998).

[35] 42 USC § 9607(f)(2)(C). For further details, see G. F. George, *Litigation of Claims for Natural Resources*, SE98 ALI-ABA (2000), p. 403; J. C. Cruden, *Natural Resource Damages*, SE98 ALI-ABA (2000), pp. 855–6.

[36] George, 'Litigation of Claims for Natural Resources', pp. 410–12; Cruden, 'Natural Resource Damages', pp. 865–8.

[37] See *Ohio* v. *DOI*, 880 F at 474–81 2d 432 (DC Cir. 1989); B. R. Binger, R. Copple and E. Hoffman, 'Contingent Valuation Methodology in the Natural Resource Damage Regulatory Process: Choice Theory and the Embedding Phenomenon' (1995) 35 *Nat. Resources J.* 443; Robinson, 'The Role of Nonuse Values in Natural Resource Damages', p. 189; M. Montesinos, 'It May Be Silly, But It's an Answer: The Need to Accept Contingent Valuation Methodology in Natural Resource Damage Assessments' (1999) 26 *Ecology LQ* 48; S. Kaster, 'Natural Resource Damage Assessments' (2000) 15 *NRE* 114; D. B. Thompson, 'Valuing the Environment: Courts' Struggles with Natural Resource Damages' (2002) 32 *Env Law* 57.

[38] 33 USC § 2702.

provides for the recovery of remediation costs and damages that result from the discharge, 'including recovery by a trustee of damages for injury to, destruction of, loss of, or loss of use of, natural resources' and the reasonable costs of assessing the damage. The principal federal trustee under the OPA is the National Oceanic and Atmospheric Administration (NOAA), which is also responsible for promulgating regulations for the assessment of natural-resource damages under the OPA. Damages claims are to be calculated according to the costs of restoration. Recoverable damages are the costs of restoring the injured resource to its baseline condition ('primary restoration') and the costs of 'compensatory restoration', which also comprise the costs of restoring or enhancing resources to compensate for interim losses of services. These damages include both the lost use and non-use value.[39] Damage assessment by a trustee according to the OPA rules has the effect of a rebuttable presumption, as under CERCLA.[40]

This short outline already shows the close relationship of the EC Directive to the US legislation. The Directive adopts the US notion of the public trustee by empowering the 'competent authority' to prevent and remedy environmental damage. In doing so, it overcomes the problem of ownership of natural resources, which constitutes a major obstacle to the incorporation of environmental damage into the compensation system of classical tort law. The solution to the second fundamental problem of tort law with regard to damage to natural resources – the assessment of damages – is also based on US legislation. Annex II to the Directive, which sets out a common framework for remedying environmental damage, closely follows the model set up by CERCLA, and particularly the OPA. This relationship is also reflected by a change of terminology. Although the Directive still continues to use the term 'environmental damage' for the definition of compensable damage, it introduces in its final version the term 'natural resource' as the generic term for protected species and natural habitats, water and land (Article 2 § 12).

Apart from these similarities, there are fundamental differences between the US legislation on natural-resource damage and the

[39] 15 CFR Part 990. M. Holt and G. R. Cecil, 'Natural Resource Damages for Oil Spills: The International Context' (1995) 9/4 *NRE* 28; Robinson, 'The Role of Nonuse Values in Natural Resource Damages', p. 206; A. Carrera, 'Natural Resource Damage Assessments under the Oil Pollution Act of 1990' (1996) 3 *Env Law* 251; George, 'Litigation of Claims for Natural Resources', p. 404; Cruden, 'Natural Resource Damages', pp. 857–8.

[40] 33 USC § 2706(e)(2).

European Directive. Although site contamination is an important issue for the Directive, it covers a much broader range of activities than the US legislation does. In addition to dangerous installations, substances and waste sites, the Directive also includes the transport of polluting goods and the environmental risk of genetically modified organisms. With regard to the definition of environmental damage, the European law is more restrictive. It relates only to specific types of damage, namely, damage to protected species and habitats, water damage and land damage, which is defined and thus further narrowed according to specific EC Directives. The important environmental concern of oil pollution by tankers, which gave rise to the US Oil Pollution Act, is not covered. Instead, the European Union wants to adhere to the international remedies provided by the International Oil Pollution Conventions.[41]

Although the Directive deals with the cleanup of dumpsites, it has, unlike CERCLA, no retroactive effect. According to Article 17, the Directive is not applicable to damage caused by an event that took place before 30 April 2007, which is the deadline for the implementation of the Directive by the Member States (Article 15 § 1). The same applies to damage which was caused by an activity that began and was completed before this date.

The Directive is a minimum-standards Directive ensuring only a minimum level of protection. According to Article 16, Member States are not prevented from maintaining or adopting more stringent provisions. This applies to regulations regarding the prevention and remedying of environmental damage, as defined by the Directive, as well as tort law remedies for the prevention and compensation of pollution damage to private persons. Furthermore, various provisions of the Directive entitle the Member States to enact specific national solutions with respect to certain issues.

b) Definition of compensable damage

The Directive provides only for the remedying and prevention of environmental damage. This is clear from the general definition of the term 'damage', which is, according to Article 2 § 2, defined as 'a measurable adverse change in a natural resource or measurable impairment of a natural resource service'. Traditional damage, such as damage to the person and property or economic loss, is expressly excluded from the

[41] For more detail, see section II.1 below.

scope of application of the Directive. Article 3 § 3 states that, without prejudice to different provisions in national legislation, the Directive does not give private parties a right of compensation for damage or imminent threat of damage resulting from environmental harm. Compensation for such damage will still be regulated by the national rules of civil liability. The conflict resulting from concurrent action by the competent authority and a private party on the basis of national tort law must be resolved by the Member States, which are entitled by Article 16 § 2 of the Directive to enact appropriate measures in order to prevent double recovery of costs.

According to Article 2 § 1 of the Directive, the term 'environmental damage' is comprised of three types of damage: (a) damage to protected species and natural habitats, (b) water damage and (c) land damage. In the final version, the term 'protected species and natural habitats' now replaces the term 'biodiversity', which had been used throughout the preparation of the Directive. In doing so, the Directive makes clear that it does not follow the broad interpretation of biodiversity provided by Article 2 of the 1992 UN-Convention on Biological Diversity,[42] which also includes genetic variability among living organisms, but instead follows a rather limited approach oriented to existing EC law on nature conservation. According to Article 2 § 3 of the Directive, only species and habitats that are mentioned in the Wild Birds Directive[43] and the Habitats Directive[44] are covered.[45] In addition, Member States are entitled to include further habitats and species protected by national legislation on nature conservation.[46]

[42] (1992) 31 ILM 818. This was already stated by the Explanatory Memorandum to the Proposal COM(2002) 17 final, p. 17; see also the critical comment by Brans, 'EC Proposal for an Environmental Liability Directive', p. 136.

[43] Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, OJ L 103, 25.04.1979, p. 1, as amended by Commission Directive 97/49/EC of 29 July 1997, OJ L 223, 13.08.1997, p. 9.

[44] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, OJ L 206, 22.07.1992, p. 7, as amended by Council Directive 97/62/EC of 27 October 1997, OJ L 305, 08.11.1997, p. 42.

[45] In concreto, Article 2 § 3a refers to species mentioned in Article 4 § 2 of and Annex I to the Wild Birds Directive and Annexes II and IV to the Habitats Directive, and Article 2 § 3b refers to the habitats of species mentioned in Article 4 § 2 of and Annex I to the Wild Birds Directive or in Annex II to the Habitats Directive, and the natural habitats listed in Annex I to the Habitats Directive and the breeding sites or resting places of the species listed in Annex IV to the Habitats Directive.

[46] Article 2 § 3c.

Damage to 'protected species and natural habitats' is defined in Article 2 § 1a as any damage that has significant adverse effects on reaching or maintaining the 'favourable conservation status' of such habitats or species. Article 2 § 4 further explains that the 'conservation status' of a natural habitat consists of the sum of the influences that may affect its long-term natural distribution, structure and functions, including the long-term survival of its typical species. With respect to species, the conservation status consists of the sum of influences that may affect the long-term distribution and abundance of its populations. The conservation status of a natural habitat is 'favourable' (i) when its natural range and the areas it covers within that range are stable or increasing, (ii) when the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and (iii) when the conservation status of its typical species is favourable. The conservation status of a species is 'favourable' when its long-term survival and functioning as a viable component of its habitat are guaranteed.

The *significance* of an adverse effect is to be assessed with reference to the 'baseline condition' and the criteria set out in the new Annex I to the Directive, which refers to various measurable data concerning the status of the species or habitat, such as number, role or capacity of propagation or regeneration. 'Baseline condition' is the condition the natural resource or service would have been in at the time of the damage, had the damage not occurred.[47] Damage that has a proven effect on human health must be classified, according to Annex I to the Directive, as significant damage. Negative variations that are smaller than normal natural fluctuation, or negative variations that have natural causes, need not be classified as significant damage. The same applies to negative variations resulting from intervention relating to the normal or hitherto usual management of sites by owners or operators as well as to damage to species and habitats for which it is established that they will recover, within a short time and without human intervention, either to the baseline condition or to a condition deemed equivalent or superior to the baseline condition.[48] Adverse effects authorised by national authorities in accordance with national provisions implementing Article 6 § 3 and § 4 and Article 16 of the Habitats Directive or Article 9 of the Wild Birds Directive or equivalent

[47] Article 2 § 14. [48] See Annex I to the Directive.

provisions of national nature-conservation law are explicitly excluded from the definition of 'damage to protected species and natural habitats'.[49]

Water damage is qualified in relation to the EC Water Framework Directive[50]. According to Article 2 § 1b of the Directive, water damage is any significant adverse effect on water according to the water quality categories defined by the Directive. Damage that falls under Article 4 § 7 of the EC Water Framework Directive is excluded.

Land damage is, according to Article 2 § 1c of the Directive, any land contamination that creates a significant risk to human health as a result of soil and subsoil contamination by substances, preparations, organisms or micro-organisms.

With regard to the scope of application, the Directive distinguishes between activities that are listed in Annex III and other activities. According to Article 3, the Directive applies to all three types of environmental damage only if caused by activities listed in Annex III. With respect to other activities, it only applies to damage to protected species and natural habitats, but not to water and land damage.

c) Competent authority and request for action

The prevention and remediation of environmental damage is the responsibility of one or several *competent authorities*, which each Member State must designate (Article 11 § 1). If harm occurs or the risk of harm appears, the competent authority has the duty to establish which operator has caused it and must assess the significance of the damage as well as determine which remedial measures shall be taken. For this purpose, it may require the relevant operator to carry out his own assessment and supply any information and necessary data (Article 11 § 2). Member States must ensure that the competent authority may empower or require third parties to carry out the preventive or remedial measures (Article 11 § 3). Article 11 § 4 provides for judicial review of decisions of the competent authority. Any decision that imposes preventive or remedial measures must state the exact grounds on which it is based. It must be notified to the operator concerned and include information about the availability of legal remedies under national law.

[49] Article 2 § 1a.

[50] Directive 2000/60/EC of 23 October 2000, establishing a framework for Community action in the field of water policy, OJ L 327, 22.12.2000, pp. 1–73.

Natural and legal persons who are affected or likely to be affected by environmental damage have the right to submit to the competent authority any observations relating to instances of environmental damage or, if provided by national law, the imminent threat of such damage and may request the competent authority to take action (Article 12). Such a request for action must be accompanied by relevant information and data supporting the submitted observations. The same applies to persons or organisations that either have a sufficient interest in environmental decision-making relating to the damage, or, where the administrative procedural law of a Member State requires this as a precondition, allege the impairment of a right. What constitutes both 'sufficient interest' and 'impairment of a right' is determined by national law. However, the interest of non-governmental organisations promoting environmental protection and meeting the requirements of national law, shall, in any case, be deemed sufficient.

Where the request for action and the accompanying information plausibly show that environmental damage exists, the competent authority shall consider such information, give the relevant operator an opportunity to make his views known and inform the person who submitted the information or request of its decision. The decision must state the reasons and be subject to review by a court or other independent and impartial body (Article 13).

d) Preventive measures and remedial action

An operator who is aware of an imminent threat of environmental damage is required to take the necessary *preventive measures* (Article 5 § 1). After taking such action, if the threat nevertheless remains, the operator is obliged to inform the competent authority as soon as possible (Article 5 § 2), which may require the operator to provide the necessary information and to take the necessary preventive measures. The competent authority is entitled to instruct the operator on the necessary preventive measures or to take the necessary preventive measures itself (Article 5 § 3), if the operator has failed to do so or cannot be identified or is not legally required to bear the costs (Article 5 § 4).

The same procedure applies to *remedial action*, if environmental damage has already occurred (Article 6). The operator must, without delay, inform the competent authority of all relevant aspects of the situation, take all practical steps to control the situation and finally take any necessary remedial measures. The competent authority also has comprehensive power over the necessary remedial actions, but it will only

carry out the measures itself as a means of last resort (Article 6 § 3). Pursuant to Article 2 § 11 of the Directive, remedial measures consist of any action, or combination of actions, including mitigating or interim measures, to restore, rehabilitate or replace damaged natural resources or impaired services of a natural resource, or to provide an equivalent alternative to those resources or services. This is further specified by Annex II to the Directive, outlining the specific rules in order to ensure the remedying of environmental damage.

Annex II was reshaped by the legislative process. It now consists of two parts. Part 1 deals with the remediation of damage to water, protected species and natural habitats, and Part 2 covers the remediation of land damage. Remediation of *damage to water, protected species and habitats* is achieved through the restoration of the environment to its baseline condition. There are three types of remediation: primary, complementary and compensatory remediation. *Primary remediation* is any measure that returns the damaged natural resource or service to its baseline condition and can consist of direct restoration actions on an accelerated timeframe towards the baseline condition, or of natural recovery processes without active human intervention ('natural recovery option'). If primary remediation does not result in fully restoring the damaged natural resource or service, *complementary remediation* shall be undertaken in order to provide an equivalent level of natural resources or services as that available had the damaged site been returned to its baseline condition. Complementary remediation may also be effected at an alternative site. Where possible and appropriate, the alternative site should be geographically linked to the damaged site. In determining this, the interests of the affected population should be taken into account. *Compensatory remediation* can be undertaken in order to compensate for interim losses of natural resources and services pending recovery. It consists of additional improvements at either the damaged or alternative site. Financial compensation to members of the public is not covered. When determining the scale of adequate complementary or compensatory remedial measures, a resource-to-resource or service-to-service equivalence approach shall be considered first. Where this is not possible, alternative valuation techniques, such as monetary valuation, may also be used. In order to choose the adequate remedial action each option must be assessed according to criteria described in Article 1.3.1 of Annex II (effect on public health and safety, cost, likelihood of success, length of time and extent of restoration, the extent of benefit to components of the natural resource or service, etc.). Remedial options

that do not provide for full restoration to the baseline condition or that restore the damage more slowly may only be chosen if the disadvantage is compensated through appropriate complementary or compensatory actions. No further remedial actions need be taken if the remedial measures already taken ensure that there is no longer any significant risk of adversely affecting human health, water or protected species and natural habitats, and if the cost to reach the baseline condition or a similar level would be disproportionate to the environmental benefits to be obtained (Article 1.3.3 of Annex II).

Remediation of *land damage* is regulated in Article 2 of Annex II. The main goal of land remediation is to ensure that contaminants are removed, controlled, contained or diminished so that the contaminated land no longer poses a significant risk to human health. The risk is determined according to the current use or approved future use of the land at the time of the damage, which is ascertained on the basis of land-use regulations or other relevant regulations in force, or, in the absence of such regulations, according to the nature of the area and its expected development. If the use of the land is changed, all necessary measures must be taken in order to prevent risk to human health. The risk to human health is assessed through risk-assessment procedures, taking into account the characteristic and function of the soil, the type and concentration of the harmful substances, preparations, organisms or micro-organisms, the risks they entail, and the possibility of their dispersion. In determining remedial measures, a natural recovery option shall also be considered.

The determination of remedial measures lies with the competent authority (Article 7). If the operator is obliged to take action, he must identify potential remedial measures and submit them to the competent authority for its approval. If several instances of environmental damage occur and cannot be remedied simultaneously, the competent authority is entitled to determine which remedial measures have priority. The criteria for determining this are the nature, extent and gravity of the damage, the possibility of natural recovery and the risks to human health. The competent authority must also consider any submissions made by those persons entitled to request action and by owners of any land affected by any proposed remedial measures.

e) Liable persons

The Directive applies to actual environmental damage or the imminent threat of such damage caused by *occupational activities* (Article 3).

According to Article 2 § 7 of the Directive, such activity is any economic activity, business or undertaking, irrespective of its private or public, profit or non-profit character. The responsible party is the *operator* of the activity. The operator is defined by Article 2 § 6 as any natural or legal, private or public person who operates or controls the activity, including the holder of a permit or authorisation for such an activity or the person registering or notifying such an activity. Persons who have decisive economic power over the technical functioning of such an activity may be designated as 'operator' by national legislation. The Directive only governs liability of the operator of an occupational activity. Other persons, such as producers, transporters or creditors are only liable if they can be considered an 'operator'.

Operators of certain dangerous activities listed in Annex III to the Directive are liable for environmental damage *regardless of fault*. Annex III relates to EC Directives concerning:

- the operation of installations, subject to certain authorisation obligations with regard to air, water or ground water;
- waste management operations, including the operation of landfill sites and incineration plants;
- the manufacture, use, storage, processing, filling, release into the environment and onsite transportation of dangerous substances and preparations, plant protection products or biocidal products;
- the transport of dangerous or polluting goods by road, rail, inland waterways, sea or air;
- the contained use of genetically modified micro-organisms;
- the deliberate release into the environment or transport of genetically modified organisms; and
- the transboundary shipment of waste within, into or out of the European Union.

Operators of occupational activities that are *not* listed in Annex III are only liable for damage to protected species and natural habitats, and for the imminent threat of such damage, if there is fault (Article 3 § 1b).

The Directive does not apply to activities in the interest of national defence or international security and to activities the sole purpose of which is to protect from natural disasters (Article 4 § 6). Damage caused by pollution of a diffuse character is only covered if it is possible to establish a causal link between the damage and the activity of an individual operator (Article 4 § 5).

f) Allocation of costs

Operators are, in principle, obliged to bear the costs for preventive and remedial actions taken according to the Directive (Article 8). This applies to measures that are taken by the operator himself, as well as to measures taken or commissioned by the competent authority. When the competent authority takes action in place of the operator, it must ensure that the incurred costs are recovered from the operator who has caused the damage or the imminent threat of damage, including assessment costs (Recital 18). The competent authority, however, may decide not to recover the full costs, if they exceed the recoverable sum or if the operator cannot be identified (Article 8 § 2).

The liability of the operator is not restricted in amount. The operator, however, may limit his liability in accordance with national legislation implementing the 1976 Convention on Limitation of Liability for Maritime Claims and the 1988 Strasbourg Convention on Limitation of Liability in Inland Navigation (Article 4 § 3).

According to Article 8 § 3 of the Directive, the operator is not liable for the costs of preventive and remedial measures, if, notwithstanding the application of appropriate safety measures by the operator, the damage or the imminent threat was caused by a third party, or if the damage resulted from compliance with a compulsory order or instruction from a public authority other than an order or instruction consequent upon an emission or incident caused by the operator's own activities. Under such circumstances, Member States must ensure that the operator is entitled to recover the costs incurred.

With regard to costs for remedial action, Member States may establish two further defences. According to Article 8 § 4 of the Directive, Member States may allow the operator to avoid liability if he proves that he was not at fault and that the damage was caused by an emission or event expressly authorised by law. The emission or event must have been done fully in accordance with national law implementing the EC legislation specified in Annex III to the Directive. Member States may also allow an operator a defence where he proves he was not at fault and that the act, be it an emission or activity or any manner of using a product in the course of an activity, was not considered likely to cause environmental damage according to the state of scientific and technical knowledge at the time of the release or activity (the state-of-the-art defence).

The Directive does not govern environmental damage and the imminent threat of such damage caused by an act of armed conflict,

hostilities, civil war or insurrection, or by a natural phenomenon of exceptional, inevitable and irresistible character (Article 4 § 1). If such damage occurs, the operator may, however, be liable according to tort law, especially if he fails to exercise due care in order to prevent damage even under such circumstances.

In the case of causation by multiple parties, it is for each Member State to determine the method of apportionment of liability (Article 9). Thus, Member States are entitled to choose between proportional or joint and several liability. The statute of limitations for cost recovery by the competent authority is five years from the date on which the measures have been completed or the liable operator (or the third party who caused the damage) was identified, whichever is the later (Article 10). The Directive is not applicable to damage caused more than 30 years ago (Article 17).

g) Financial security

Environmental damage insurance was a matter of major concern during the legislative process of the Directive. The White Paper[51] expressed doubts as to whether the insurance market had the capacity to provide adequate instruments, as insurance coverage of environmental damage is still rather undeveloped in Europe. The lack of experience in the insurance market with the new category of 'natural resource' damages also makes the calculation of risk-related tariffs difficult.[52]

Thus, the Directive takes a rather cautious approach towards the financial security obligations of the operator. It does not provide for any compulsory instrument in this regard, but only recommends in Article 14 § 1 that Member States should take measures to encourage the development of financial security instruments and markets. Pursuant to Article 14 § 2 of the Directive, the Commission shall present a report on the matter before 30 April 2010. In this report, the Commission will present information on the effectiveness of the Directive regarding the remediation of environmental damage and the availability of insurance or other financial security for the activities listed in Annex III. On the basis of this report and an extended impact assessment, which should include a cost–benefit analysis, the

[51] Pp. 23 *et seq.*

[52] For a comprehensive analysis of the availability and cost of financial and insurance coverage of environmental liability, see Faure (ed.), 'Deterrence, Insurability and Compensation in Environmental Liability'.

Commission will submit proposals for a system of harmonised, mandatory financial security.

h) Cooperation between Member States

Transboundary pollution was a major impetus and basis for the enactment of the Directive.[53] If environmental damage affects several Member States, they are called on by Article 15 § 1 to cooperate in order to ensure the appropriate preventive or remedial measures. Cooperative efforts include the exchange of information, for example between Member States in whose territory environmental damage originates and potentially affected Member States (Article 15 § 2). Member States who are victims of transboundary environmental damage are, according to Article 15 § 3 of the Directive, entitled to recover the costs incurred for preventive or remedial measures from the liable operator. Such Member States are further entitled to report the issue to the Commission, and to any other Member State concerned, and to make recommendations regarding preventive and remedial measures to the competent authority of other Member States.

i) Relationship to international conventions

The Directive does not apply to environmental damage or to any imminent threat of such damage caused by an incident that falls within the scope of the international oil pollution conventions[54] and the international conventions for the carriage of goods[55] (Article 4 § 2 and § 4, Annex IV). The Directive is, furthermore, not applicable to damage that is caused by activities covered by the Euratom-Treaty or by the international conventions covering nuclear damage, such as the 1960 Paris Convention and the 1963 Brussels Supplementary Convention, the 1963 Vienna Convention and the 1997 Supplementary Convention, the 1988 Joint Protocol, and the 1971 Brussels Convention concerning the Maritime Carriage of Nuclear Material (Article 4 § 4).[56]

[53] White Paper, p. 25. [54] See section II.1 below.

[55] The International Convention of 3 May 1996 on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention 1996, not yet in force) and the Convention of 10 October 1989 on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels (CRTD, not yet in force).

[56] See section II.2 below.

The White Paper proposed rules concerning access to justice in order to comply with some duties emerging from the Aarhus Convention[57] of the UN Economic Commission for Europe, which grants the public (i) the right of access to environmental information (first pillar), (ii) the right to take part in decision-making processes (second pillar) and (iii) public access to justice (third pillar). This goal, however, is now pursued separately. The EU signed the Aarhus Convention on 25 June 1998 and approved it on 17 February 2005.[58] The obligations deriving from the Convention shall be implemented by several directives providing for public access to environmental information and justice. These instruments are:

- Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC, OJ L 41, 14 February 2003, p. 26;
- Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC, OJ L 156, 25 June 2003, p. 17; and
- Proposal for a Directive of the European Parliament and of the Council on access to justice in environmental matters, COM (2003) 624 final, 24 October 2003.

In order to implement the obligations on the Community level, the Commission adopted the Aarhus Regulation.[59] This Regulation supplements existing Community legislation granting access to documents

[57] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, ECE/CEP/43. The Aarhus Convention was signed on 25 June 1998 in Aarhus, Denmark, during the fourth Paneuropean Conference of the Secretaries of State for the Environment. It entered into force on 30 October 2001.

[58] Council Decision 2005/370/EC on the conclusion, on behalf of the European Community, of the Convention on access to information, public participation in decision-making and access to justice in environmental matters, OJ L 124, 17.05.2005, pp. 1–3.

[59] Regulation (EC) No. 1367/2006 of the European Parliament and of the Council of 6 September 2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters to Community institutions and bodies, OJ L 264, 25.09.2006, pp. 13–19. It entered into force on 28 September 2006.

held by the Commission, the European Parliament and the Council.[60] It covers the institutions, bodies, offices or agencies established by, or on the basis of the EC Treaty, which had until 28 June 2007 to adapt their internal procedures and practice to the provisions of the Regulation.

j) Review procedures

Apart from Article 14 § 2 of the Directive, which obliges the Commission to submit a report concerning the development of financial security instruments, Article 18 addresses further comprehensive report obligations. By 30 April 2013, Member States must submit a report to the Commission concerning their experience with the application of the Directive. The contents of this report, specified by Annex VI to the Directive, must include a list of all instances of environmental damage and instances of liability under the Directive, with specific information and data for each instance. Thereafter, by 30 April 2014, the Commission must submit a report to the European Parliament and the Council. This report must address several issues: reconsideration of Article 4 § 2 and § 4 which regulate the relationship of the Directive to the specific international liability regimes regarding oil pollution, the international transport of dangerous goods and damage caused by nuclear incidents, and review of Article 4 § 3, according to which the operator is entitled to limit his liability in accordance with the 1976 Convention on Limitation of Liability for Maritime Claims and the 1988 Strasbourg Convention on Limitation of Liability in Inland Navigation. The report shall further review the application of the Directive to environmental damage caused by genetically modified organisms, especially with regard to the Convention on Biological Diversity and the Cartagena Protocol on Biosafety, and the application of the Directive to protected species and habitats. Finally, the report will submit revisions to Annexes III, IV and V.

[60] See Regulation (EC) No. 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents, OJ L 145, 31.05.2001, p. 43; and Communication from the Commission: Towards a reinforced culture of consultation and dialogue – General principles and minimum standards for consultation of interested parties by the Commission, COM(2002) 704 final of 11 December 2002.

II. Sector-specific international conventions

1. Oil pollution by ships

Oil pollution by ships[61] is regulated by the conventions of the International Maritime Organization, the International Convention on Civil Liability for Oil Pollution Damage 1969, as amended by the Protocols of 1976, 1992 and 2000, and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971, as amended by the Protocols of 1976, 1992 and 2000.[62] Most Western European countries (Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the United Kingdom) have ratified the 1969 Liability Convention, the 1971 Fund Convention and the 1992 Protocols thereto. By ratifying the 1992 Protocols, however, states ceased to be parties to the 1969 Liability Convention and the 1971 Fund Convention. The 1971 Fund Convention ceased to be in force on 24 May 2002 and the 1969 Liability Convention remains in force only for Member States that have not yet acceded to the 1992 Protocols. The 2000 Protocols, which entered into force on 1 November 2002, are considered to be tacitly accepted by the Member States.

The 1992 (Protocol to amend the 1969) Liability Convention provides for strict liability of the owner of commercial seagoing vessels constructed or adapted to carry oil in bulk as cargo (Article III). Liability of the ship owner is exclusively regulated by the Convention (Article III § 4). No claim for compensation can be made against the servants or agents of the ship owner, the members of the crew, the pilots, the charterer or the manager or operator of the ship, including their agents and servants. The same applies to persons who perform salvage operations with the consent of the owner, or under the instructions of a competent public authority, as well as persons taking preventive measures (Article III 4). The exclusion of liability applies to agents and servants

[61] See Case 17 of the questionnaire.

[62] The Protocol of 25 May 1984 to amend the International Convention on Civil Liability for Oil Pollution Damage and the Protocol of 25 May 1984 to amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage are not in force and are not intended to enter into force. The Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage was adopted on 16 May 2003 and entered into force on 3 March 2005. The 2001 International Convention on Civil Liability for Bunker Oil Pollutions Damage governs the liability for oil pollution caused by spills of oil, carried as fuel in ships. It entered into force on 21 February 2008.

of such persons as well. An act of war, hostilities, civil war, insurrection or a grave natural disaster, intentional act by a third party, or negligence of public authorities in maintaining lights or other navigational aids are available defences (Article III 2). Ships carrying more than 2,000 tons of oil are required to maintain insurance or other financial security (Article VII), and claims may be brought directly against the insurer or another person providing for financial security. Multiple ship-owners are jointly and severally liable for all such damage which is not reasonably separable (Article IV). Liability covers pollution damage resulting from spills of persistent oils in the territory of a state party, including the territorial sea and the exclusive economic zone or equivalent area of a state (Article II). Damages refer to loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship. Compensation for impairment of the environment, other than loss of profit from such impairment, is limited to costs incurred for reasonable measures of reinstatement actually undertaken or to be undertaken, to the costs of preventive measures, as well as further loss or damage caused by preventive measures (Article I 6). These costs are covered even when no oil spill occurs, provided there was a grave and imminent threat of pollution damage. Pure economic loss may also be awarded if the claimant can prove a reasonable degree of proximity between the contamination and the loss or damage sustained.[63]

Liability is limited in amount, unless the pollution damage resulted from the ship-owner's personal act or omission, committed with the intent to cause such damage, or committed recklessly and with knowledge that such damage would probably result (Article V). The liability limits in Article V are as follows:

- For a ship not exceeding 5,000 gross tonnage, liability is limited to 3 million Special Drawing Rights (SDR) of the International Monetary Fund.[64]
- For a ship of 5,000 to 140,000 gross tonnage, liability is limited to 3 million SDR, plus 420 SDR for each additional unit of tonnage above 5,000.
- For a ship over 140,000 gross tonnage, liability is limited to 59.7 million SDR.

[63] Claims Manual, International Oil Pollution Compensation Fund, November 2002, p. 24.
[64] This unit of account was introduced by the 1976 Protocol. The daily rates for Special Drawing Rights can be found on the International Monetary Fund website at www.imf.org.

These compensation limits were increased by about 50 per cent in the 2000 Protocol. The limitation period is three years from the date the damage occurred, and, at the latest, six years from the date of the incident which caused the damage. Where an incident consists of a series of occurrences, it shall be treated as having occurred on the date of the first occurrence (Article VIII). Actions for compensation may only be brought in the courts of the state where the damage occurred (Article IX 1).

The 1992 Protocol is supplemented by the 1992 Fund Convention, which establishes an additional compensation system. The Fund is obliged to pay compensation to states and persons who suffer pollution damage if, and as far as, they are unable to obtain compensation from the owner or the insurer of the ship from which the oil escaped (Article 4). The total sum payable by the ship-owner and the Fund shall not exceed 135 million SDR per incident. If persons from three Fund states receive more than 600 million tonnes of oil per year, the maximum amount is raised to 200 million SDR (Article 4 § 4). Under the 2000 Protocol, these sums were raised to 203 million SDR and 300.74 million SDR respectively. Contributions to the Fund are made by all persons in contracting states who receive more than 150,000 tons of oil by sea on the basis of anticipated payments of compensation and estimated administrative expenses during the forthcoming year (Articles 10 and 12). On 16 May 2003, the International Maritime Organization adopted a Protocol establishing an International Oil Pollution Compensation Supplementary Fund to provide additional compensation. Including the amounts provided by the 1992 Liability Convention and the 1992 Fund Convention, victims of oil pollution of the sea will then be entitled to a total of 750 million SDR. The Convention entered into force on 3 March 2005.

2. Nuclear damage

In Europe, liability for nuclear damage is mainly regulated by international conventions.[65] All the Western European states, except for Austria,

[65] Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960 (1960 Paris Convention), as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982, Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960 (1963 Brussels Supplementary Convention), as amended by the Protocol of 28 January 1964 and by the Protocol of 16 November 1982; Convention on Civil Liability for Nuclear Damage (1963 Vienna Convention), IAEA INFCIRC/500; Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (1988 Joint Protocol), IAEA INFCIRC/402); Protocol to amend the Vienna Convention on Civil Liability for Nuclear Damage (1997 Vienna Convention), IAEA INFCIRC/566; Convention on Supplementary Compensation for Nuclear Damage

Ireland, Luxembourg and Switzerland, have ratified the 1960 Paris Convention,[66] and each of the ratifying countries, except for Greece and Portugal, are parties to the 1963 Brussels Supplementary Convention.[67] Denmark, Finland, Germany, Greece, Italy, the Netherlands, Slovenia and Sweden also belong to the Joint Protocol, which links together the Paris Convention states and the Vienna Convention states.[68] No Western European country has ratified the 1963 Vienna Convention, the 1997 Vienna Convention or the 1997 Supplementary Compensation Convention. All the members of the 1960 Paris Convention shall, however, become members of the 2004 Paris Convention.

The 1960 Paris Convention applies only to damage caused by a nuclear incident from the radioactive properties of nuclear materials explicitly defined in the Convention.[69] The applicability of the

(1997 Convention on Supplementary Compensation, CSC), IAEA INFCIRC/567), Protocol to amend the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960 (2004 PC-Protocol), as amended by the Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (see www.nea.fr/html/law/paris_convention.pdf) and Protocol to amend the Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy (2004 BSC-Protocol), as amended by the Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (see www.nea.fr/html/law/brussels_supplementary_convention.pdf). For an analysis of the nuclear law conventions, see S. Kissich, *Internationales Atomhaftungsrecht: Anwendungsbereich und Haftungsprinzipien* (Baden-Baden, 2004); M. Hinteregger and S. Kissich, 'The Paris Convention 2004 – A New Nuclear Liability System for Europe' (2004) 3 *Env Liability* 116–26; M. Hinteregger and S. Kissich, *Atomhaftungsgesetz 1999 (AtomHG 1999)* (Vienna, 2004); N. Pelzer, *Brennpunkte des Atomenergierechts. Tagungsbericht der AIDN/INLA-Regionaltagung in Wiesbaden 2002* (Baden-Baden, 2003); OECD NEA (ed.), *Reform of Civil Nuclear Liability. International Symposium, Budapest, Hungary, 31 May–3 June 1999* (2000).

[66] Belgium, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, Portugal, Sweden, Spain and the United Kingdom. Other members of the Paris Convention are Norway, Slovenia and Turkey.

[67] Of the remaining members of the Paris Convention, only Turkey has not ratified the Brussels Supplementary Convention.

[68] Most of the Eastern European countries have ratified the 1963 Vienna Convention (Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia Moldova, Montenegro, Poland, Romania, the Russian Federation, Serbia, Slovakia and the Ukraine). Further members are Norway and Turkey. Belarus, Latvia and Romania are (together with Argentina and Morocco) also members of the 1997 Vienna Convention, and Romania has also ratified the 1997 Convention on Supplementary Compensation (as have Argentina and Morocco).

[69] Article 1(a)(iii)–(v) of the 1960 Paris Convention: nuclear fuel, radioactive products or waste, or other nuclear material or substances respectively. See also Article I(1)(f)–(h) of the 1963 Vienna Convention.

Convention is also limited by complex regulations concerning its geographical and technical scope. Liability is strict and limited in amount. The state where the plant is situated is given exclusive jurisdiction. An operator is not liable for damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war or insurrection. According to Article 9 of the 1960 Paris Convention, Member States may, however, impose liability if the nuclear incident is caused by a natural disaster of an exceptional nature. Some countries have used this option (Belgium and the United Kingdom). The concept of legal channelling provides that only the operator of a nuclear installation is liable for the damage caused by a nuclear incident.[70] Exceptions to legal channelling only apply to liability obligations deriving from (older) international agreements in the field of transportation[71] and the right to direct action against insurers, if provided by national law.[72] The concept of legal channelling also provides that operators are only liable under the Convention and the national laws implementing the Convention. General tort law is only applicable as far as it is in accordance with these provisions. Recourse action by the operator against third parties is only possible if provided by contract, or if the damage results from an act committed with the intent to cause damage. According to the 1960 Paris Convention, compensation for environmental damage is only awarded if it can be classified as damage to persons (personal injury and loss of life) or property. Any existing national law that provides for the compensation of further environmental damage cannot be applied. Specific national environmental statutes, like the Greek, Portuguese, Swedish or Finnish environmental liability laws, which do not explicitly include nuclear installations covered by the Conventions, cannot be applied, due to the concept of legal channelling. Thus, for the Member States of the 1960 Paris Convention, environmental damage that is not covered by the Convention can only be compensated upon ratification of the 2004 Paris Convention. The 2004 Paris Convention expressly includes certain types of environmental damage, such as restoration costs, prevention costs and economic loss, in the definition of nuclear damage. To what extent these types of damages are to be compensated will still be

[70] See Article 6(b) and (c)(ii) of the 1960 Paris Convention.
[71] Article 6(b) of the 1960 Paris Convention. See also Article II(5) of the 1963 Vienna Convention.
[72] Article 6(a) of the 1960 Paris Convention, Article II(7) of the 1963 Vienna Convention.

determined by national law. The limitation period is at least two years from the date that the injured party has knowledge of the damage and the identity of the operator. Ten years after the nuclear incident, all suits against the operator are time-barred.

3. Transboundary movement of waste, living modified organisms and transboundary effects of industrial accidents

With regard to damage caused by the transboundary movement of waste and by the transboundary effects of industrial accidents, two international liability conventions provide for specific liability regimes, although the Conventions have not yet entered into force. The Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, adopted on 10 December 1999, is a protocol to the 1989 Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal and governs liability for damage resulting from the transboundary movement of hazardous wastes and other waste and their disposal, including the illegal traffic in those wastes (Article 1). It provides for strict liability (Article 4) and covers (i) damage to persons and property, including loss of income directly deriving from an economic interest in the environment, (ii) the costs of measures of reinstatement of the impaired environment, limited to the costs of measures actually taken or to be undertaken, and (iii) the costs of preventive measures, including any loss or damage caused by such measures (Article 2 § 2c of the Protocol).

The Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the 1992 Convention on the Protection and the Use of Transboundary Watercourses and International Lakes and to the 1992 Convention on the Transboundary Effects of Industrial Accidents was adopted in May 2003 in Kiev. The Protocol supplements the 1992 Helsinki Convention on the Transboundary Effects of Industrial Accidents (TEIA Convention) and the 1992 Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Protection Convention) and provides for a comprehensive regime for civil liability for damage caused by the transboundary effects of industrial accidents on transboundary waters. It provides for strict liability of the operator and covers (i) damage to person and property, (ii) loss of income directly deriving from an impairment of a legally protected interest in the use of the transboundary waters for economic

purposes, (iii) the cost of measures of reinstatement limited to the costs of measures actually taken or to be undertaken and (iv) the cost of response measures (Article 2d of the Protocol).

A new liability regime governing the transboundary movement of living modified organisms is proposed by the Cartagena Protocol on Biosafety. This Protocol to the 1992 Convention on Biological Diversity was adopted in Montreal on 29 January 2000 and entered into force on 11 September 2003. The Protocol, to which all the Member States of the European Union and the European Community adhere, proposes in Article 27 that the Conference of the Parties shall adopt within four years international rules and procedures in the field of liability and redress for damage resulting from transboundary movement of living modified organisms.

2 Some observations on the law applicable to transfrontier environmental damage

Willibald Posch

I. The law applicable to international non-contractual torts or delicts: the general rule in national codifications of private international law

The rules determining the applicable law in cases of obligations arising out of non-contractual injurious conduct are not uniform within the European Union. However, the situation is not as complex as in the United States where several theories have been attempting to construct a convincing answer to the question of the applicable law in the field of international torts[1]. Joseph Beale's 'vested rights' theory, the 'center of gravity' or 'grouping of contacts' test, Brainard Currie's 'interest

[1] For a recent concise comparison in German, see T. Kadner Graziano, *Europäisches Internationales Deliktsrecht* (Tübingen, 2003).

analysis', William Baxter's 'comparative impairment', Robert Leflar's 'choice-influencing considerations'[2] and others created, together with the varying inclination of judges to follow these theories, a rather opaque situation.

In contrast thereto, a number of widely accepted positions can be found in the modern European codifications of international private law. Thus party autonomy in international tort law has become increasingly accepted as the tortfeasor and his victim are given the right to agree on a common choice of law. And there is a clear tendency in the national codifications towards a general recognition of the so-called 'place of injury' or '*lex loci delicti commissi*' rule for cases where parties abstain from selecting the applicable law. Finally, the 'place of injury rule' does not appear as a 'hard-and-fast conflicts rule', but rather in a 'softened' version.

In some European states, the victim may be granted a choice between the law of the state of the injurious activity and the law of the place where the damage materialises, and eventually the 'place of the injury' rule appears in a combination with a '*favour principle*' for the victim, as in the recent Slovenian Statute on Private International Law.

The existing differences in the basic approach may be demonstrated by the rules on the law applicable to international non-contractual liability in five selected codifications of private international law in the Member States of the European Union, namely, Austria, Italy, the United Kingdom, Germany and Slovenia.

The Austrian Statute on Private International Law came into effect on 1 January 1979.[3] It represents an early statutory regulation among the European codifications of private international law and adopts a 'softened place of injury rule'. The relevant provision was translated by Edith Palmer in a 1980 article in the *American Journal of Comparative Law*[4] in the following way:

§ 48 (1) Noncontractual damage claims shall be judged according to the law of the state in which the damage causing conduct occurred. However, if the persons involved have a stronger connection to the law of one and the same other state, that law shall be determinative.[5]

[2] For an overview, see W. Richman and W. Reynolds, *Understanding Conflict of Laws* (3rd edn, Newark, 2002).

[3] BGBl 1978/304.

[4] E. Palmer, 'The Austrian Codification of Conflicts Law' (1980) 28 *AJCL* 197.

[5] *Ibid*., p. 234. The German wording is: 'Außervertragliche Schadenersatzansprüche sind nach dem Recht des Staates zu beurteilen, in dem das den Schaden verursachende

More than fifteen years later, the new Italian Statute on Private International Law[6] of 1995 set out the following provision:

Article 62 (1) Tortious (*ex-contractu*) liability shall be governed by the law of the State in which the damage occurred. Nonetheless, the person suffering damage may request the application of the law of the State in which the event causing the damage took place.

(2) Should tortious liability concern only nationals of one State and all are residents of that State, the law of that State shall apply.[7]

In the same year, the Private International Law (Miscellaneous Provisions) Act 1995 was enacted in the United Kingdom, and in its Part III it provides rules for choice of law in tort and delict. The general rule is provided by section 11:

Section 11. Choice of applicable law: the general rule

1. The general rule is that the applicable law is the law of the country in which the events constituting the tort or delict in question occur.
2. Where elements of those events occur in different countries, the applicable law under the general rule is to be taken as being
   (a) for a cause of action in respect of personal injury caused to an individual or death resulting from personal injury, the law of the country where the individual was when he sustained the injury;
   (b) for a cause of action in respect of damage to property, the law of the country where the property was when it was damaged; and
   (c) in any other case, the law of the country in which the most significant element or elements of those event occurred.
3. In this section 'personal injury' includes disease or any impairment of physical or mental condition.

This general rule is softened by the so-called 'displacement rule' in section 12:

Section 12. Choice of applicable law: displacement of general rule

1. If it appears, in all the circumstances, from a comparison of
   (a) the significance of the factors which connect a tort or delict with the country whose law would be the applicable law under the general rule; and

Verhalten gesetzt worden ist. Besteht jedoch für die Beteiligen eine stärkere Beziehung zum Recht ein und desselben anderen Staates, so ist dieses Recht maßgebend.'

[6] Law No. 218 of 31 May 1995, GU 3 June 1995, n. 128 Supp. No. 68.

[7] Translation taken from (1996) 35 ILM 779. The original Italian wording is: '1. La responsabilità per fatto illecito è regolata dalla legge dello Stato in cui si è verificato l'evento. Tuttavia il danneggiato può chiedere l'applicazione della legge dello Stato in cui si è verificato il fatto che ha causato il danno. – 2. Qualora il fatto illecito coinvolga soltanto cittadini di un medesimo Stato in esso residenti, si applica la legge di tale Stato.'

(b) the significance of any factors connecting the tort or delict with another country,

that it is substantially more appropriate for the applicable law for determining the issues arising in a case, or any of those issues, to be the law of the other country, the general rule is displaced and the applicable law for determining those issues (as the case may be) is the law of that other country.

2. The factors that may be taken into account as connecting a tort or delict with a country for the purposes of this section include, in particular, factors relating to the parties, to any of the events which constitute the tort or delict in question or to any of the circumstances or consequences of those events.[8]

Four years later, the German Act on Private International Law for Non-Contractual Obligations of 1999[9] provided a new Article 40 of the Introductory Law of the Civil Code[10] which reads:

Article 40 (1) Claims in tort are governed by the law of the state in which the tort is committed. The injured party may require that the law of the state where the injurious result occurs applies instead. The right to determine the applicable law has to be exercised before the final hearing in the first instance or before the end of the preliminary proceedings.

(2) If both, the responsible and the injured person, had their habitual residence at the time of the injurious event in one and the same state, the law of this state applies . . .[11]

The Slovenian Statute on Private International Law and Procedure of 1999[12] provides in its Article 30 the general rule for the determination of the law applicable to non-contractual obligations:

[8] Text in *Halsbury's Statutes*, vol. 45 (4th edn, 1999), p. 1023; see C. Morse, 'Torts in Private International Law: A New Statutory Framework' (1996) 45 *ICLQ* 888.

[9] Gesetz zum Internationalen Privatrecht für außervertragliche Schuldverhältnisse und für Sachen of 21 May 1999, BGBl I 1026.

[10] Einführungsgesetz zum Bürgerlichen Gesetzbuch (EGBGB).

[11] The original wording is: '(1) Ansprüche aus unerlaubter Handlung unterliegen dem Recht des Staates, in dem der Ersatzpflichtige gehandelt hat. Der Verletzte kann verlangen, daß anstelle dieses Rechts das Recht des Staates angewandt wird, in dem der Erfolg eingetreten ist. Das Bestimmungsrecht kann nur im ersten Rechtszug bis zum Ende des frühen ersten Termins oder dem Ende des schriftlichen Vorverfahrens ausgeübt werden. (2) Hatten der Ersatzpflichtige und der Verletzte zur Zeit des Haftungsereignisses ihren gewöhnlichen Aufenthalt in demselben Staat, so ist das Recht dieses Staates anzuwenden . . .'

[12] Zakon o mednarodnem zasebnem pravu in postobku, UL (official journal) No. 56/1999.

Article 30

(1) Non-contractual liability is governed by the law of the place, where the injurious conduct was carried out. If it would be more beneficial for the injured person, the law of the place where the damage materialises applies instead, provided that the person causing the harm could and must have foreseen this place.

(2) If the law determined by paragraph 1 has no closer relation with the case and if there is an obvious relation with another law, this other law shall apply.

This overview may illustrate that 'place of injury' or '*lex loci delicti commissi*' does not mean the same everywhere, and the picture would become more colourful if further examples of the private international law statutes of the new EU Member States, such as the recent Estonian[13] or Hungarian[14] ones, were to be included in this survey.

There are at least two possible ways of defining the concept of 'place of injury'. It can be understood either as the place where the cause of the injury or loss is generated ('*lex loci actus*'), or as the place where the damage materialises ('*lex damni*'). Under Austrian law, and likewise under German, Slovenian and UK law, the primary focus of the rule is on the place of the creation of the damage, since the wording of the statutes point to the law of the place where the damage was generated.

In contrast thereto, the definition of '*lex loci delicti*', as provided by Article 62 of the Italian Act on Private International Law, is based on the understanding of this notion as '*lex damni*': it is the law of the state in which the damage materialises that will apply, if the victims abstained from choosing the law of the place of the injurious conduct.

Compared with the Austrian general connecting rule for international torts, both, German and Italian law are more favourable to the victim since they grant him a right to choose either the law of the place where the injury is generated, or the law of the place where the injury arises, thereby resorting to the so-called ubiquitarian approach.

Finally, the Slovenian solution of identifying the applicable tort in international cases of non-contractual liability is another possibility for overcoming the dilemma between the place of conduct and the place of harm in international cases of non-contractual liability. It employs the 'benefit of the victim of an injury' as the relevant criterion, without leaving it to the victim to make a choice between the law of the place of

[13] Sections 164 *et seq.* of the Civil Code of 28 July 1994.

[14] Sections 32 *et seq.* of the Law-Decree on Private International Law of 31 May 1979.

the injurious conduct and the law of the place of the harmful effect. Rather, it appears to be the task of the judge to determine the favourable law. In this regard, the Slovenian Private International Law Act conforms to the Yugoslav Private International Law Code of 1982,[15] which is still in effect in Serbia and Montenegro today, and which continued to be the law in Slovenia after that republic had become an independent state in 1991.

II. The law applicable to international non-contractual torts or delicts: the general rule in the 'Regulation Rome II' of the European Community

The variety of definitions of 'place of injury' suggests the need for harmonisation of the laws within the European Union, and the idea of creating a convention which would provide a uniform regime for contractual as well as non-contractual obligations arose among the leading experts in the European Economic Community as early as the late 1960s and resulted in a draft convention in 1972.[16] There were, however, insurmountable obstacles at that time, and in the event no provisions on non-contractual liability were included in what would later become the Convention on the Law Applicable to Contractual Obligations (or 'Rome Convention').[17]

Meanwhile, the process of 'Europeanisation' of the law has made significant progress and is about to extend to the international law of

[15] On this interesting codification of conflicts law, see T. Varady, 'Some Observations on the New Yugoslav Private International Law Code' (1983) *Riv. Dir. Int. Priv. Proc.* 69; P. Šarčević, 'The New Yugoslav Private International Law Act' (1985) 33 *AJCL* 283.

[16] See O. Lando, 'The EC Draft Convention on the Law Applicable to Contractual and Non-Contractual Obligations' (1974) 38 *RabelsZ 6*; O. Lando, B. von Hoffmann and K. Siehr (eds.), *European Private International Law of Obligations* (Tübingen, 1975); for a recent description of its content and the reasons for its failure, see B. von Hoffmann (ed.), *European Private International Law* (Nijmegen, 1998), chapter 5 (by W. Posch), n^{os} 4–13.

[17] The Convention was signed on 19 June 1980 in Rome and came into force on 1 April 1991 for Belgium, Denmark, France, Germany, Italy, Luxembourg and the United Kingdom. On its history and content, see von Hoffmann (ed.), *European Private International Law*, Chapter 3 (by B. Dutoit). There are preparations being made within the European Commission to replace the Convention by a Regulation 'Rome I'; cf. Green Paper on the Conversion of the Rome Convention of 1980 on the Law Applicable to Contractual Obligations into a Community Instrument and Its Modernisation, COM(2002) 654 final of 14 January 2003; cf. the Proposal for a Regulation of the European Parliament and the Council on the law applicable to contractual obligations (Rome I), COM (2005)650 final of 15 December 2005.

non-contractual obligations. A precondition was an amendment to the EC Treaty with the aim of constituting a legal basis for supranational 'measures', (i.e. regulations or directives) in the field of transboundary judicial cooperation in civil matters.[18] The new Title IV on 'Visas, asylum, immigration and other policies related to free movement of persons' was inserted into Part Three of the EC Treaty by the Treaty of Amsterdam.

According to the new Articles 61(c) and 65(b), legislative measures under Article 249 EC may now include regulations 'promoting the compatibility of the rules applicable in the Member States concerning the conflict of laws and jurisdiction', provided such measures are necessary for the proper functioning of the internal market.[19] The European Council, by agreeing the 'Tampere Conclusions'[20] aiming at the establishment of a genuine 'European Area of Justice', and by inviting the Council and the Commission 'to prepare new procedural legislation in cross-border cases' and to examine 'the need to approximate Member States' legislation in civil matters in order to eliminate obstacles to the good functioning of civil proceedings',[21] accelerated the process of Europeanisation of conflict of laws.

It soon became evident that this process could not be restricted to jurisdiction and mutual recognition of decisions in civil and commercial matters,[22] and that Council Regulation (EC) No. 44/2001 on Jurisdiction and the Recognition and Enforcement of Judgments in Civil and Commercial Matters[23] needed completion by uniform rules on the law to be applied to international cases of civil liability, unjust enrichment and *negotiorum gestio*.

The preparation of a draft Convention on the Law Applicable to Non-Contractual Obligations was launched in 1998 by the Directorate-General for Justice and Home Affairs. And, with the assistance of an

[18] This legal basis does not extend to Denmark: see Articles 1 and 2 of the Protocol (No. 5) annexed to the EC Treaty.

[19] On the importance of these new provisions, see C. Kohler, 'Interrogations sur les sources du droit international privé européen après le traité d'Amsterdam' (1999) *Rev. crit. dr. int. pr.* 1–30; O. Remien, 'European Private International Law, the European Community and Its Emerging Area of Freedom, Security and Justice' (2001) *CML Rev* 53–86.

[20] Paras. 28 *et seq.*, of the Conclusions: see www.europarl.eu.int/summits/tam_en.htm?textMode=on#top.

[21] Paras. 38 and 39 of the Conclusions.

[22] See Joint programme 2001/C 12/1 of the Commission and Council, adopted by the Council on 30 November 2000, OJ C 12, 15.01.2001, pp. 1–9.

[23] OJ L 12, 16.01.2001, p. 1.

'ad hoc Rome II Working Party', a Preliminary Draft Proposal for a Council Regulation on the Law Applicable to Non-Contractual Obligations was published in May 2002, and all interested parties were invited to make their comments in writing to the Directorate-General for Justice and Home Affairs.

The general rule for 'non-contractual obligations arising out of a tort or delict' had the following wording:

Article 3 General rule

1. The law applicable to a non-contractual obligation arising out of a tort or delict shall be the law of the country in which the loss is sustained, irrespective of the country or countries in which the harmful event occurred and irrespective of the country in which the indirect consequences of the harmful event are sustained, subject to paragraph 2.
2. Where the author of the tort or delict and the injured party have their habitual residence in the same country when the tort or delict is committed, the applicable law shall be the law of that country.
3. However, if it appears from the circumstances as a whole that there is a substantially closer connection with another country and there is no significant connection between the non-contractual obligation and the country whose law would be the applicable law under paragraphs 1 and 2, the law of that other country shall be applicable.

   A substantially closer connection with another country may be based in particular on a pre-existing relationship between the parties, such as a contract that is linked to the tort or delict in question.

In the consultation procedure, some eighty comments were presented, and, after a public hearing in January 2003, the responsible Directorate-General revised the text. Article 3 as envisaged by the Proposal for a Regulation of the European Parliament and the Council on the Law Applicable to Non-Contractual Obligations ('Rome II')[24] was changed in the following way:

Article 3 General rule

1. The law applicable to a non-contractual obligation shall be the law of the country in which the damage arises or is likely to arise, irrespective of the country in which the event giving rise to the damage occurred and irrespective of the country or countries in which the indirect consequences of that event arise.
2. However, where the person claimed to be liable and the person sustaining damage both have their habitual residence in the same

[24] COM(2003) 427 final of 22 July 2003.

country when the damage occurs, the non-contractual obligation shall be governed by the law of that country.

3. Notwithstanding paragraphs 1 and 2, where it is clear from all the circumstances of the case that the non-contractual obligation is manifestly more closely connected with another country, the law of that other country shall apply. A manifestly closer connection with another country may be based in particular on a pre-existing relationship between the parties, such as a contract that is closely connected with the non-contractual obligation in question'.

This general rule was accompanied by the provision of Article 10 of the Proposed Regulation allowing the parties to choose the law applicable to non-contractual obligations after their dispute has arisen.[25] Thus, the drafters acknowledge the great importance that party autonomy has obtained in modern private international law.

Meanwhile, Article 3 of the Proposed 'Regulation Rome II' was reformulated and became Article 4 of the final Regulation. However, in its main features, the general rule which adopts the '*lex loci delicti commissi*' or 'place of injury' rule has been upheld. The governing law remains the law of the country in which the damage arises, namely, the law of the *locus damni*. The final wording of the general connecting rule for tort/delict of the 'Regulation (EC) No. 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to

[25] See Article 10(1): 'The parties may agree, by an agreement entered into after their dispute arose, to submit non-contractual obligations other than the obligations to which Article 8 [on infringements of intellectual property rights] applies to the law of their choice. The choice must be expressed or demonstrated with reasonable certainty by the circumstances of the case. It may not affect the rights of third parties.' For the final text of the 'Regulation Rome II', the relevant provision has been renumbered. It has also been significantly modified and has become Article 14, which reads: '1. The parties may agree to submit non-contractual obligations to the law of their choice: (a) by an agreement entered into after the event giving rise to the damage occurred; or (b) where all the parties are pursuing a commercial activity, also by an agreement freely negotiated before the event giving rise to the damage occurred. The choice shall be expressed or demonstrated with reasonable certainty by the circumstances of the case and shall not prejudice the rights of third parties. 2. Where all the elements relevant to the situation at the time when the event giving rise to the damage occurs are located in a country other than the country whose law has been chosen, the choice of the parties shall not prejudice the application of provisions of the law of that other country which cannot be derogated from by agreement. 3. Where all the elements relevant to the situation at the time when the event giving rise to the damage occurs are located in one or more of the Member States, the parties' choice of the law applicable other than that of a Member State shall not prejudice the application of provisions of Community law, where appropriate as implemented in the Member State of the forum, which cannot be derogated from by agreement.'

non-contractual obligations (Rome II)' as published in OJ L 199/40 of 31 July 2007, provides only minor changes. Article 4 of the Regulation, which will apply from 11 January 2009, reads:

(1) Unless otherwise provided for in this Regulation, the law applicable to a non-contractual obligation arising out of a tort/delict shall be the law of the country in which the damage occurs irrespective of the country in which the event giving rise to the damage occurred and irrespective of the country or countries in which the indirect consequences of that event occur.

(2) However, where the person claimed to be liable and the person sustaining damage both have their habitual residence in the same country at the time when the damage occurs, the law of that country shall apply.

(3) Where it is clear from all the circumstances of the case that the tort/delict is manifestly more closely connected with a country other than that indicated in paragraphs 1 or 2, the law of that other country shall apply. A manifestly closer connection with another country might be based in particular on a pre-existing relationship between the parties, such as a contract, that is closely connected with the tort/delict in question.

As the European Economic and Social Committee aptly remarked in its Opinion of 2 June 2004,[26] 'the Commission's choice of the law of *locus damni* is justifiable on the grounds that it gives priority to protection of the injured party, without however completely neglecting the interests of the party causing the damage'.[27] Thus, the Economic and Social Committee concluded that '[t]he Commission's attempt to balance the interests of the various parties seems in every respect acceptable'.

The 'output oriented place of injury rule' of Article 4(1) of the Regulation is in conformity with the prevailing trends in the determination of the applicable law in cases of non-contractual liability. It gives priority to the resulting damage rather than to the harmful conduct, thus focusing on the law of the state in which the damage occurs. By softening the place of injury rule by paragraph 2, which takes account of situations where the defendant tortfeasor and the victim have their habitual residence in the same state at the time the damage occurred, and by paragraph 3, which deals with the question whether a 'closer

[26] Opinion of the European Economic and Social Committee, OJ 2004 C 241, p. 3. para. 5.1.

[27] That would have been the case if the Commission had favoured the criterion of the victim's habitual residence as the decisive factor for the designation of the applicable law.

connection' may override the general rule, Article 4 is likewise in conformity with the evolution of conflict of laws in Europe.

A 'softened place of injury rule' which focuses on the 'law of the place where the damage materialises' can provide satisfactory solutions for many of the problems which may occur with regard to cases belonging to the category of 'bilocal' or 'double locality torts',[28] such as international cases of product-related injury and cross-border environmental damage.[29] In particular if the substantive laws provide different standards of liability – as they do, for example, in the field of liability for damage caused by radioactivity – the rule needs modification to ensure that the victims of such transfrontier injuries are treated in a fair and equitable way.

III. Archetypes of 'bilocal torts': product liability and liability for environmental damage

The question how to cope with the two possible definitions of 'place of injury' in 'bilocal injury cases' is of great importance in the context of international product liability law, and particular conflicts rules were drafted for this particular field of international tort law on the national and international levels.

Therefore, as early as 1973, a 'Convention on the Law Applicable to Products Liability' was concluded and opened for signature[30] within the framework of the Hague Conference, and specific provisions on the law to be applied to cases of international product liability were included in some of the more recent national codifications of Private international law. Thus, the private international law of Switzerland[31] and Italy[32] – to mention only two prominent examples – provide specific statutory solutions for the identification of the applicable law in product liability cases, and employ a ubiquitarian solution, granting the victim the right to choose either the law of the state in which the business of the producer

[28] In German, *Distanzdelikt*; for more details, see e.g. Kadner Graziano *Europäisches Internationales Deliktsrecht*, pp. 45 *et seq*.

[29] Case 21/76, *Handelskwekerij G. J. Bier BV* v *Mines de Potasse d'Alsace SA* [1976] ECR, 1735.

[30] This complicated Convention entered into force for six states on 1 October 1977. As at October 2007, it was in force in eleven states, namely, Croatia, Finland, France, Luxembourg, Macedonia, Montenegro, the Netherlands, Norway, Serbia, Slovenia and Spain.

[31] See Article 135 of the Federal Act on Private International Law of 18 December 1987, SR 291.

[32] See Article 63 of Law No. 218 of 31 May 1995.

is located, or the law of the state in which the product was acquired, unless the producer can prove that the product was put into circulation there without his consent.

Initially, cases of international environmental damage have attracted less interest among the legislative bodies of Europe, even though they too raise particular legal difficulties. The only international instruments which have been introduced are those which pertain to certain critical activities with the potential for causing huge damage to the environment, such as the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Activity or the 1973 London Convention for the Prevention of Pollution from Ships. These Conventions include specific rules on conflicts of law.[33] Apart from these very specific provisions, no general solution for the problems of conflict of laws has been put on the agenda of relevant bodies such as the Hague Conference on Private International Law for quite some time.

However, after some disastrous transfrontier air and water pollution events occurred that were caused by serious nuclear incidents and accidents in chemical plants and mines, a greater awareness of the specific problems developed in the late 1980s and 1990s. Since then, the need for specific rules on the applicable law in this field of non-contractual liability has been increasingly felt, and, since 1992, the Permanent Bureau of the Hague Conference has been considering the elaboration of a draft convention on this topic.

IV. The increasing number of transfrontier environmental incidents

As Chernobyl amply illustrates, contaminated air may be transported by winds several hundreds of miles and cause damage at remote places. The same is true with regard to polluted water. This is well documented by two cases involving the River Rhine, namely, the 'Mines de Potasse d'Alsace' and the so-called 'Schweizerhalle' incidents, and more recently by the bursting of a tailings dam in Baia Mare, Romania, in January 2000.[34]

[33] For details, see C. Bernasconi, 'Civil Liability Resulting from Transfrontier Environmental Damage: A Case for the Hague Conference?' Preliminary Document No. 8 of April 2000 for the attention of the Special Commission of May 2000 on general affairs and policy of the Conference, p. 27.

[34] The growing number of incidents of water pollution from mines and other industries prompted the OECD to start preparatory work for a 'Convention on the Protection and Use of Transfrontier Effects of Industrial Accidents'.

The Chernobyl nuclear power plant is located 80 miles north of Kiev. It had four reactors, and, on 26 May 1986, during the testing of reactor number IV numerous safety procedures were disregarded. As a result of this carelessness, the controlled chain reaction in the reactor went out of control and created a huge explosion which blew off the reactor's heavy steel and concrete lid. The local effects of the Chernobyl accident were disastrous. It killed more than thirty people immediately, and, as a result of the high radiation levels within a twenty-mile radius, 135,000 people had to be evacuated for an indefinite period. Clouds contaminated by radiation moved from Chernobyl to Sweden where an increased radiation was first noticed by measuring equipments in Western Europe. Easterly winds transported radiation to Central Europe, causing damage to vegetables and fruit as far away as Austria and Switzerland.

In 1976, the European Court of Justice had to make a preliminary ruling upon request by the Gerechtshof of The Hague in *Bier* v. *Mines de Potasse d'Alsace*.[35] The defendant French company had polluted the River Rhine and caused damage to a horticultural enterprise in the Netherlands. This case clarified the meaning of the expression 'place where the harmful event occurred' in Article 5(3) of the Brussels Convention of 27 September 1968 on Jurisdiction and the Enforcement of Judgments dealing with jurisdiction for liability in tort, delict or quasi-delicit. The European Court of Justice resorted to a ubiquitarian interpretation by holding that what is covered by the wording of that Article is both 'the place of the event giving rise to the damage' as well as the 'place where the damage occurred'. Therefore, the polluting defendant 'may be sued, at the option of the plaintiff, either in the courts for the place where the damage occurred or in the courts for the place of the event which gives rise to and is at the origin of that damage'.

Whilst the *Mines de Potasse d'Alsace* case has become famous for its jurisdictional importance, the 'Schweizerhalle' incident achieved rather dubious eminence because of its huge harmful consequences. In the early morning of 1 November 1986, a fire broke out at Store 956 of the chemical plant of the SANDOZ Company at Schweizerhalle near Basel in Switzerland. Together with the water needed to extinguish the fire, more than 900 tons of pesticides, and 11 tons of organic mercury compounds, escaped into the Rhine and caused the mass death of fish and organic substances there. According to SANDOZ, the claims for

[35] Case 21/76 [1976] ECR 1735.

compensation for damage in downstream countries amounted to DM31 million in Germany, DM16 million in France and DM2.7 million in the Netherlands[36].

In the latest of these four cases of transfrontier environmental damage, the tailings dam of a gold-mine in Baia Mare burst on 30 January 2000, and some 100,000 cubic metres of waste water containing 50 to 100 tons of cyanides were spilled into the Szamos and Tisza rivers. The pollution caused nearly a 100 per cent death rate among fish and organisms serving as food for fish in these mainly Hungarian rivers, caused the interruption of drinking water supply from the Tisza and had serious harmful impacts on several protected nature reserves in Hungary.

These European cases of transfrontier air and water pollution may suffice to illustrate the increased frequency and dimensions of such incidents, and they may explain why environmental damage has become a matter of concern for drafters of the codifications of private international law. The discussion of the question whether there should be a specific rule for the determination of the law to be applied to cross-border environmental damage gathered momentum.[37]

V. Specific statutory solutions for transfrontier environmental damage in national private international laws

Article 138 of the Swiss Statute on Private International Law of 18 December 1987, stating that '[c]laims based on a damaging nuisance from an immovable property are governed, at the option of the damaged party, by the law of the country where the immovable property is situated or by the law of the country where the effect occurs',[38] may not have been a direct reaction to the experiences with Chernobyl and Schweizerhalle. But the Swiss provision is, nevertheless, important as an early reference to the specific problems of conflict of laws that are generated by transfrontier environmental damage.

[36] For details, see Economic Commission for Europe, Intergovernmental Working Group on Civil Liability, Working Paper MP.WAT/AC.3/2003/WP.25 CP.TEIA/AC.1/2003/WP.25 (2003).

[37] For a comprehensive explanation of this process, see Bernasconi, 'Civil Liability Resulting from Transfrontier Environmental Damage: A Case for the Hague Conference?', pp. 1–82.

[38] Translation by P. Karrer and K. Arnold, *Switzerlands's Private International Law Statute* (Deventer, 1989).

Likewise, the German Introductory Law to the Civil Code provides in its Article 44 a rule on 'nuisance to realty',[39] which refers to Article 40(1) as introduced by the law of 21 May 1999. As already noted, this general connecting rule for international non-contractual torts follows the ubiquitarian approach to the question of the applicable law in international pollution cases, similar to the Swiss statute.

It is evident that the Swiss and German conflicts rules for international environmental torts indicate a greater awareness of and concern for this specific field of private international law. And, whilst the Austrian Statute on Private International Law of the late 1970s omitted to provide for the law to be applied to transfrontier environmental damage, a rule concerning the law to be applied to nuclear damage was inserted into the new Federal Act on Civil Liability for Damage Caused by Radioactivity in 1999.[40]

The latter Act is revolutionary in several aspects since it imposes unlimited strict liability on the operators of nuclear plants and on the carrier of nuclear substances for personal injury and damage to property, and requires extensive insurance coverage. The comprehensive liability regime of this Act, which is accompanied by a presumption of causation, paves the way for a new environment-oriented view of liability for nuclear damage. The Act includes a rule on the applicable law which favours the injured party:

§ 23 Applicable law

1. Where damage is caused in Austria by ionising radiation, non-contractual claims for compensation shall be governed by Austrian Law at the request of the person who suffered damage.
2. Where damage is caused by ionising radiation abroad and is governed by Austrian Law, damages shall be awarded only if and to the extent that the national law of the person who suffered damage makes provision therefor.[41]

[39] Grundstücksimmissionen.

[40] Bundesgesetz über die zivilrechtliche Haftung für Schäden durch Radioaktivität (Atomhaftungsgesetz 1999, Atomic Liability Act). For a brief presentation of this Act, see W. Posch, 'New Developments in the Law of Civil Liability for Nuclear Damage Spearheaded by Austria: From Privileges for the Nuclear Industry to a True Protection of Mankind and the Environment' (1999) 3 *Env Liability* 81; for more details, see M. Hinteregger, 'The New Austrian Act on Third Party Liability for Nuclear Damage', *Nuclear Law Bulletin*, No. 62, December 1998, p. 27.

[41] Unofficial translation provided by the OECD.

This specific conflicts rule for damage from nuclear incidents reduces and even eliminates the problems which would occur if the general rule of § 48 of the Austrian Statute on Private International Law were to apply, since it is doubtful whether correct interpretation of this provision would lead to the application of Austrian law as the law of the place where the damage materialises in a case in which harmful effects of radiation were generated from a nuclear plant located in a foreign state.[42]

Since victims suffering damage within Austria have a legitimate desire to utilise the most favourable law, they are given the right to choose Austrian law, which provides a highly victim-oriented regime for liability for damage caused by radiation from nuclear installations. By adhering to what is called *Günstigkeitsprinzip* in German law,[43] the Austrian legislative bodies have, thus, realised that a victim-oriented solution best serves the cause of fairness and equity.[44]

However, it was a desire for fairness which gave rise to paragraph 2 (as set out above): its underlying rationale is that the operators of nuclear plants should be able to foresee the scope of liability to which they may be subjected in the event of an incident.

VI. The rules on the law applicable to environmental damage in the 'Regulation Rome II'

Specific conflict rules for environmental damages are no longer limited to national codifications. Not surprisingly, the Hague Conference was the first international organisation to embark on work in this field of

[42] Since there are no commercial nuclear plants in Austria, such nuisance can only be of a transfrontier character.

[43] The circumstantial English translation by Bernasconi, 'Civil Liability Resulting from Transfrontier Environmental Damage: A Case for the Hague Conference', p. 32, reads: 'principle of the law that is more favourable for the injured party'. On the German origin of the 'favour principle', which may be traced back to a decision of the Reichsgericht (Imperial Supreme Court) of 20 November 1888, RGZ 23, 305; see, in this context, Bernasconi, 'Civil Liability Resulting from Transfrontier Environmental Damage: A Case for the Hague Conference', pp. 32 *et seq.* with further references.

[44] The 'favour principle' had already been incorporated into the bilateral treaty between Austria and Germany of 1967 on the effects of the establishment and operation of Salzburg Airport on the territory of Germany. According to Article 4(3) of this agreement, the applicable law shall be the law most favourable to the injured party.

private international law. In 1992, the Permanent Bureau of the Conference proposed for the first time to put this topic on the agenda of the Conference, and has since continued to pursue this topic. Although it has not yet proposed a convention, the Bureau has continuously monitored, studied and encouraged work in the area of environmental law.[45]

That may explain why the Bureau commented only on the provisions relating to environmental damage[46] when the Directorate-General for Justice and Home Affairs of the European Commission published a Preliminary Draft Proposal for a Regulation on the Law Applicable to Non-Contractual Obligations, in May 2002, and invited interested parties to present their comments in writing. The Preliminary Draft Proposal provided a rule on environmental damage in its Article 8, which had the following wording:

Article 8 Violation of the environment

The law applicable to a non-contractual obligation arising from a violation of the environment shall be the law of the country in whose territory the damage occurs or threatens to occur.

The draft Regulation of the European Council on the Law Applicable to Non-Contractual Obligations ('Rome II') (the 'proposed Regulation')[47] replaced this Article by an amended rule on 'violation of the environment' in its Article 7:

Article 7 Violation of the environment

The law applicable to a non-contractual obligation arising out of a violation of the environment shall be the law determined by the application of Article 3 (1), unless the person sustaining damage prefers to base his claim on the law of the country in which the event giving rise to the damage occurred.

In the final version of the 'Regulation Rome II' as adopted by the European Parliament and the Council of the European Union, Article 7 was given the following wording:

The law applicable to a non-contractual obligation arising out of environmental damage or damage sustained by persons or property as a result of such damage

[45] Cf. Bernasconi, 'Civil Liability Resulting from Transfrontier Environmental Damage: A Case for the Hague Conference', pp. 1 *et seq*.

[46] See http://europa.eu.int/comm/justice_home/news/consulting_public/rome_ii/bureau_perm_conference_lahaye_en.pdf.

[47] COM(2003) 427 final of 22 July 2003.

shall be the law determined pursuant to Article 4(1), unless the person seeking compensation for damage chooses to base his or her claim on the law of the country in which the event giving rise to the damage occurred.

Thus, Article 7 of the final Regulation provides an exception to the general rule of Article 4 by empowering a person sustaining environmental cross-border damage to 'base his or her claim on the law of the country in which the event giving rise to the damage occurred', which amounts to the acknowledgment of a 'favour principle' to the benefit of the victim.

As regards this provision, the statement of the Economic and Social Committee[48] is certainly correct, when it expressly remarked that '[t]he Commission is pursuing objectives which actually have nothing to do with conflict of laws, but which are rather intended to encourage potential environmental polluters to take environmental protection very seriously by threatening them with the application of a more stringent system of substantive law'.[49]

The solution of Article 8 of the Preliminary Draft Proposal did not go so far, since it made no provision for allowing the victim to choose a law other than the law of the 'place where the damage occurs or threatens to occur'. In his comment to this first version of the provision on violation of the environment on behalf of the Hague Conference, the First Secretary of the Permanent Bureau, Christophe Bernasconi, welcomed the intention of the drafters of the Proposed Regulation to provide the injured party with adequate protection by referring to the '*lex damni*', since this approach would provide the injured party with adequate protection and ensure appropriate compensation in many factual situations.[50]

However, Bernasconi went further in supporting the idea of allowing the injured party a choice of the law to be applied.[51] His pleading for the *Günstigkeitsprinzip*, and its combination with a focus on party autonomy and the '*lex damni*' as the primarily applicable law, may have had decisive influence on the drafters of the proposal for the

[48] Opinion of the European Economic and Social Committee, OJ 2004 C 241, p. 4, para. 5.4.

[49] *Ibid.*, 5.5.

[50] Proposal for a Council Regulation on the Law Applicable to Non-Contractual Obligations, Presented by the Commission of the European Communities: Comments by the Permanent Bureau of the Hague Conference on Private International Law on the Provisions Relating to Environmental Damage of 18 September 2002, p. 6.

[51] *Ibid.*, pp. 7 *et seq.*, quoting further references.

'Regulation Rome II'. This may explain why Article 7 resorted to a reference to the general rule of Article 4(1) with its focus on the '*lex damni*' and allows the person sustaining damage to base his or her claim on the law of the country in which the event giving rise to the damage occurred, if he or she so chooses.

VII. Summary

The differences in the national statutes as to the meaning of 'place of injury' or '*lex loci delicti commissi*' and the increasing number and dimensions of transnational pollution cases explain why the need for a harmonisation of the conflict rules for obligations arising out of transfrontier environmental damage has resulted in the relevant provision of Article 7 of the 'Regulation Rome II'.

Thus the coming into force of the new conflict rules in this field of non-contractual obligations will put an end to the still existing diversity of national private international laws by creating uniformity, the application of which will be controlled by the European Court of Justice.

With regard to liability for transfrontier environmental damage, the distinctive features of this uniform law with regard to liability for transfrontier environmental damage are as follows:

1. the recognition of party autonomy;
2. a focus on the law of the place where the damage materialises (or '*lex damni*'); and
3. the right of the injured party to make a choice as to the law to be applied.

The implementation of the 'favour principle' in the conflict of laws with regard to non-contractual obligations arising out of tort or delict is a legitimate reaction to the victim-oriented concern of modern private international law doctrine in Europe.

PART II · THE CASE STUDIES

3 The Questionnaire

I. Goal of the Questionnaire

1. Background to the project and methodological remarks

The project forms part of the comprehensive comparative project entitled The Common Core of European Private Law, based in Trento, Italy. The work, started in 1999, seeks to provide a comprehensive analysis of the private law aspects of environmental liability in fourteen jurisdictions from thirteen European countries. The original intent was to cover each of the – at the time when the project was conceived – fifteen Member States of the European Union, but it became apparent that it was impossible to find reporters from Denmark and Luxembourg. The participants in the project, mostly academics and some practitioners with a strong academic background, were selected according to their expertise in the field of the private environmental liability law of their home country. When reading the reports, it is obvious that the results differ, from very scholarly and sophisticated reports to rather short and pragmatic answers, thus reflecting not only the individual approach of the reporter but also the different legal traditions of the countries covered by the project.

The project applies the methodology of the Common Core project as a whole. It follows a strict analytical perspective with the goal of describing the existing law without the intention of qualifying the national solutions from a certain perspective. It was thus not intended to assess the national jurisdictions in terms of environmental protection standards or to achieve further harmonisation in this field of law. To obtain consistency in the answers and in order to draw a comprehensive picture of the law in each legal system, each question was formulated by presenting a case. This 'factual approach', the main characteristic feature of the 'Trento method', should induce the

respondents to explain the results that would be reached under their legal system taking into account the relevant legislation and indicating the most essential literature and case law. On this basis, the comparative analysis then seeks to determine to what extent, if any, there exists a common core of principles and rules concerning compensation for environmental damage. Contrary to the environmental liability Directive which aims at the prevention and remediation of damage to natural resources (protected species and natural habitats, water and land) as such, this study concentrates primarily on the compensability of environmentally induced damage to persons and property including the compensation of economic loss.

2. The cases

The questionnaire addresses the main issues of environmental liability from a **private law perspective**: available heads of liability for environmental damage, proof of causation and available remedies for the prevention and remediation of environmental harm. The aim of the **first part** of the questionnaire (Part A 'Scope of liable persons') was to explore the **liability regimes** the countries participating in the project provide for the different sources of pollution. The questions concentrate on the availability of no-fault liability claims for victims of environmental damage. Reporters were also asked to comment on whether courts apply fault liability in a more stringent way with regard to pollution damage. Cases 1 and 2 deal with harm caused by industrial plants, by both gradual damage and industrial accidents. Reporters were asked to clarify whether the choice of liability regime depends on whether the plaintiff had suffered property damage or personal injury, and to what extent defendants had any available defences. The development risk defence, due to its importance in the field of environmental litigation, was addressed in a separate case (Case 9). Cases 3–8 were designed to analyse the content and effectiveness of the national tort law with regard to specific risks, such as dangerous substances (Case 3), genetically modified organisms (Case 4), dangerous micro-organisms (Case 5), disposal and processing of waste (Case 6), production of hazardous waste (Case 7) and the operation of nuclear power plants (Case 8). Regardless of the liability regime discussed, reporters were asked to comment on the possibility of public action, or action in the public interest by private parties, when pollution affects not only individuals, but an entire community, albeit in a minor way (Cases 1(b), 2(b), 3(c), 4(d) and 6(b)). Case 10 addresses the statute of limitations

problem and explores how national tort law systems deal with the issue of singular succession (i.e. succession by contract) during site operation.

The second part of the questionnaire (Part B 'Causation and multiple tortfeasors') is concerned with the main problems encountered in environmental tort litigation with regard to the proof of **causation** and the recovery of damages from **multiple tortfeasors**. Case 11 deals with the establishment of causation. It investigates the level of probability necessary to establish causation, the allocation of the burden of proof between litigants, and the different methods applied by the various jurisdictions to ease the burden of proof on the victim in cases of environmental damage. Cases 12–14 analyse specific problems with establishing causal links for environmental damage, such as the significance of statistical evidence for the establishment of causation (Case 12) and the availability of joint and several liability in cases of multiple causation (Cases 13 and 14). Case 12(b) explores the legal standing of the social insurance systems to recover the costs incurred for medical treatment and pension benefits.

In the **third part** (Part C 'Remedies and legal standing'), the questionnaire analyses which **remedies** the various jurisdictions offer for the prevention and remediation of environmental harm. Case 15 deals with damage to land and Cases 16 and 17 cover damage to water. The cases explore the scope of attributable damages, including the compensability of pure economic loss due to pollution, and the issue of the legal standing of private persons, public authorities and environmental organisations. Specific questions address two major issues in litigating natural-resource damage: damage assessment and legal standing (Cases 16(b) and (c) and 17(d)). Case 18 explores the scope of compensation national jurisdictions provide for personal injury and loss of life. Of special interest is the availability of non-pecuniary loss, especially to persons who are clearly in danger of developing a certain disease in the future because of their exposure to pollution.

II. Text of the Questionnaire

Part A

Scope of liable persons

Case 1 Industrial plant

Operator *A* runs an industrial plant that causes polluting effects (e.g. smoke, wastewater, noise) to the environment. Due to these effects, *B* suffers loss of, or damage to, property. Fault cannot be established.

a) Is *A* liable to *B*? Would there be any difference if *B* had suffered loss of life or personal injury?
b) What would liability be like if the pollutants cause minor health damage (e.g. chronic bronchitis) and/or property damage to the majority of the people living in the community affected by the pollutants?

Case 2 Sudden incident

A runs an industrial plant that has no adverse effects on the environment, but poses an imminent threat to the environment in case of a breakdown. Due to a breakdown, *B* suffers loss of, or damage to, property. Fault cannot be established.

a) Is *A* liable to *B*? Would there be any difference if *B* had suffered loss of life or personal injury?
b) What would liability be like if the polluting effects cause minor health and/or property damage to the majority of the people living in the community?
c) Is *A* liable to *B* if the damage was caused by unusual circumstances, such as an act of war, hostilities, civil war, insurrection or a natural disaster?
d) Is *A* liable to *B* if the damage was caused by an act done by a third party with the intent to cause damage?
e) Is *A* liable to *B* if the damage resulted necessarily from compliance with a specific order or compulsory measure of a public authority?
f) Is *A* liable to *B* if *B* has, by his own fault, contributed to the damage?

Case 3 Dangerous substances

A is a producer of dangerous substances. After several years of site operation, neighbouring land has become contaminated. Being a neighbour of the site, *B* suffers a loss.

a) Is *A* liable to *B*? Is it of any importance that *B* owns the contaminated land?
b) Would it make any difference if *B* had suffered personal injury or property damage?
c) What would the extent of liability be if the pollutants cause minor health damage (e.g. chronic bronchitis) and/or property damage to the majority of people living in the community affected by the contamination?

Case 4 Genetically modified organisms

A is a producer of genetically modified organisms (GMOs). As a result of an intentional and legal or an unintentional release of these organisms, *B* suffers damage.

a) Is *A* liable to *B*? Would it be of importance that *B* is a neighbour to *A's* site where the release took place?
b) Who would be liable if the release was carried out by the farmer *C* who had bought a genetically modified organism from *A*?
c) What kind of damage may *B* claim?
d) What is the extent of liability if several persons living in the community where the release took place develop minor health damage (e.g. a harmless, but very tiresome allergy) and/or property damage?

Case 5 Micro-organisms

The operator of a scientific laboratory, *A*, is dealing with dangerous micro-organisms. As a result of the unintentional release of these micro-organisms, *B* suffers damage.

a) Is *A* liable to *B*? Would it make any difference if *B* was a neighbour to *A's* site where the release took place? What kind of damage may *B* claim?
b) Would it make any difference if the operator of the laboratory was a private person or a company, or if the laboratory was run by the state?

Case 6 Waste disposal site

A is the operator of a site for the permanent deposit of waste. Polluting effects therefrom cause damage to neighbour *B*. Fault cannot be established.

a) Is *A* liable to *B*? What kind of damage may *B* claim? Is it of any importance that *B* is the owner of the land affected by the negative effects?
b) What would the extent of liability be if the majority of people living in the community suffer minor property and/or health damage?
c) What is the extent of liability if *A* is the operator of an installation, or site, for the incineration, treatment, handling, or recycling of waste?
d) Would it make any difference if the operator of the waste disposal site was a private person, or a company, or if the dump-site was run by the state?

Case 7 Producer of waste

A is the operator of a waste disposal site. Hazardous waste produced and handed over to *A* by *C* causes polluting effects. *B* suffers a loss.

Who is liable? If *C* had not properly informed *A* of the dangerous properties of the waste, who will be liable?

Case 8 Nuclear power plant

A is the operator of a nuclear power plant. Due to a sudden breakdown of the cooling system, the surrounding land is contaminated by

radioactive substances. The breakdown was caused by company *C* who had been in charge of the recent revision of the cooling system. Neighbour *B* suffers a loss.

a) Who is liable? What kind of damage may *B* claim?
b) Would it make any difference if the contamination was the result of a continuous process instead of a sudden incident?

Case 9 The harmless substance

A's industrial plant releases a chemical substance into the environment that is generally considered to be harmless to human health. Recent medical studies, however, show that this substance can cause a very specific form of asthma. *B*, who suffers from this asthma, wants to sue *A* for damages. *A* objects that he did not, and could not have, known that the emissions of his plant can cause this disease. Is *A* liable?

Case 10 Historic pollution

A is the operator of a site for the permanent deposit of waste. After more than 30 years of site operation, all the vegetables planted in the neighbouring area suddenly turn black. Chemical analyses show that the plants and the groundwater used for watering the plants are heavily contaminated by borax. Hydrological experts demonstrate that *A's* waste disposal site is the source of the contamination. According to *A's* records, borax had only been deposited on the site during the first 3 years of site operation. At that time, the site had been operated by company *C*, still currently an important borax producer, who had sold the site to *A* more than 30 years ago. Who is liable?

Part B

Causation and multiple tortfeasors

Case 11 Cancer from pollution

A engages in a polluting activity. *B*, who has been substantially exposed to its negative effects, develops cancer. *B* wants to sue *A* for damages.

a) Who bears the burden of proof on the issue of causation?
b) How certain must it be that *A's* activity caused *B's* illness so that *B* is entitled to damages? Which rules of evidence (preponderance rule, free evaluation of evidence) apply?

Case 12 Increase in leukaemia rate

A engages in a polluting activity. Following exposure to the polluting effects, the community where *A's* site is situated suffers an increase in the leukaemia rate of more than 50 per cent.

a) Is *A* liable for the damage if medical studies attest that the pollutants emitted from *A's* site can lead to leukaemia? What is the plaintiffs' burden of proof on the issue of causation? Who is entitled to damages and to what extent?
b) Who has legal standing and who can be awarded damages, given the fact that the cost of therapeutic treatment is borne by social insurance, or by public authority?

Case 13 The dying forest

A, *B* and *C* are running three independent industrial sites. Pollutants emitted from these sites contaminate the air and cause damage to *D's* forest. Although the causal link between the pollutants and *D's* damage can be established, *D* is not able to apportion the damage among the defendants.

a) Is *D* entitled to claim full damages from *A*? Will *A* be entitled to sue *B* and/or *C* for contribution in paying damages if *A* has satisfied *D's* claim? What is the extent of their liability?
b) What is the extent of liability if it can be shown that each of the substances, in and of themselves, were not polluting, but that damage only occurred because of their interaction?

Case 14 Fish kill

In the river 'Flumen' that runs through an industrial area, a tremendous amount of fish are suddenly killed. Chemical analysis show that the river contains high amounts of two chemical substances that have accumulated in the inner organs of the fish. One of the substances originates from plant *A*, the producer of household detergents, and the other one from plant *B*, the manufacturer of industrial solvents.

a) Who is liable if the fish kill was caused by both substances?
b) What is the extent of liability if it can only be shown that the fish kill was caused either by the industrial solvent or by the chemical used in the detergent production?
c) What is the extent of liability if it can be shown that the industrial solvent would have caused the death of the fish if the fish had not already been killed by the other chemical?

Part C Remedies and legal standing

Case 15 Contaminated land

A is the operator of a facility that is used for the proper treatment of hazardous chemicals. An explosion occurs and large amounts of chemicals contaminate the soil of the surrounding land.

a) Who has standing to bring legal action as a result of the damage? What is the remedy?
b) Plaintiff *B* is one of the owners of the contaminated land. To what type of claim is *B* entitled, if the land can be restored to its original condition?
c) Immediately after the incident, public authorities took costly emergency measures in order to prevent further damage. Does *A* have to pay these costs? What happens if these emergency measures cause property damage to *C*? Does *A* have to pay these costs, too?
d) The neighbour *C* has not been directly affected by the disaster. He/she, however, finds that the market value of his/her land has dropped because of the incident. The property is now unsaleable, or at least seriously devalued, by the proximity to the contaminated site. Does *C* have a right to sue *A* for damages?
e) Would it make any difference if it could be shown that *A* was negligent?

Case 16 The polluted river

A is the keeper of a vehicle for the transportation of dangerous chemicals. While passing through a nature reserve the vehicle starts skidding and the chemicals get spilled onto the ground and into the nearby river.

a) Does *A* have to pay for the clean-up costs?
b) The nature reserve contained some exceptional plants and wildlife. After the clean-up, the private association *C* starts a programme in order to restore the ecological balance of the impaired environment. Does *C* have a right to claim these costs from *A* and under what conditions?
c) The spill has contaminated the habitat of an extremely rare plant that is now extinct. Is *A* liable for this damage? Who has the right to claim the damage? Would it be of importance if *A* was at fault? How is this damage evaluated?
d) The nearby river, frequently used for white water canoeing and rafting, is contaminated and can not be used for this purpose for the next three years. Plaintiff *D*, the owner of an outdoor entertainment business that has organised rafting and canoeing tours on the river for the last ten years, suffers a total loss of profits. Does *D* have the right to claim damages from *A*?
e) Would it make any difference if the nature reserve was state-owned?

Case 17 The oil spill

A is the keeper of a super-tanker. Due to a breakdown of instruments the tanker springs a leak and a huge amount of oil is spilled. A thick oil slick gets washed ashore, where it covers a popular beach area and lots of sea birds and some mammals.

a) Who is obliged to take clean-up measures? Are private organisations entitled to bring legal action and/or to undertake clean-up measures?
b) Is *A* liable for the costs of clean-up measures undertaken by public authorities and/or private organisations?
c) The local fishing industry and tourism facilities suffer severe loss of profits. Do they have a right to claim damages from *A*?
d) Large amounts of sea water are contaminated. Is *A* liable for this damage? Who has the right to claim this damage, and how is the damage evaluated?

Case 18 Contaminated drinking water

Operator *A* is the operator of a site for the proper treatment of hazardous chemicals. After several years of site operation, chemical analysis shows that the groundwater beneath the site is contaminated by certain chemicals known by medical science to cause leukaemia. The neighbours *B* and *C* can prove that their wells have been drawing from the contaminated water and that exposure to this contaminated water has caused them to suffer severe injuries. Neighbour *B* has already developed leukaemia. His wife *C* alleges that she suffers an increased risk of developing leukaemia in the future and that this fact is putting her in a state of constant fear and distress.

a) What kind of remedies do *B* and *C* have? Would it make any difference for the scope of damages, if fault on behalf of *A* could be established? Does *C* have to show some actual physical damage as a prerequisite to sue? How severe must the harm be?
b) Plaintiff *B* has already died. Does *C* have a right to claim damages from *A* as a result of the death of a family member?

PART A · SCOPE OF LIABLE PERSONS

Case 1 Industrial plant

Operator *A* runs an industrial plant that causes polluting effects (e.g. smoke, wastewater, noise) to the environment. Due to these effects, *B* suffers loss of, or damage to, property. Fault cannot be established.

a) Is *A* liable to *B*? Would there be any difference if *B* had suffered loss of life or personal injury?
b) What would liability be like if the pollutants cause minor health damage (e.g. chronic bronchitis) and/or property damage to the majority of the people living in the community affected by the pollutants?

Comparative remarks

1. Comparison

a) Fault liability

The country reports show that liability for harm caused by polluting interference from neighbouring sites is rather incoherent among the European states. In all fourteen jurisdictions that were analysed, *fault-based liability* will apply generally. In some countries, however, there are special strict liability regimes for environmental damage that supersede traditional fault liability. This is especially the case in the Scandinavian countries (Finland, Sweden).

In countries where fault liability still plays an important role, several authors have pointed out that courts will use certain methods to tighten liability when it comes to harm caused by polluting interference from industrial facilities. These methods include heightening the level of care required from the defendant or shifting the burden of proof from the plaintiff to the defendant. This is the case in Spain, where scholars

speak of an 'objectivisation' of fault liability, which, in its practical application, comes close to strict liability. Such an aggravation of fault liability was also employed by the German BGH in the famous *Kupolofen* case[1] by imposing the burden of proof on the operator of the industrial facility, and this example was followed by the Austrian OGH in the *Sandstrahl* decision.[2] Both courts derive this interpretation from the laws of the neighbourhood under which the burden of proof traditionally lies with the defendant, and from the idea that, in such cases, the operator is in the better position to produce evidence than the victim. In Greece, authors pointed out that courts could reach the same result by interpretation of Article 914 Astikos Kodikas, according to the right of personality (Article 57 Astikos Kodikas), together with Article 24 of the Greek Constitution granting all citizens a right to the environment. Provided that a defendant caused damage to a common good, the burden of proof with regard to fault lies with the defendant. Moreover, in all three countries (Austria, Germany, Greece), the burden of proof accepted in product liability law is regarded as a model for environmental liability cases. Another possible basis is the provisions providing for the reversal of the burden of proof with regard to buildings (§ 1319 ABGB, §§ 836, 838 BGB, Article 925 Astikos Kodikas) or animals (§ 1320 ABGB, § 833 BGB). In Portugal, such a reversal of proof is explicitly provided by Article 492 § 2 Código Civil for dangerous activities, by establishing a rebuttable presumption that the operator was at fault.

In Belgian and French law, the application of fault has also become more stringent, particularly when it comes to pollution damage. According to Belgian and French law, there are two categories of fault: breach of a rule of law prescribing a specific conduct or breach of a general duty of care. 'Rules of law prescribing a specific conduct' arise from statutory or regulatory provisions, individual decisions taken by administrative authorities, rules of international law with direct effect, and even general principles of law. It does not matter which branch of law the rules belong to, nor is it necessary – in contrast to the German and Austrian notion of a protective law (Schutzgesetz) – that the rule is intended to protect the victim against a certain category of harm. If there is a breach of such a specific rule of law, foreseeability of potential damage is not a necessary prerequisite to liability. Due to increasing environmental legislation, this category becomes very much more important.

[1] BGH 18.9.1984, BGHZ 92, 143, 150 f. [2] OGH 11.10.1995, 3 Ob 508/93, JBl 1996, 446.

The general duty of care is determined by the reasonable man standard. Courts will usually take into account the professional capacity and experience of the defendant. With regard to polluting activities, defendants are required to comply with the state of the art and good practices in their profession. Thus, failure to maintain installations or the use of outdated technology will, in itself, already constitute fault. For certain types of activities, there are specific statutory provisions imposing the obligation on the operator to take all necessary measures to prevent a specific kind of danger or damage. According to a Belgian court decision of 1965 and some scholarly opinions, such obligations heighten the level of care or can impose an obligation on the operator to guarantee the absence of nuisance.

In the common law countries of England and Ireland, as well as in Scotland, the plaintiff will be entitled to a cause of action in negligence. The plaintiff must, however, show that the defendant owed him a duty of care, that the defendant breached this duty of care, and that the occurrence and type of damage was foreseeable. Courts may facilitate the burden of proof by (i) heightening the duty of care corresponding to the dangers inherent in the defendant's activity, a method that is also employed in all the other jurisdictions that have been analysed, and (ii) applying the rule of *res ipsa loquitur*, which can be invoked when the only logical explanation for the damage was negligence on behalf of the defendant. This legal device comes close to the *prima facie* evidence rule, commonly accepted in the civil law countries.

b) Laws of the neighbourhood

In most countries, the laws of the neighbourhood play an important role in compensation of damage caused by a polluting interference, as they do not require fault on the part of the defendant to be established. In Austria, this is explicitly provided by § 364a ABGB, and in Finland by the Act on Civil Liability for Environmental Damage 1994 (which also covers negative interference and sudden incidents) and the Adjoining Properties Act 1920 (which covers continuous interference). Other countries that provide for this are Germany (§ 906(2) BGB, § 14 BlmSchG), Greece (Articles 1003 and 1108 Astikos Kodikas), Italy (Article 844 Codice Civile) and Portugal (Article 1347 Código Civil). Section 364a of the Austrian ABGB, Article 1003 of the Greek Astikos Kodikas, Article 844 of the Italian Codice Civile and Article 1347 of the Portuguese Código Civil were originally inspired by the German law of the neighbourhood. Yet, subsequent legal developments in these countries, as well as in

Germany, have led to important differences in the wording and application of these provisions. In Spain, only the region of Catalonia provides for specific regulation on neighbourhood law following the German model.

In France, a similar result is reached through case law ('*troubles de voisinage*'), which covers excessive interference by noise, smoke or wastewater. As in Belgium, the courts derive neighbourhood liability from the definition of ownership.

In the common law countries (England, Ireland), the corresponding remedy is the action of private nuisance. Like the laws of the neighbourhood in Austria, Germany, Greece, Italy, and Portugal, the private nuisance cause of action requires a continuous, unlawful and indirect interference with the use or enjoyment of land. It only covers damage to land or to chattels on the land. Although the rules of remoteness and foreseeability of damage (legal doctrines originally developed in cases concerning negligence) also apply to private nuisance, a finding of fault in creating the nuisance is not necessary. The English reporters, however, point out that, with regard to nuisance, the prerequisite of foreseeability of damage still needs further clarification. According to existing case law, a certain level of knowledge on the part of the defendant that his or her activity poses a threat to the rights of others appears to be necessary. In Scotland, the cause of action for a private nuisance will also apply, but, contrary to the position in England and Ireland, fault needs to be established. This is also the case in the Netherlands, where Article 5:37 Burgerlijk Wetboek provides for fault-based neighbourhood liability.

The right to claim damages requires that the interference exceed a certain threshold of tolerance. The methods used to determine the threshold standard are quite different. In Austria, Greece, Italy, Portugal, and Germany, the interference must be unusual and must lead to a substantial impairment of the enjoyment of the land, which itself must be customary under local conditions. In Finland, the decisive criterion is whether the damage can reasonably be considered to be acceptable to the plaintiff, which is determined according to how extraordinary it is and its overall impact on the environment. That the activity causing the pollution took place long before the damage became apparent may be important for this assessment, but will not excuse the polluter from liability.

In England and Ireland, an interference with the beneficial use of the injured party's land must be unreasonable in order to be actionable.

The notion of unreasonableness is a rather flexible one, and as the Irish reporter notes, its application will often come down to a balancing of interests. This is also the method used in Sweden to determine the legality of the interference.

In all jurisdictions, the location of the polluting activity and the location of the polluted area are taken into consideration. All the reporters stress the fact that the threshold of tolerance is lower in residential than in industrial areas; however, in some countries, the location of the land is irrelevant when there is actual and physical damage to land (England) or damage to health (Austria, Italy). In several countries, damage due to the unusual sensitivity of the claimant will not be actionable (Austria, Belgium, Germany, Greece, Scotland (unless perpetrated maliciously)). This, however, does not apply to Finland.

A damage claim arising out of the laws of the neighbourhood or nuisance is only available to persons who have a close relationship to the affected land, such as the owner or an authorised occupant (e.g. a tenant). A person who is only affected as to his ownership over movable property does not have the right to claim damages (Austria, Belgium, Germany, Sweden). In several countries, this action covers only real property damage, such as the costs of repairs or a diminution of the value of the property (Austria, Germany, Portugal, the Netherlands, England, Ireland). While loss of profit is awarded under Austrian, Greek, Dutch and Swedish law, this is not the case in England. In Ireland, a person whose interest in the land has been established can also sue for damages for personal injury. Nevertheless, as the Irish reporter stresses, courts would rather decide on the basis of negligence. In England, although it is theoretically possible to recover for personal injury, the injury must be shown to flow directly from the interference with the land. However, there has been no case specifically on this point for fifty years. As in Ireland, English judges would seek to apply the law of negligence on this point. In Belgium, France, Greece, Italy and Sweden, neighbourhood liability also covers damages arising out of personal injury and death.

Reporters from Austria, Germany, England and Portugal stress the importance of the laws of the neighbourhood as a remedy for environmental damage cases. In Finland, neighbourhood law, which served as a model for the Environmental Damages Act 1994, will only be applied if the environmental impact does not amount to environmental damage.

c) Strict liability regimes

Hazardous installations or activities may also come under a regime of strict liability. In some countries, the law provides for a *comprehensive strict liability rule* with regard to environmental damage. In Finland, a comprehensive strict liability regime, covering property damage as well as personal injury, has been established by the Environmental Damages Act of 1994. Although neither fault nor unlawfulness is a prerequisite for liability, the fact that the damage was caused with intent or through a criminal act broadens the scope of compensation.

In Sweden, Chapter 32 of the Environmental Code of 1999 provides for strict liability, encompassing personal injury, property damage and pure economic loss. This strict liability regime has a close connection to causes of action arising from neighbourhood laws in other countries because it is based on the use of real estate and includes interference by polluting emissions. An action can only be brought if the interference exceeds a certain threshold of tolerance determined according to local circumstances. In Portugal, Article 23 LAP provides for strict liability with regard to dangerous activities, although there is no further elaboration by the law itself regarding what activities are deemed to be sufficiently dangerous to give rise to liability. Article 23 LAP is based on Article 52 § 3 of the Portuguese Constitution which guarantees the right to adequate compensation for damage to the environment. Article 41 LBA does the same with regard to ecological damage. With regard to activities that are not objectively dangerous, Article 22 LAP provides for a specific fault-based liability. The German Environmental Liability Act of 1990 refers to damages caused by environmental impacts from certain hazardous installations, which are exhaustively listed in Appendix 1 to the UmweltHG. Environmental impacts pursuant to § 3(1) UmweltHG are listed as 'substances, vibrations, noise, pressure, rays, gases, fumes, heat emissions or other phenomena' which are disseminated through the soil, air or water. Liability is limited in amount to a maximum of €85 million per environmental impact incident. Liability for negligible property damage is excluded. Article 29 of the Greek Law for the Protection of the Environment 1650/1986 provides for civil liability for environmental damage. The Greek reporter, however, stresses that this provision is regarded as being too general in its application by courts and academic. Therefore, the Greek courts prefer to apply the general rules of tort law in dealing with environmental damage.

In Austrian, Belgian, French and Spanish law, there are no comprehensive environmental liability statutes. In these countries, however, sector-specific strict liability statutes may also apply to instances of environmental damage. Austria and Spain have in the past taken steps to preparing legislation, but no such laws have yet been enacted. English, Scots and Irish law also do not provide in general for strict liability for environmental damages, either under statute or at common law.

Some European countries, however, provide for strict liability for dangerous activities in their civil codes. A prominent example is Article 1384 § 1 of the French Code Civil, which imposes no-fault liability on the custodian of a dangerous object. According to this provision, a person who uses, commands or controls an object is liable for the damage that it causes. This liability is applied very widely by the courts. It covers damage caused by movable and immovable property, as well as damage caused by polluting effects such as smoke, fumes, wastewater and noise. Although fault does not need to be established, the plaintiff has to prove that the interference which caused the damage was above a certain threshold of tolerance. However, Article L 112-16 of the Code of Construction and Housing restricts a plaintiff's cause of action where he moves into the vicinity of an existing plant provided the polluting effects do not increase and the plant remains in conformity with the relevant regulations. Under French law, the courts are able to order the operator to cease the nuisance or to close down the plant. In Belgium, Article 1384 § 1 of the Burgerlijk Wetboek also provides for strict liability of the custodian of an object. Unlike in France, however, this type of liability is only applied to objects that are defective. In order to be considered defective, the thing must manifest an abnormal condition that is prone to causing damage. That an object is inherently dangerous, or that it is dangerous when in the wrong place, does not in itself amount to defectiveness. Article 1384 § 1 Burgerlijk Wetboek has been applied by the courts to contaminated soil. Thus, this type of liability is increasingly important for pollution damage.

In Italy, strict liability for environmental harm is governed by Article 2050 Codice Civile. Although the phrasing of Article 2050 Codice Civile refers to fault liability with a reversal of the burden of proof, this liability rule is regarded as strict by the courts and legal scholars. In Spain, liability for environmental harm is also widely covered by strict liability. A specific strict liability provision is included in Article 1908 Código Civil, which applies to damage caused by excessive toxic fumes.

Furthermore, the 'objectivisation' of fault liability through interpretation by the courts in practice also amounts to strict liability. With respect to personal injury caused by noise, a special liability regime has been developed by the courts. Following the ECtHR decision in *Lopez Ostra* v. *Spain*,[3] in which the ECtHR stated that excessive and persistent noise interference may constitute a violation of the victim's right to privacy under Article 8 ECtHR, Spanish courts regard noise pollution as a breach of constitutional rights, thus giving rise to compensation. The Dutch Burgerlijk Wetboek explicitly provides for strict liability for environmental harm (Articles 6:175–178). Article 6:174 Burgerlijk Wetboek establishes strict liability for damage caused by defective constructions or buildings, including the industrial use of a construction ('opstal' Article 6:181 Burgerlijk Wetboek). Liability pursuant to Article 6:174 Burgerlijk Wetboek is also applied to damage caused by smoke, wastewater or noise from industrial activities in a defective construction. Article 6:175 Burgerlijk Wetboek establishes strict liability for dangerous substances and pollution of air, water and soil, provided that there is a significant risk to human health or property (Article 6:175 § 1, first sentence). Strict liability obligations also apply to the operator of a dumpsite (Article 6:176 Burgerlijk Wetboek) or a bore hole (Article 6:177 Burgerlijk Wetboek), and to the owner of a pipeline, sewer or soil pipe (Article 6:174 Burgerlijk Wetboek).

In England and Ireland, strict liability may apply under the rule in *Rylands* v. *Fletcher*, which reads as follows: 'The person who, for his own purposes, brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, is prima facie answerable for all the damage which is the natural consequence of its escape.' In England, according to subsequent case law, this rule was narrowed and it evolved into a specific form of nuisance law. It applies to the use of land that poses increased dangers to others ('non-natural use of land') relating to isolated incidents, rather than to continuous interference. In applying this prerequisite, courts tend to refer to the reasonableness test in nuisance. As with nuisance, restrictions may apply where the use of the affected land is non-natural. The use of land for industrial purposes or for the general benefit of the community is usually not regarded as 'non-natural use of land' and, thus, does not trigger strict liability. As with nuisance, the damage must have been foreseeable to the user of the land. The English reporters

[3] 20 EHRR 277 of 9 December 1994.

emphasise that strict liability, according to *Rylands* v. *Fletcher*, is rarely used in cases where environmental damage has occurred. There are several reasons for this. Primarily, the rule refers only to damage that occurred outside the defendant's premises. Also, it applies only to acts where the damage was unintended, and is restricted to damage to land and other property. Pure economic loss is not recoverable. Whether or not damage to property other than land, or for personal injury, is recoverable is unclear. In Ireland, courts apply the rule in *Rylands* v. *Fletcher* more liberally. While the English reporters in Case 1 of the questionnaire came to the conclusion that no strict liability rule would apply, the Irish reporter clearly acknowledges strict liability established under *Rylands* v. *Fletcher*. As Irish courts have already shown a more liberal attitude towards plaintiffs in negligence, it is, according to the Irish reporter, possible that the courts will not limit liability to damage to land, but will also include personal injury and damage to moveable property. Contrary to English law, foreseeability of damage by the defendant is not required. In Scotland, the rule in *Rylands* v. *Fletcher* does not apply. Scotland, therefore, seems to be the only jurisdiction in Europe that does not provide any strict liability regime with regard to pollution. The Scottish reporter, however, stressed that the courts will apply fault liability in a very strict way in order to comply with the specific problems of environmental liability.

Many European countries have enacted *specific statutes* providing for strict liability rules on a sectoral basis that also play a role with regard to pollution. Austria, Germany and Sweden have enacted several strict liability statutes covering specific 'dangerous activities', such as the operation of nuclear power plants, pipelines, power stations, electricity lines and gas pipes. In Austria and Sweden, with regard to 'extremely hazardous activities', strict liability may also be imposed by the courts by analogy to the existing special strict liability rules. This solution is not accepted by the German courts. All of these strict liability provisions cover personal injury as well as property damage. In addition, the Austrian and German jurisdictions provide for specific liability rules regarding water pollution, which are of great practical importance (§ 26(2) Austrian Water Act, § 22 German Water Management Act). In Austrian law, installations causing air pollution, posing a specific threat to forests, are also under a special strict liability regime. Belgian law also provides for a variety of strict liability statutes. Strict liability will be conferred upon the operator of a nuclear power plant, a mine, a pipeline or a groundwater well for damage due to the lowering of the

groundwater level. Strict liability also applies to a producer of toxic waste and to damage caused by fires or explosions in installations that are accessible to the public. The government and local authorities are entitled to recover cleanup costs from the polluter incurred by civil protection services or the fire brigade. In Flanders, the polluter is strictly liable for the cost of cleanup due to soil pollution and any damage that is caused thereby. Finnish law provides for strict liability with regard to nuclear power plants, gene technology, air traffic, oil pollution, etc. In France, there are various statutes that provide for strict liability for mining operations, nuclear power plants, cable railways, vessels and aircraft. Furthermore, French law provides for compensation in cases of natural or technological disasters by insurance or a guarantee fund financed by levies on insurance contracts. The same applies to damage caused by acts of terrorism. Portuguese law covers harm resulting from the control, supply or installation of electricity and gas with a specific strict liability regime (Article 509 Código Civil). Irish law provides for specific strict liability for harm caused to persons or property by air pollution (section 28B Air Pollution Act 1987) and water pollution (section 20 Water Pollution Act 1990). Damages can be recovered against the occupier of the premises, or from a third party, whose conduct caused the emission, where such conduct constitutes a breach of relevant legislation. In England, obligations to carry out remedial work are provided by the Pollution Prevention and Control Act 1999.

d) Scope of damages

In all of the jurisdictions analysed, actions in *fault or strict liability* usually cover damage to land, property damage, as well as loss of life and personal injury. English law poses somewhat of an exception in restricting recovery of personal injury in both nuisance and under the rule in *Rylands* v. *Fletcher*. Some Austrian liability statutes, referring only to specific goods, such as water (§ 26 Water Act) or vegetation (§ 53 Forestry Act), do not cover personal injury claims either.

The *laws of the neighbourhood* in the civil law systems and the action in nuisance under common law, however, primarily relate to damage to land. In some countries (Austria, England), these liability regimes do not encompass personal injury damage, at least when such damage is not a consequence of property damage incurred by the landowner or by a person who has a qualified interest in land. Given the importance of these actions with regard to recovery for damage caused by toxic substances and other polluting interference, plaintiffs who have sustained

personal injury are, therefore, in a less favourable position than victims of property damage. Under the laws of the neighbourhood, compensation for property damage is also restricted in several countries (Austria, Belgium, the Netherlands and Finland), since damage, which is caused by interference that does not exceed the threshold of tolerance will not be compensated. In Finland, the threshold test does not apply to personal injury and substantial property damage, which must always be compensated.

e) Collective action

Only some jurisdictions provide for *collective actions* when pollutions affect a large number of persons. In Austria, Belgium, Germany, Finland, Ireland, Scotland and Spain, compensation for such damage will be handled on a strictly individual basis. The Austrian and German reporters emphasise that such an occurrence would give rise to action by public authorities under administrative law rather than a civil law action. From all the available private law solutions, the most sensible would be an injunction. If several persons suffer health damage, albeit minor, the interference will always be beyond the tolerance level. In theory, damage claims will also be available; however, owing to the minor nature of the impairment, victims will be unlikely to claim and will rely instead on social insurance. Although social insurance schemes are allowed to claim indemnification from the responsible party, it is quite improbable that they would engage in litigation, due to obstacles such as lack of evidence and the high cost of litigation. In Belgium and the Netherlands, a claim may be impeded by the general duty to tolerate minor polluting interference, which is construed by the courts according to a balance of interests. Such an obligation to tolerate minor damage also exists in Finnish law, but it only relates to property damage and not to personal injury. In Spain, only the Catalan law of the neighbourhood imposes an obligation to tolerate minor pollution damage. Scholars, however, suggest that this should not apply if the interference causes substantial damage to health.[4] In principle, as has been shown in a case where an association of consumers was entitled to sue for damages on behalf of all consumers who were harmed by rape oil, Spanish law allows for class actions. The Spanish reporter, however, expressed serious doubts as to whether this instrument is of practical value with

[4] See the Spanish report to Case 1, Question (a).

regard to environmental harm, since Spanish jurisprudence obliges the losing party to pay the winner's legal costs.

Other jurisdictions do explicitly provide for collective action. In England, an action in public nuisance is available. This allows the local authority or the Attorney-General to trigger criminal proceedings on behalf of the public. Unlike in private nuisance, this remedy also includes compensation for personal injury. A tort action is available only to claimants who have suffered damage over and above that suffered by the public generally. Compensation will be paid directly to the claimant. Fault is a necessary ingredient, but is presumed, and it is open to the defendant to rebut the presumption. Under Italian law, such an occurrence will give rise to a compensatory action by the state, region or municipality affected, under Article 18 of Statute 349/86 (now replaced by Articles 311 *et seq* of Legislative Decree 152/2006). Tort law will still apply, but, as the Italian reporter stresses, victims not having sufficient incentive will not be inclined to file such an action by themselves. In France, people who are affected by pollution may also sue public authorities before the administrative courts for failure to prevent the harm. Damage claims from individuals can also be brought by associations. In Belgium, the Act of 12 January 1993 allows certain accredited environmental associations to bring actions for injunctive relief in order to prevent the violation of environmental legislation. The action, however, cannot lead to a damages award. The same is provided by Article 3:305a of the Dutch Burgerlijk Wetboek.

French, Portuguese and Swedish laws also provide for collective action. In Sweden, § 13 of Chapter 32 of the Environmental Code entered into force on 1 January 2003. It covers personal injury as well as property damage. In Portugal, collective actions are available against objectively dangerous activities pursuant to Article 23 LAP. In France, certain accredited environmental associations have the right to sue a polluter who is at fault for violating administrative environmental regulations or general principles of law before civil or criminal courts according to Article L. 142-2 Code de l'Environnement. They can seek an injunction as well as damages. The question of collective redress is further explored in Cases 1, 2(b), 3(c), 4(d) and 6(b).

2. Conclusions

The responses to Case 1 show a clear common core in the fact that in all fourteen jurisdictions liability for harm caused by pollution is regarded as a civil law issue. The instruments provided, however, differ considerably

in both methods and contents. The two Nordic countries (Finland and Sweden), by enacting comprehensive environmental liability statutes that supersede traditional tort law, chose a primarily legislative solution, while all the other countries react with a mix of instruments. These comprise all legal instruments, namely, legislation, case law and scholarship.[5] Corresponding to their national traditions, these countries provide for a threefold approach consisting of (i) the adaptation of fault-based liability to the specific risk posed by industrial facilities to the environment by heightening the level of care and/or by applying specific rules (*res ipsa loquitur*, *Anscheinsbeweis*, reversal of the burden of proof) in order to facilitate the plaintiff's burden of proof, (ii) a more or less generous interpretation of neighbourhood liability and (iii) the application of existing strict liability rules either derived from general tort law or provided by specific strict liability statutes. A good example of such a multifactual approach, pose Germany and the Netherlands where environmental issues triggered intensive scholarly analysis, innovative case law as well as new legislation. In other countries, the courts have played a predominant role in the development of civil law remedies for environmental damage. This holds true not only for the common law countries but also for civil law countries such as Austria, Belgium, France and Spain. It also comes as no surprise that in Belgium and France the theory of strict liability of the custodian of an object is regarded as being of great importance to environmentally related liability. Many reporters also pointed out that the increase in environmental regulation in the field of public law has an aggravating effect on civil liability.

Another important manifestation of convergence can be seen in the fact that nearly all the jurisdictions analysed provide specific rules on liability for polluting interference ('immissions'). In the civil law countries, these rules are provided by legislation (Austria, Finland, Germany, Greece, Italy, the Netherlands, Portugal and the Spanish region of Catalonia) or by case law (France, Belgium). In the common law countries (England, Ireland), as well as in Scotland, the corresponding remedy is the action of private nuisance. It is interesting to note that these heads of liability show many similarities. In all countries, they require a continuous, unlawful and indirect interference with the use and enjoyment of land. The interference must exceed a certain threshold of

[5] See Sacco, 'Legal Formants: A Dynamic Approach to Comparative Law' (1991) 39 *AJCL* 343.

tolerance. Although the methods to determine the threshold standard are quite different, it was the common opinion among the reporters that the location of the polluting activity and the affected area are taken into consideration when determining the threshold of tolerance such that the threshold in residential areas is lower than in industrial areas. Claims based on neighbourhood liability are only available to persons who have a close relationship to the affected land (e.g. land owner, tenant) and usually only cover damage sufficiently related to the land. In several countries, the scope of damages, especially with regard to damages for personal injury and loss of life, is limited. A further remarkable manifestation of convergence is that, except for the Netherlands and Scotland, fault need not be established.

The responses to question (b) show that many jurisdictions would provide for some sort of collective redress. The available instruments, however, vary considerably.

Discussions

Austria

Question (a)

In Austrian law, there is no special environmental liability statute with specific civil liability provisions for dangerous activities. Although the Federal Ministry of Justice has presented several drafts of a Federal Environmental Liability Statute[6] in the past, no such law has been enacted.

Therefore, *B's* damages claim would be based mainly on *fault liability*, according to § 1295 ABGB. In this case, *B* has to prove that *A* caused the damage and that *A* is at fault. In tort law, establishing fault by vicarious liability is rather restricted. A principal, for example, is only liable for the wrongful act of an agent who is notoriously incompetent or dangerous (§ 1315 ABGB). However, if *A* is a legal person, he will also be liable for the damage caused by his representatives and executives.[7]

[6] The first draft goes back to December 1991. The latest draft, 'Bundesgesetz über die zivilrechtliche Haftung für Schäden durch umweltgefährdende Tätigkeiten, JMZ7720/207-I 2/94', was presented to the public in December 1994.

[7] Koziol and Welser, *Grundriss des Bürgerlichen Rechts* II[13] (2007) 357 *et seq.*; Aicher, in Rummel (ed.), *Kommentar zum Allgemeinen bürgerlichen Gesetzbuch* I[3] (2000) § 26 n. 26; OGH 15.4.1971, 1 Ob 87/71, JBl 1972, 312 (Ostheim); 19.4.1984, 7 Ob 56/83, SZ 57/77.

If the damage was caused by an activity covered by a licence, *B* can also claim compensation under § 364a ABGB ('law of the neighbourhood').[8] In order to be entitled to sue under this provision, *B* has to satisfy the prerequisite conditions for an injunction provided by § 364(2) ABGB. Pursuant to this provision, the owner of land is entitled to restrain his neighbour from polluting his property with wastewater, smoke, gas, heat, smells, noises, vibrations and similar interferences, insofar as these effects exceed the level customary under local conditions (the threshold of tolerance). According to a recent revision of the ABGB, § 364(3) ABGB allows injunctive relief for light deprivation ('negative emissions') stemming from trees and other plants.[9] The interference must lead to a substantial impairment of the enjoyment of land, which itself is defined by what is customary under local conditions, taking into account the actual level of pollution in the immediate vicinity of the affected land.[10] Concerning woodlands, for example, § 47 of the Forestry Act[11] states that interference in the form of air pollution, which causes damage to woodland, is never 'customary' under local conditions. Finally, the interference must be attributable to human behaviour. Natural occurrences and interferences of a purely aesthetic nature are not actionable.[12]

[8] § 364(2) and § 364a were inserted into the ABGB by RGBl 1916/69, on the model of § 906 of the German Civil Code (BGB) and § 26 of the old German Industrial Act. For further details concerning the relationship between the Austrian and the German neighbourhood law, see [Gimpel-] Hinteregger, *Grundfragen der Umwelthaftung* (1994) 255–8.

[9] BGBl I 2003/91, in force since 1 July 2004; Kathrein, 'Mehr Licht!' ecolex 2003, 894–7; Rummel, '"Offenbar" drohender Schaden – offenbar anders gemeint? Zur Neuregelung des Übergangsrechts in § 422 ABGB durch das ZivRÄG 2004', JBl 2003, 956; P. Bydlinski, 'Neuerungen im Nachbarrecht', JBl 2004, 86–97; Kerschner, 'Neues Nachbarrecht: Abwehr negativer Immissionen/Selbsthilferecht', RZ 2004, 9–15; Kissich and Pfurtscheller, 'Der Baum am Nachbargrund – wirksamer Rechtsschutz durch das Zivilrechts-Änderungsgesetz 2004?', ÖJZ 2004, 706–23; OGH 31.1.2007, 8 Ob 99/06a, RdU 2007/44.

[10] See Oberhammer, in Schwimann and Verschraegen (eds.), *ABGB Praxiskommentar* II[3] (2005) § 364 n. 17; Spielbüchler, in Rummel (ed.), *Kommentar zum Allgemeinen bürgerlichen Gesetzbuch* I[3] (2000) § 364 n. 14. For a less factual approach, see [Gimpel-]Hinteregger, *Grundfragen* 278 *et seq.*, who suggests solving the conflict of interests by balancing the interest of the polluting party to continue the interfering activity against the interest of the neighbour not to be affected by the interference.

[11] Forstgesetz (Forestry Act, ForstG) BGBl 1975/440 as amended by BGBl I 2005/87.

[12] See Spielbüchler, in Rummel, ABGB I[3] § 364 n. 9, 11. Against that restriction, see Jabornegg and Strasser, *Nachbarrechtliche Ansprüche als Instrument des Umweltschutzes* (1978) 27; [Gimpel-]Hinteregger, *Grundfragen* 268.

Plaintiff *B* must have an interest in the property in order to have legal standing. According to the High Court of Justice (OGH),[13] an 'interest' includes ownership of land, as well as other property rights, including real servitude and leaseholds.[14] It is not necessary that the interfering and affected estates be contiguous.[15]

The action can be brought against the person responsible for the interference and/or the owner of the interfering land, provided that the owner has tolerated the interference and is or was in a legal or factual position to prevent it.[16] Thus, it is sufficient that there is a *legal* relationship between the owner and the polluter (e.g. tenancy), whether or not this relationship actually empowers the owner to prevent the interference.[17]

In Question 1(a) therefore, *B* has to prove that his damages were caused by an interference that exceeded the threshold of tolerance and that *A* is/was causing the interference or, at least, that *A* is the owner of the land from which the interference originates. Defendant *A* has the burden of proof to demonstrate that the interference is not beyond the threshold of tolerance.[18] Fault need not be established.

Under certain conditions, *B* can rely on § 364a of the ABGB even if *A's* activity is unlicensed. The High Court of Justice applies § 364a analogously to cases where the injured land owner did not have the legal or factual opportunity to prevent the damage by requesting an injunction,[19] or where someone operates a plant or engages in an activity that exposes his or her neighbours to imminent harmful effects.[20] Due

[13] The High Court of Justice (Oberster Gerichtshof, OGH) is the highest court in civil and criminal matters.

[14] OGH 20.6.1990, 1 Ob 19/90, JBl 1991, 247; 12.3.1992, 8 Ob 523/92, JBl 1992, 641.

[15] OGH 7.10.1981, 1 Ob 31/81, SZ 54/137; 20.12.1988, 2 Ob 656/87, JBl 1989, 239; 16.1.1991, 1 Ob 39/90, JBl 1991, 580. Koziol and Welser, *Bürgerliches Recht* I[13] (2006) 283.

[16] OGH 5.3.1986, 1 Ob 9/86, JBl 1986, 719; 11.12.1991, 2 Ob 591/91, JBl 1992, 643.

[17] OGH 14.7.1994, 8 Ob 589/93, RdU 1994/22; Lux, 'Zur Passivlegitimation des Grundstückseigentümers im Nachbarrecht bei Inbestandgabe des Grundstücks – annotation to OGH 14.7.1994, 8 Ob 589/93', JBl 1995, 195.

[18] Oberhammer, in Schwimann and Verschraegen, ABGB II[3] § 364 n. 22; OGH 11.10.1995, 3 Ob 508/93, JBl 1996, 446 (Sandstrahl decision).

[19] OGH 15.10.1992, 7 Ob 601/92, JBl 1993, 387 (Kerschner); 17.11.1993, 1 Ob 19/93, RdU 1994/9 (Kerschner); 19.12.1995, 1 Ob 31/95, RdU 1996/122.

[20] OGH 16.1.1991, 1 Ob 39/90, JBl 1991, 580 (illegal disposal of industrial waste); 24.10.1990, 1 Ob 21/90, JBl 1991, 110 (detergent manufacturing plant); 17.11.1993, 1 Ob 19/93, RdU 1994/9 (excessive manuring by a farmer); 26.1.1999, 5 Ob 3/99y, JBl 1999, 520 (wood logging); but not to a mobile radiotelephone service station: OGH 3.11.2005, 6 Ob 180/05x, JBl 2006, 372 (Kleewein); Wagner, 'Haftung bei Verkehrswertminderung durch Sendemasten', RdU 2006, 100.

to this liberal application of § 364a ABGB by the High Court of Justice, this provision has become a general strict liability rule for environmental damage that covers all types of damage to real property caused by activities dangerous or harmful to the environment. Such an application of § 364a ABGB, however, has been heavily criticised by some legal scholars.[21]

Section 364a ABGB covers damage to real estate, such as the cost of repairs and other remedial work, diminution in value of the property and loss of profits.[22] However, damage caused by water installations, such as hydroelectric power stations or dams, is governed by § 26(2) Water Act,[23] which provides for no-fault liability for real estate damage and interference with fishing rights. This liability is closely linked to a special compensation system established by the Water Act. No-fault liability is also provided by the Product Liability Statute[24] and the Gene Technology Act.[25]

In Austria, there is no comprehensive liability law providing for *strict liability* for dangerous activities, as noted above. Strict liability, instead, only applies to certain plants or installations, such as mines,[26] nuclear power plants,[27] pipelines,[28] power stations, electricity lines, gas pipes[29] and installations that cause air pollution that specifically threatens forests.[30] Moreover, if *A's* activity is extremely hazardous, strict liability

[21] Kerschner, 'Kausalitätshaftung im Nachbarrecht?', RdU 1998, 10; Rummel, annotation to OGH 26.1.1999, 5 Ob 3/99y, JBl 1999, 523; Kisslinger, *Gefährdungshaftung im Nachbarrecht* (2006).

[22] OGH 31.3.1925, Ob III 234/25, SZ 7/115; 1.12.1965, 7 Ob 298/65, JBl 1966, 319; Oberhammer, in Schwimann and Verschraegen, ABGB II[3] § 364a n. 10; Spielbüchler, in Rummel, ABGB I[3] § 364a n. 9.

[23] Wasserrechtsgesetz (Law relating to Water, WRG) BGBl 1959/215 as amended by BGBl I 2006/123.

[24] Produkthaftungsgesetz (Product Liability Act, PHG) BGBl 1988/99 as amended by BGBl I 2001/98.

[25] §§ 79a–79j Gentechnikgesetz (Gene Technology Act, GTG) BGBl 1994/510 as amended by BGBl I 2006/13. For further details see Case 4.

[26] §§ 160 *et seq*. Mineralrohstoffgesetz (Act on Mineral Raw Products Resources, MinroG) BGBl I 1999/38 as amended by BGBl I 2003/112.

[27] Federal Law on Civil Liability for Damage Caused by Radioactivity (Nuclear Liability Act, AtomHG) BGBl I 1998/170 as amended by BGBl I 2003/33.

[28] §§ 10 *et seq*. Rohrleitungsgesetz (Pipeline Act, RohrlG) BGBl 1975/411 as amended by BGBl I 2004/115.

[29] § 1a Reichshaftpflichtgesetz (Reich Act on Liability, RHPflG) dRGBl 1871/207 as amended by BGBl I 2004/115.

[30] §§ 53–57 Forstgesetz [Forestry Act; ForstG] BGBl 1975/440 as amended by BGBl I 2005/87.

may also apply according to case law. The High Court of Justice has imposed strict liability in cases where the defendant was engaged in activities such as operating a high-voltage power plant,[31] displaying fireworks[32] or operating a plant that poses a high risk to the environment.[33] All of these strict liability provisions cover personal injury as well as property damage.

With regard to loss of life and personal injury, the plaintiff's position is less favourable than is the case for property damage, because § 364a ABGB does not allow for these types of damages.[34] Plaintiff *B* can only rely on general principles of fault liability and the above-mentioned regulations providing for strict liability with regard to specific activities, along with the corresponding case law.

Question (b)

This situation would give rise to action by public authorities under administrative law. Plaintiff *B* would also be entitled to an injunction based on § 364(2) ABGB. With regard to damages claims, there is no difference from the answer stated above.

Belgium

Question (a)

In the absence of fault, liability can be based on a variety of strict liability rules, depending on the specifics of the case. Generally, there is no strict liability rule applying to damage to the environment. Where it may apply, strict liability for environmental damage is determined by reference to the origin, rather than to the nature, of the damage, with the exception of protection of the marine environment under Belgian jurisdiction, which is governed by the Act of 20 January 1999.

The most important strict liability rule in Belgian law which is directly relevant to environmental damages is Article 1384(1) Burgerlijk Wetboek.[35] Belgian courts impose liability for nuisance whenever activities carried out on land result in excessive inconveniences to the neighbours, even where there is no negligence. Beyond this Article,

[31] OGH 2.4.1952, 2 Ob 272/52, SZ 25/84.
[32] OGH 28.3.1973, 5 Ob 50/73, SZ 46/36 = EvBl 1973/175 (395) = JBl 1974, 199.
[33] OGH 2.4.1952, 2 Ob 272/52, SZ 25/84; 20.2.1958, 7 Ob 13/58, SZ 31/26.
[34] This is being criticised by [Gimpel-]Hinteregger, *Grundfragen* 322 *et seq.*
[35] Belgian Civil Code, hereinafter BW.

the Act of 25 February 1991 implements the European Directive of 25 July 1985 on product liability; furthermore, the Acts of 22 July 1985, 10 August 1998 and 20 July 1976, respectively, implement into Belgian law the provisions of the international treaties on nuclear damages and on pollution of the sea by oil. The operator of a mine may also be held strictly liable for damage to surface property under Belgian law.[36] Strict liability is also imposed on the operators of pipelines,[37] as well as on the operator of a groundwater well where property damage results from the lowering of the groundwater level.[38] Article 7 of the Act of 22 July 1974 holds a producer of toxic waste strictly liable for damage caused by that waste. Likewise, Article 2 *bis* of the Act of 31 December 1963 regarding civil protection requires the government and local authorities to seek a contribution from the owner of the polluting substances for the costs incurred by civil protection services or by fire brigades for remedial measures after pollution incidents. On the other hand, the Act of 30 July 1979[39] governs damage caused by fires and explosions in installations accessible to the public.

The Flemish decree on soil sanitation of 22 February 1995 is of considerable importance. The decree distinguishes between pre-existing soil pollution (resulting from emissions that took place before the enactment of the decree) and new pollution. In the event of new pollution, the polluter[40] is strictly liable for damages and the costs of the cleanup. However, in the event of pre-existing pollution, liability is determined on the basis of the legislation in existence prior to the enactment of the decree.

Below, we examine in more detail the law of nuisance, which, in general, most clearly governs the situation in Question 1(a).

[36] Article 58 of the Royal Decree of 13 September 1919, coordinating the legislation on mines.

[37] Act of 12 April 1965.

[38] Law of 10 January 1977, and subsequent regional decrees, regarding compensation for damage caused by the extraction and pumping of groundwater; Royal Decree of 6 December 1978, implementing the provisions of the Law of 10 January 1977, regarding the groundwater compensation fund. After a constitutional amendment, groundwater extraction became a regional matter. See the decree of the Flemish region of 24 January 1984, regarding measures on groundwater management, and the decree of the Walloon region of 11 October 1985, regarding the compensation of damages caused by the winning and pumping of groundwater.

[39] Implemented by the royal decrees of 28 February 1991 and 5 August 1991.

[40] The person having caused the emissions. Where the emissions come from an installation subject to permit, the operator of the installation is liable (Article 25).

Liability for nuisance[41] does not require a determination of fault on the part of the defendant. The Cour de cassation (Hof van cassatie)[42] finds the legal basis for no-fault liability in Article 544 BW, which defines ownership as the right to full enjoyment of a thing, subject to restrictions imposed by law. Therefore, one is liable without fault if one disrupts the equilibrium of ownership existing between neighbouring properties by causing 'excessive' inconvenience, or inconvenience exceeding those customarily tolerated in the neighbourhood.[43] It must be noted that the notion of 'neighbourhood' is interpreted broadly. The premises in question need not be contiguous. Rather, it is sufficient that the use of one property affects another property, even if there is some distance between the two.[44] To a large extent, the determination of 'excessive' inconvenience will be a function of time, place and the agricultural or industrial character of the area and its degree of urbanisation. The case law on the subject is widely divergent and largely based on factual elements. Finally, the liable party restores equilibrium by paying compensation.

From an ecological viewpoint, the criteria outlined above are disappointing, as they imply the acceptance of prevailing pollution levels.[45] In the last few years, however, courts, in determining the acceptability of certain nuisances, sometimes also take into account environmental concerns.[46] Zoning laws and legislation implementing environmental quality standards will also be likely increasingly to restrict the relevance of current nuisance law to neighbourhood problems *sensu stricto*.

Under Belgian law, a lessee or a holder of a limited real or personal right of use may also be liable for excessive inconveniences emanating from land over which they have such rights. To be actionable, the nuisance must result from the defendant's use of his premises,[47] if

[41] See in general S. Stijns and H. Vuye, 'Burenhinder', in *Beginselen van Belgisch privaatrecht*, V, *Zakenrecht*, Boek IV, *Beginselen van Belgisch privaatrecht* (Kluwer 2000) (hereinafter 'Burenhinder'); L. Cornelis, *Beginselen van het Belgische buitencontractuele aansprakelijkheidsrecht Maklu, Ced Samsom* (Brussels Bruylant, 1989) (hereinafter 'Beginselen') 670–720; H. Bocken, *Het aansprakelijkheidsrecht als sanctie tegen de verstoring van het leefmilieu* (Brussels, Bruylant, 1978) (hereinafter 'Het aansprakelijkheidsrecht') 267–303.

[42] Belgian Court of Cassation; Cass. 6 April 1960, Pas. 1960, I, 920.

[43] Cornelis, *Beginselen*, 683. For example, there is an actionable nuisance when the use of immovable property causes excessive inconveniences to neighbours.

[44] Stijns and Vuye, 'Burenhinder', 274 and references.

[45] H. Bocken, *Het aansprakelijkheidsrecht* (Brussels, Bruylant, 1978) 287.

[46] Stijns and Vuye, 'Burenhinder', 368–9.

[47] Cass. 3 April 1998, Pas. 1998, I, 440; Cass. 12 March 1999, TBBR, 1999, 657.

there is an intervening fault by a third party.[48] Certain authors refer to such imputability as a distinct condition for liability; others do not distinguish imputability from causal relation – a necessary link between the defendant's use of the premises and the existence of the nuisance.[49] A positive act or a specific omission on the part of the defendant, however, is not required. Nevertheless, the nuisance should be, at least, the consequence of the defendant's decisions regarding the use of his premises.[50] Mere ownership is insufficient to impose liability where accidental damage occurs, but the premises played only a passive role.[51]

A person has standing under nuisance laws if he or she exercises a real or personal right to immovable property the use of which is affected by the nuisance. Damage to movables, independent of the use of the claimant's premises (e.g. a car parked on a public road), is not actionable under this provision. Nuisance law is not restricted to certain types of activities. It has been applied in connection with a variety of construction, industrial and agricultural operations which release smoke or wastewater or which cause noise.[52]

Causality must be established. In fact, there should be a double causal relation: first, between the defendant's use of the premises and the existence of the nuisance; and, secondly, between the nuisance and the damage. Causality, in general, is established by applying the theory of 'equivalence of conditions',[53] which prevails in tort law in Belgium.[54] According to this theory, essentially, the act giving rise to liability is a cause of the damage if the actual damage would not have occurred but for the act. Any necessary condition for the damage is thus regarded as a cause; no further distinction need be made. The defendant cannot escape liability on causation grounds merely by showing that the damage was not foreseeable or would not have occurred in the normal course of events. The doctrine of equivalence protects the victim, but

[48] Cass., 24 April 2003, www.Cass.be. Inconveniences caused by a contractor carrying out building works on the premises will thus entail liability on the basis of nuisance.
[49] Stijns and Vuye, 'Burenhinder', 265.
[50] Inconveniences caused by a contractor carrying out building works on the premises will thus entail liability on the basis of nuisance, as the works reflect the owner's decisions with regard to the use of the land.
[51] Cornelis, *Beginselen*, 673. [52] Stijns and Vuye, 'Burenhinder', 392–447.
[53] Cass., 18 January 1990, Pas. 1990, I, 591; H. Bocken and I. Boone, TPR, 2002–4.
[54] On causation, see generally, H. Bocken and I. Boone, 'Causaliteit in het Belgiche recht', TPR, 2002–4 and references.

it may also establish liability in cases where it appears inequitable to the defendant in view of the remoteness of the damage. The courts try to mitigate these results, but have not succeeded in articulating a rational and consistent set of exceptions to the basic rule. A number of decisions of the lower courts have refrained from imposing liability in cases where liability would otherwise theoretically exist. The Cour de cassation (Hof van cassatie), in a number of instances, also took a liberal position by finding no causation in conformity with the theory of equivalence, where this finding can hardly be justified in fact.[55]

Defences to liability under the law of nuisance are limited. For example, the defendant may escape liability by showing that the nuisance is not a consequence of his use of the premises but rather of the act of a third party or of a force of nature.[56] Concurrent fault by a third party (e.g. a contractor carrying out building works) does not prevent the imposition of liability, but the defendant or owner may have a claim for contribution against the third party. Where the plaintiff is contributorily negligent, the liability of the defendant is reduced.[57] Furthermore, a plaintiff's 'coming to the nuisance' (that is, where the defendant is already established in the area) is not, by itself, a defence. However, this situation may influence the outcome of litigation in an exceptional case, where the defendant's establishment has determined the character of the neighbourhood and thus also the tolerated level of inconvenience in the neighbourhood.[58]

Contrary to the rule in fault liability, an abnormal vulnerability of the plaintiff may limit or exclude liability under nuisance law. Indeed, the comparison is made between the inconvenience caused by the use of the premises and the accepted level of inconvenience in the area. Thus, there will be no liability for inconvenience which remains below the acceptable level but which the plaintiff personally feels to be excessive because of his abnormal susceptibility.

A person found liable for nuisance must compensate for any damage caused. Restoration in kind is possible, although generally monetary compensation is awarded. In theory, not all damage should be compensated, but only that which exceeds the level normally tolerated in the area. In practice, there is little or no distinction between the

[55] H. Bocken and I. Boone, TPR, 2002, 1651, No. 26.
[56] S. Stijns and H. Vuye, 'Burenhinder', 267. [57] Stijns and Vuye, 'Burenhinder', 261.
[58] Stijns and Vuye, 'Burenhinder', 347–62.

compensation awarded here and that awarded under general tort law.[59] Under general tort law, the loss of any certain, personal, patrimonial or extra-patrimonial, and legal advantage qualifies as compensable damage.[60] Except as otherwise provided by statute, death and personal injury, damage to property, moral damages and economic losses are compensable, without financial limit. Nuisance suits generally concern only property damage and loss of income, however, and they less often involve the cost of medical treatment and/or moral damages. Personal 'injury' damages in nuisance cases, if extant, most often involve stress and sleeplessness caused by noise.[61] Other personal injury or death, however, should not be excluded. Should, for example, a building collapse due to construction on an adjacent property, and result in a fatal accident, there is no doubt that liability could be imposed, even in the absence of fault.

It is disputed whether an action for nuisance can lead to an injunction. Currently, most authors are of the opinion that this is indeed a possibility.[62] The Cour de cassation (Hof van cassatie) has not taken this view, however, but instead decided that a complete interdiction of the activity causing the nuisance was not possible,[63] and this view is consistent with the fact that only excessive inconvenience is actionable under nuisance law.

Special administrative legislation also ensures the cleanup of contaminated land. The Flemish decree of 22 February 1995, mentioned above, imposes the obligation to remediate polluted soil on the operator of a licensed installation located on the soil or, if not applicable, on the owner of the soil. A limited exception is provided for the innocent landowner. The party that caused the pollution, if different from the party on whom the cleanup obligation rests, is strictly liable for the cost of the cleanup and any damage caused thereby, and can be required to make advance payments and/or to provide financial guarantees. If a party fails to comply with its cleanup obligation, the state-owned Flemish waste company can take *ex officio* measures to do so and recover the cost thereof through civil litigation. The Walloon decree on

[59] A. Van Oevelen, 'Civielrechtelijke aansprakelijkheid voor milieuschade', in CBR, *Rechtspraktijk en milieubescherming*, (Kluwer Rechtswetenschappen, Antwerpen, 1991), 162.
[60] W. Van Gerven and S. Covenmaeker, Acco, 2001, 269 *et seq.*
[61] E.g. Brussels, 31 July 1991, Amenagement, 1991, 232.
[62] Stijns and Vuye, 'Burenhinder', 493 *et seq.*
[63] Cass. 14 December 1995, Pas. 1995, I, 1163.

contaminated land, adopted on 1 April 2004, in similar fashion to the Flemish decree, imposes the remediation obligation on the polluter or, if that party cannot be identified or is insolvent, on the owner of the land. The competent authority can recover the expenses through an administrative order. In both systems, a special regime applies in the event of pre-existing pollution.

Question (b)

The fact that a nuisance affects a large number of persons will not necessarily alter the outcome of the case.[64] Each of the victims can sue in person or have his interests defended in court by a representative *ad litem*, which could be an association created for the purpose of the litigation or entrusted with it. Similar suits by several parties can be joined according to traditional procedural techniques. The class action is unknown in Belgium.

England

Question (a)

I. Introduction

English law does not provide for general strict civil liability for environmental damages either under statute or at common law. The only exception to this is in relation to the common law crime of public nuisance where fault is presumed, and it is for the defendant to rebut this presumption. In limited cases, explained below, a civil action instead may be brought in public nuisance. Generally speaking, strict civil liability has only been incrementally introduced into various sectors of law by statute. Common law does not recognise a general rule of strict liability for environmental damages.[65] Lord Goff stated, in his famous speech in *Cambridge Water* v. *Eastern Counties Leather*,[66] as follows:

[64] As indicated above, if a nuisance is considered to be consistent with the general character of an area, it may not be actionable. In this case, a larger number of people may, in fact, have to put up with, without compensation, the inconveniences and health problems resulting from, for example, a polluted industrial neighbourhood. The reason for this lack of a remedy is because there is no actionable nuisance, rather than the number of injured parties.

[65] See, for example, *British Gas plc* v. *Stockport Metropolitan Borough Council* [2001] Env LR 763 (767).

[66] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264.

I incline to the opinion that, as a general rule, it is more appropriate for strict liability in respect of operations of high risk to be imposed by Parliament, than by the courts ... [G]iven that so much well-informed and carefully structured legislation is now being put in place for this purpose, there is less need for the courts to develop a common law principle to achieve the same end, and indeed it may well be undesirable that they should do so.[67]

In common law, liability for environmental damage may be established under the torts of negligence, public and private nuisance, under the rule in *Rylands* v. *Fletcher*,[68] or, finally, in rare cases, under breach of a statutory duty.[69] The tort of negligence requires fault to be established and is therefore not relevant to Question 1(a).

II. Public nuisance

The most commonly invoked action in environmental cases is nuisance. English law distinguishes public nuisance and private nuisance. Public nuisance is primarily a criminal offence at common law, which consists of doing an act not warranted by law or failing to discharge a duty imposed by law, the effect of which is to endanger the life, health, property, morals or comfort of the public, or to obstruct the public in the exercise or enjoyment of rights common to the public at large.[70] Public nuisance requires there to be a sufficiently large number of people affected. It does not apply where only *B* suffers damage, but it can be relevant to part (b).

III. Private nuisance

Private nuisance is a tort, which can be invoked in cases of damage to land or interference with the enjoyment of land. It has been described as follows: 'Private nuisance consists of continuous, unlawful and indirect interference with the use or enjoyment of land, or of some right over or in connection with it.'[71] There may also be an actionable nuisance where physical damage is caused to the land or to chattels on the land.

[67] *Ibid*., at 305. [68] *Rylands and Another* v. *Fletcher* [1861–73] All ER Rep (HL) 1.

[69] For a recent environmental law case in which liability for breach of statutory duty was rejected, see *Bowden* v. *South West Water Services Limited, Secretary of State for the Environment and Director General of Water Services* [1998] 3 CMLR 330.

[70] See the variety of definitions quoted in *Regina* v. *Shorrock* [1994] QB 279 (283); see also *Jan de Nul (UK) Ltd* v. *NV Royale Belge* [2000] 2 Lloyd's Rep., 700 (713).

[71] V. Harpwood, *Principles of Tort Law* (4th edn., Cavendish 2000), p. 237.

1. Continuous interference Nuisance generally requires an element of permanence.[72] The polluting effects (for example, smoke, wastewater, noise) caused by *A's* running of an industrial plant would only constitute a nuisance if they have taken place over a continuous period. This is not stipulated in the Question, but this is likely in the circumstances.

2. Unreasonable interference[73] To be actionable, the interference with enjoyment of land must be 'unreasonable'.[74] Generally speaking, the concept of the reasonable use of land is rather flexible.[75] In determining what is an unreasonable interference, the courts will look at such matters as whether the interference has been substantial and not merely trivial, whether it would affect ordinary people with no unusual sensitivity to the defendant's actions,[76] and the locality where the activity is being carried on.[77] However, it should be noted that, where actual physical damage to land has been caused, the nature of the locality is irrelevant. Question 1(a) does not provide any information about these matters. In general, however, a factory operated in a proper manner (i.e. not negligently) in an industrial area will not sustain an actionable nuisance.

3. Indirect interference All the polluting effects mentioned in Question 1(a) can amount to an actionable nuisance. Liability for nuisance has been held against smoke emission in *St Helen's Smelting Co.* v. *Tipping*,[78] wastewater

[72] See, however, F. H. Newark, 'The Boundaries of Nuisance', 65 *Law Quarterly Review* (1949) 480 (488), stating that there is no rule excluding isolated escapes of tangible things, which damage another person's property, from being a nuisance.

[73] Although the definition cited by Harpwood speaks of unlawful interference with enjoyment of land, the phrase more usually used in the case law and in academic discussion is 'unreasonable interference' with enjoyment. In fact, a nuisance can be committed even where the activity is legally authorised, see e.g. *R* v. *Carrick DC, ex parte Shelley* [1996] Env LR 273 and *Blackburn* v. *ARC* Ltd [1998] Env LR 469.

[74] See, for example, *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (299), *per* Lord Goff; *British Gas plc* v. *Stockport Metropolitan Borough Council* [2001] Env LR 763 (776).

[75] See, for example, Lord Wilberforce in *Allen* v. *Gulf Oil Refining Ltd* [1981] AC 1001 (1011). This was a procedure for preliminary decision on nuisance. Lord Wilberforce stated: 'The fact is that the result of the case must depend upon the impact of detailed and complex findings of fact upon principles of law which are themselves flexible. There are too many variables to admit of a clear-cut solution in advance.'

[76] *Robinson* v. *Kilvert* (1889) 41 ChD 88.

[77] *St Helen's Smelting Co.* v. *Tipping* (1865) 11 HLC 642. For details, see the discussion by Cross, 111 LQR (1995) 444 *et seq*.

[78] *St Helens's Smelting Co.* v. *Tipping* (1865) 11 HLC 642.

polluting rivers in *Pride of Derby Angling Association* v. *British Celanese*,[79] and noise in *Halsey* v. *Esso Petroleum*.[80]

4. Interference with the use or enjoyment of land The tort of private nuisance is primarily meant to protect land rights (either actual physical damage to land, as in the instant case, or interference with enjoyment of land). There does not appear to be any direct authority on whether personal injuries are recoverable in private nuisance. Academic authors are divided.[81] The courts appear to be inclining to the view that personal injuries should not be recoverable in private nuisance. In *Read* v. *Lyons*,[82] Lord Macmillan asserted his view that an allegation of negligence or fault was necessary for an action for reparation of personal injuries. This is also the view of the judges in *Hunter* v. *Canary Wharf*, who refer with approval to the arguments of Professor Newark in his seminal 1947 article.[83] Given these recent pronouncements, it seems that it may be difficult to recover damages for personal injuries in nuisance. However, personal injuries consequent to property damage would be recoverable.

5. Foreseeability In nuisance, there is liability only for harm of a type which could have been foreseen by the defendant at the time he was carrying out the activities which constituted the nuisance. The question of whether damages in private nuisance must be of a foreseeable kind has been the subject of debate, but it was finally decided in the affirmative by the House of Lords in *Cambridge Water* v. *Eastern Counties Leather*.[84] In that case, Lord Goff referred to an earlier decision in *The Wagon Mound (No. 2)*,[85] a public nuisance case in which the Privy Council held that the same rules of remoteness and foreseeability of damage applied in

[79] *Pride of Derby Angling Association* v. *British Celanese* [1953] Ch 149.
[80] *Halsey* v. *Esso Petroleum Co. Ltd* [1961] 2 All ER 145 (155 *et seq.*).
[81] For example, Street, Clerk and Lindsell, and Fleming consider that personal injury is covered by nuisance, provided it flows from the invasion of the interest in property, as when somebody develops respiratory illness because of air pollution. Buckley (who has written the only specific textbook on nuisance, *The Law of Nuisance* (Butterworths, 1981)) thinks damages are not recoverable for personal injury in private nuisance: see *ibid.*, pp. 75–6.
[82] [1947] AC 156.
[83] F. H. Newark, 'The Boundaries of Nuisance' 65 *Law Quarterly Review* (1949) 480. See Lord Goff (at pp. 678–9 and 692), Lord Lloyd (at p. 696) and Lord Hoffmann (at p. 702 and pp. 704–8). See also the discussions in *Vodden* v. *Gayton and Gayton* [2001] PIQR P4 QBD.
[84] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264.
[85] *Overseas Tankship (UK) Ltd* v. *The Miller Steamship Co. Pty and Another (The Wagon Mound (No. 2))* [1967] 1 AC 617 (640).

negligence, public nuisance and private nuisance.[86] The precise meaning of foreseeability in nuisance, however, has not yet been clarified.[87] In *Cambridge Water* v. *Eastern Counties Leather*, Lord Goff found it unnecessary to consider the precise nature of this principle; however, he concluded from Lord Reid's statement in *The Wagon Mound (No. 2)* that foreseeability in nuisance is essentially a question relating to remoteness of damage.[88] It seems, however, that, even though the harm must be foreseeable in the case of a harmful incident, the incident itself does not need to be foreseeable.[89] In *Jan de Nul* v. *Royale Belge*, Moore-Bick J held that negligence in creating the nuisance is not an essential element of liability.[90]

Foreseeability of damage was discussed in more detail in *Graham and Graham* v. *Re-Chem International*, on contamination of land by a waste incinerator, and in the Court of Appeal case of *Savage* v. *Fairclough*, where a pig farmer had contaminated neighbouring land with nitrates. In *Graham and Graham* v. *Re-Chem International*, Forbes J held that it was not necessary to foresee the precise chemical processes leading to the contamination of adjacent land, but that it was sufficient to know that dioxins and furans are formed in the incineration process and that they are toxic.[91] Similarly, in *Savage* v. *Fairclough*, the first-instance judge, Mellor J, whose judgment the Court of Appeal confirmed, explained that foreseeability of the harm did not require foreseeability of the precise mechanisms whereby the harm was caused. Also, he mentioned that it was the hypothetical good farmer's foresight which set the appropriate standard.[92] The Court of Appeal added that the burden of proof lay with the claimants whose land was contaminated.[93]

[86] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (301), *per* Lord Goff. For the economic reasons behind *Cambridge Water*, see C. Shelbourn, 'Historic Pollution – Does the Polluter Pay?', *Journal of Planning Law* (1994) 703 (706).

[87] See the extensive discussion of alternative interpretations by D. Wilkinson, *Cambridge Water Company* v. *Eastern Counties Leather plc*: *Diluting Liability for Continuing Escapes*, 57 Modern Law Review (1994), 799 (803 *et seq*.).

[88] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (301), *per* Lord Goff. See also *British Celanese Ltd* v. *A. H. Hunt (Capacitors) Ltd* [1969] 1 WLR 959 (965), *per* Lawton J.

[89] See, for example, T. Weir, 'Rylands v. Fletcher Reconsidered', *Cambridge Law Journal* (1994) 216 (217); G. Cross, 'Does Only the Careless Polluter Pay? A Fresh Examination of the Nature of Private Nuisance', 111 LQR (1994) 444 (465 *et seq*.); B. S. Markesinis and S. F. Deakin, *Tort Law* (4th edn, Clarendon Press 1999), p. 500.

[90] *Jan de Nul (UK) Ltd* v. *NV Royale Belge* [2000] 2 Lloyd's Rep 700 (713).

[91] *Graham and Graham* v. *Re-Chem International Limited* [1996] Env LR 158 (167).

[92] *Savage and Another* v. *Fairclough and Others* [2000] Env LR 183 (191).

[93] *Savage and Another* v. *Fairclough and Others* [2000] Env LR 183 (192).

Question 1(a) does not give any hints concerning the foreseeability of the damage but, from the nature of the disturbance, i.e. noise, wastewater and smoke, it may have been foreseeable for the damage to occur.

6. Recoverable damages Two aspects have to be distinguished in assessing recoverable damages in nuisance. The first question is who can sue in nuisance. This had been subject to a long debate which was, for the time being, decided in *Hunter* v. *Canary Wharf*, where the House of Lords took a very restrictive view. The Lords held that only a person who has an interest in the land has standing. This excludes persons who merely live on the land, such as the relatives of the landowner.[94] Once a person's interest in the land has been established, this person can also sue for damages, not only for physical damage to the land, but also for personal injury.

It may be worth mentioning, however, that this position may have to be reconsidered after the adoption of the Human Rights Act 1998, which implemented the European Convention for the Protection of Human Rights and Fundamental Freedoms.[95] Under the Human Rights Act 1998, damages concerning land will usually be the cost of repairs or other remedial works, if the claimant is required to incur these costs. The diminution of the value of the property is also a relevant category of damages,[96] as is the loss of amenities.[97] Importantly, another category appeared in *Jan de Nul* v. *Royale Belge*, where Moore-Bick J also awarded damages for expenses incurred to investigate the environmental implications for an affected nature reserve. He did not classify such expenses as pure economic loss, but rather as a loss incurred in response to, and by reason of, a physical interference with property.[98] Finally, loss of profit was discussed in *Blackburn* v. *ARC Limited* and denied. The

[94] See the summary of the case law by Lord Goff in *Hunter and Others* v. *Canary Wharf Ltd* [1997] AC 655 (687–93). See also F. H. Newark, 'The Boundaries of Nuisance' 65 *Law Quarterly Review* (1949) 480 (489).

[95] See also the speech given by Lord Cooke in *Hunter and Others* v. *Canary Wharf Ltd* [1997] AC 655 (713–14) where he relates the tort of nuisance to Article 16 of the Convention on the Rights of the Child and to Article 8 of the European Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR). Referring to the ECHR cases of *Arrondelle* v. *United Kingdom* and *López Ostra* v. *Spain*, Lord Cooke thought it might be legitimate to treat residence as an acceptable basis of standing in nuisance.

[96] *Hunter and Others* v. *Canary Wharf Ltd* [1997] AC 655 (724), *per* Lord Hope; *Blackburn* v. *ARC Ltd* [1998] Env LR 469 (531–2).

[97] *Blackburn* v. *ARC* Ltd [1998] Env LR 469 (532).

[98] *Jan de Nul (UK) Ltd* v. *NV Royale Belge* [2000] 2 Lloyd's Rep 700 (722).

claimant sought damages because he was unable to develop or later sell his property, due to the operation of a nearby waste disposal site. The claim was rejected by the court.[99]

7. Defences Although liability in nuisance is strict, some defences are available. The defence of statutory authority is available where the nuisance is the inevitable consequence of conduct which has been expressly or impliedly permitted by statute.[100] Whether or not an Act of Parliament confers this immunity depends on the construction of the Act in question.[101] The defence of statutory authority, in any event, does not extend to pollution control licences granted by the Environment Agency[102] or to planning permission granted by the local authority.[103]

Prescription can also be a defence in nuisance, but it is not addressed in Question 1(a) because we are not told the duration of *A's* activities. The defence of prescription is difficult to establish in court, as the activity needs to have been continuous and consistent in level for twenty years to obtain a prescriptive right to maintain the activity.

IV. Rylands *v.* Fletcher

The second possible action under Question 1(a), beyond nuisance, is under the rule in *Rylands* v. *Fletcher* which was decided in 1868.[104] The rule in this case states: 'The person who, for his own purposes, brings onto his land and collects and keeps there something likely to do

[99] *Blackburn* v. *ARC Ltd* [1998] Env LR 469 (537–8).

[100] See *Allen* v. *Gulf Oil Refining Ltd* [1981] AC 1001 (1014), *per* Lord Wilberforce. See also *Lord Mayor, Aldermen and Citizen of the City of Manchester* v. *Farnworth* [1930] AC 171 (183), *per* Viscount Dunedin.

[101] *Allen* v. *Gulf Oil Refining Ltd* [1981] AC 1001 (1011), *per* Lord Wilberforce. See also *Tate & Lyle Industries Ltd and Another* v. *Greater London Council and Another* [1983] 2 AC 509 (538–41) where the defence of statutory authority was rejected.

[102] See *R* v. *Carrick District Council, ex parte Shelley* [1996] Env LR 273 and *Blackburn* v. *ARC Limited* [1998] Env LR 469.

[103] See *Gillingham Borough Council* v. *Medway Docks* [1993] QB 343. See also *Hunter and Others* v. *Canary Wharf Ltd* [1997] AC 655 (669–70, 710); *Wheeler and Another* v. *J. J. Saunders Ltd and Another* [1995] Env LR 286 (292–3 and 301). For a discussion of the earlier cases, see D. Williams, 'Non Natural Use of Land', *Cambridge Law Journal* (1973) 310 (320–1). Moreover, a planning permission can change the character of the neighbourhood and therefore be relevant in assessing the reasonableness of the challenged use. However, this is not the inevitable consequence of a planning permission: see *Wheeler and Another* v. *J. J. Saunders Ltd and Another* [1995] Env LR 286 (295 and 302); *Blackburn* v. *ARC* Ltd [1998] Env LR 469 (525).

[104] For the historical context of the case, see Simpson, *Journal of Legal Studies* (1984) 209 *et seq.*

mischief if it escapes, must keep it in at his peril, and if he does not do so, he is prima facie liable for the damage, which is the natural consequence of its escape' (*per* Blackburn J). The House of Lords accepted this rule, but added the requirement that the accumulation must be a 'non-natural user' of (accumulating/storing substances not naturally occurring on) the land for the rule to apply.[105] A further restriction that liability only applies to foreseeable damage was added to the rule in *Rylands* v. *Fletcher* by the House of Lords in *Cambridge Water* v. *Eastern Counties Leather*.[106]

There is no doubt that the bringing of chemicals onto land for industrial purposes is an 'accumulation' of a substance not naturally there, as required by the rule in *Rylands* v. *Fletcher*. Moreover, there is nothing in Question 1(a) indicating that *A* is not running the chemicals plant for his own purposes. Thus, *prima facie*, *A* might also be liable under the rule in *Rylands* v. *Fletcher* for foreseeable damages, subject to other considerations below.

1. Non-natural use The concept of the non-natural use of land[107] seems to have been rather narrow in *Rylands* v. *Fletcher* as originally formulated, but it has been extended over time to mean exclusion of what might be regarded as the 'ordinary use' of land. 'It must be some special use bringing with it increased dangers to others, and must not merely be the ordinary use of the land or such a use as is proper for the general benefit of the community.'[108] *Rylands* v. *Fletcher* has been used very rarely in cases where what can be termed 'environmental damage' has occurred. There seem to be only three such reported cases in the last fifty years, and, in all three, claimants were unsuccessful.[109] This lack of success might be due to the fact that the courts, since the late

[105] *Rylands and Another* v. *Fletcher* [1861–73] All ER Rep (HL) 1 (13), *per* Lord Cairns.

[106] See Questions 1(a) and 3(e) below.

[107] For an extensive discussion of the notions of 'use' and 'user' see D. W. Williams, *Cambridge Law Journal* (1973) 310 (311 *et seq.*).

[108] *Rickards (Since Deceased)* v. *John Inglis Lothian* [1913] AC 263 (280). For more details, see W. T. S Stallybrass, 'Dangerous Things and the Non-Natural User of Land', *Cambridge Law Journal* (1929) 376 (389 *et seq.*); A. L. Goodhart, 'Liability for Things Naturally on the Land', *Cambridge Law Journal* (1930) 13 *et seq.*; F. H. Newark, 'Non-Natural User and Rylands v. Fletcher', 24 *Modern Law Review* (1961) 557 *et seq.*; D. Williams, *Cambridge Law Journal* (1973) 310 (314 *et seq.*).

[109] *Halsey* v. *Esso Petroleum* [1961] 1 WLR 683 (where it was only raised at first instance) and *Cambridge Water* v. *Eastern Counties Leather* [1994] 2 AC 264; *Transco plc* v. *Stockport MBC* [2003] UKHL 61.

nineteenth century, have consistently refused to regard industrial uses of land as 'non-natural'.[110] For example, in *British Celanese* v. *Hunt*, a natural use was held to include manufacturing work on a trading estate.[111] The criterion of non-natural use was thus approximated to the reasonableness test in nuisance.[112]

Whilst Lord Goff did not redefine non-natural use in *Cambridge Water* v. *Eastern Counties Leather*, he made it clear that he regarded the concept as overly broad. He expressed his expectation that future courts 'may feel less pressure to extend the concept of natural use to circumstances such as those in the present case; and in due course it may become easier to control this exception, and to ensure that it has a more recognisable basis of principle.' Certainly, he regarded the storage of chemicals in substantial quantities and their use as a non-natural use in general.[113] However, Lord Goff was the only judge to make this point. Nevertheless, in the future, the courts may be willing to follow Lord Goff's lead and be more flexible on the question of non-natural use because they now have another means of tempering the strict liability in *Rylands* v. *Fletcher* through the rules on foreseeability. However, at present, it seems likely that *A's* activities would still be regarded as a 'natural use' of land, so there would, in fact, be no liability upon *A* under *Rylands* v. *Fletcher*.

2. Something likely to do mischief if it escapes The thing that has been accumulated on the land must be 'likely to do mischief if it escapes'. This criterion has been discussed in a vast number of cases, and, in practice, in most cases, it was related to things of a dangerous character,[114] *inter alia*, fires, explosives and chemicals that cause damage to property by escaping or by giving off fumes.[115] However, the thing

[110] See, for example, *Read* v. *Lyons* [1947] AC 156; *British Celanese* v. *Hunt* [1969] 1 WLR 959; *Ellison* v. *Ministry of Defence* (1997) 81 BLR 101.

[111] *British Celanese Ltd* v. *A. H. Hunt (Capacitors) Ltd* [1969] 1 WLR 959 (963).

[112] The time, place and circumstances of the use were said to be relevant, in assessing the reasonableness of use in nuisance: see J. G. Fleming, *The Law of Torts*, (8th edn, The Law Book Company, 1992), p. 337. See also J. S. Brearley, 'Public Welfare v. "Natural Use" of Land as the Basis for Liability in Environmental Damage Cases: Some Perspectives on the Past and Possible Future Roles of Tortious Remedies', 7 *Journal of Environmental Law* (1995) 119 (125).

[113] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (309).

[114] For a detailed overview of the early case law, see W. T. S. Stallybrass, *Cambridge Law Journal* (1929) 376 *et seq*.

[115] *West* v. *Bristol Tramways* [1908] 2 KB 14 (21). See also W. T. S. Stallybrass, *Cambridge Law Journal* (1929) 376 (383).

does not have to be inherently dangerous – only likely to do damage if it escapes, as was the water in the *Rylands* v. *Fletcher* case itself. The thing which escapes does not have to be the same as the thing which has been accumulated, provided they are intimately linked, such as fumes escaping from chemicals, fire from explosives, etc.

3. Escape The prerequisite of escape implies that the dangerous materials must escape from the defendant's land to another person's property. The rule in *Rylands* v. *Fletcher* does not protect persons who are harmed on the defendant's premises.[116] Also, the notion of 'escape' implies that only unintentional acts are covered by the rule in *Rylands* v. *Fletcher*.[117]

Question 1(a) does not explicitly mention where the damage to *B's* property occurred, but, if it was on land different to that controlled by *A*, there could be liability.

4. Foreseeability In *Cambridge Water*, the House of Lords held that the rule in *Rylands* v. *Fletcher* is a specific form of nuisance, relating to isolated incidents rather than to continuous events, and, therefore, the same rules relating to foreseeability of damage should apply in both forms.[118] However, the rule in *Rylands* v. *Fletcher* is still a strict liability tort. This means that, provided the damage was of a type that the defendant, at the time he accumulated the substance on the land, could foresee as likely to occur should the substance escape, the defendant will be liable, even if the escape was not the result of any negligence or fault on his part.[119]

As mentioned above, the vagueness of Question 1(a) does not allow us to determine whether the damage to *B's* property was foreseeable.

5. Recoverable damages Damage to the land itself and to other property are clearly recoverable under *Rylands* v. *Fletcher*. As with nuisance,

[116] *Read* v. *J. Lyons & Co. Ltd* [1947] AC 156 (168).
[117] *Rigby and Another* v. *Chief Constable of Northamptonshire* [1985] 2 All ER 985 (996).
[118] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (304–5). Lord Goff thereby distinguished earlier decisions in *Rainham Chemical Works Ltd (in liquidation) and Others* v. *Belvedere Fish Guano Co. Ltd* [1921] 2 AC 465 and *West* v. *Bristol Tramways Co.* [1908] 2 KB 14. Recent decisions follow *Cambridge Water*: see, for example, *Ribee* v. *Norrie* [2001] PIQR 8, 128 (136).
[119] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (302), *per* Lord Goff.

restrictions can apply where the use of the affected land is not ordinary, but rather very peculiar and creating a higher risk of damage.[120] Merely economic loss, not resulting from damage to a person's property, is not recoverable under the rule in *Rylands* v. *Fletcher*.[121]

It is unclear whether or not damage to other property or chattels is recoverable. In *Halsey* v. *Esso Petroleum*, an award was granted for damage to a car that was parked on a public highway.[122] However, the rule in *Rylands* v. *Fletcher*, like nuisance, generally protects interests in land. Bearing the recently introduced restrictions to the rule in *Rylands* v. *Fletcher* in mind, it is doubtful that a person who has no interest in the affected land can still sue for damages.

In the 1938 case of *Hale* v. *Jennings Brothers*, the judge awarded damages for personal injury under *Rylands* v. *Fletcher*.[123] However, in *Read* v. *Lyons*, the House of Lords seemed to be more reluctant in applying *Rylands* v. *Fletcher* to personal injury,[124] though it did not decide the matter, since the plaintiff lost on other grounds. However, after the recent decisions in *Cambridge Water* v. *Eastern Counties Leather* and *Hunter* v. *Canary Wharf*, where the rule in *Rylands* v. *Fletcher* was regarded as a species of nuisance in protecting interests in land, one must still be sceptical about whether a claim for personal injury of persons who have no interest in the land would succeed.[125]

6. Defences The only potential defence available in Question 1(a) is, again, that which may be available by statute.

[120] See *Eastern and South African Telegraph Co. Ltd* v. *Cape Town Tramways Companies Ltd* [1902] AC 381 (393).

[121] See Fleming, *The Law of Torts*, p. 342.

[122] *Halsey* v. *Esso Petroleum Co. Ltd* [1961] 2 All ER 145 (152), *per* Veale J.

[123] *Hale* v. *Jennings Brothers* [1938] 1 All ER 579.

[124] 'The doctrine of *Rylands* v. *Fletcher*, as I understand it, derives from a conception of mutual duties of adjoining or neighbouring landowners and its congeners are trespass and nuisance. If its foundation is to be found in the injunction *sic utere tuo ut alienum non laedas*, then it is manifest that it has nothing to do with personal injuries': *per* Lord Macmillan in *Read* v. *J. Lyons & Co. Ltd* [1947] AC 156 (173).

[125] For details on damages in nuisance, see Questions 1(a) and 3 *et seq*. above. See also T. Weir, *Cambridge Law Journal* (1994) 216 (219); Markesinis and Deakin, *Tort Law*, pp. 503–4. There have been two cases since *Read* v. *Lyons* where the possibility of liability for personal injuries appears to have been accepted by the court; *Perry* v. *Kendricks Transport* [1956] 1 WLR 85 and *Dunne* v. *North Western Gas Board* [1964] 2 QB 806. However, in both cases, as in *Read* v. *Lyons* [1947] AC 156, the claim failed on other grounds.

V. Statute law

In addition to common law liability, expounded above, there may be a statutory obligation to carry out remedial work. Under Part I of the Pollution Prevention and Control Act 1999, the operators of almost all potentially polluting industrial processes are subject to licensing by public authorities. If a breach of the licensing system results in a conviction, the Environment Agency or the local authority may, under regulation 26 of the Pollution Prevention and Control (England and Wales) Regulations 2000, take steps to remedy any environmental damage caused, and may recover the costs of taking those steps from the person convicted of the offence. Under regulation 26(5), the regulator may recover costs only where there was an imminent risk of serious pollution.

Authorisation for discharges to controlled waters can be granted by the Environment Agency under the Water Resources Act 1991. Where environmental damage is caused by the unauthorised entry of poisonous, noxious or polluting matter into controlled waters, or by the unauthorised discharge of any trade or sewage effluent into controlled waters, the Environment Agency may serve a works notice under section 161A of the 1991 Act, requiring the person who caused the damage to take specified steps to remedy the damage. If remedial action is required before the person responsible can be identified, the Environment Agency may undertake remedial operations itself under section 161 of the 1991 Act, and subsequently recover the reasonable costs of remediation from the liable person. The use of the above powers under the 1991 Act does not require the authority of the Secretary of State, or a prerequisite conviction for a water pollution offence.

Question (b)

I. Public nuisance

As mentioned above, public nuisance is predominantly actionable by the Attorney-General on behalf of the public. In public nuisance, fault is presumed, and it is the defendant's burden to rebut that presumption. A public nuisance is a nuisance which is so widespread in its range, or so indiscriminate in its effect, that it would not be reasonable to expect one person alone to bear the cost of litigation against the nuisance, but rather that the community at large should take responsibility.[126] Such a situation is presented in Question 1(b). Criminal proceedings in public

[126] *Attorney General* v. *PYA Quarries* [1957] 2 QB 169 (191).

nuisance, such as in this situation, would be undertaken by the local authority, or by the Attorney-General.

There is an exception where an individual can show that he has suffered 'special' damage (that is, some substantial injury over and above that suffered by the public at large – a question of fact),[127] and he will be able to bring a tortious claim in public nuisance. Since the Question does not mention any person to be particularly affected, public nuisance does not provide for a private remedy here. However, unlike in private nuisance, there is clear authority to assess damages for personal injuries in public nuisance.[128]

II. Private nuisance

It is unlikely that the persons affected by the pollutants can claim compensation under private nuisance, under the conditions outlined in the answer to Question 1(a).

III. Rylands v. Fletcher

Similarly, although an action might be brought under the rule in *Rylands* v. *Fletcher*, recovery of personal injury damages under *Rylands* v. *Fletcher* is unlikely, as discussed above.

Finland

Question (a)

In 1995, new legislation on damages for environmental pollution was enacted (Environmental Damages Act, 737/1994). This Act defines pollution as damage caused by permanent activities involving an environmental change. The main sources of pollution are emissions into air, water and soil; noise and radiation are likewise frequent pollutants. The legislation was originally planned to coordinate with other Scandinavian legislation on the same matter in order to establish a uniform approach, but, ultimately, important differences between the Nordic laws arose and rendered a uniform system untenable. The Finnish Act seems to be one of the strictest laws in this field. According to the Act (§ 5), *A* would be liable in this case.[129] As far as categories

[127] *Jan de Nul (UK) Ltd* v. *NV Royale Belge* [2000] 2 Lloyd's Rep 700 (715).
[128] *Castle* v. *St Augustines Links Ltd* (1922) 38 TLR 615.
[129] See e.g. Erkki J. Hollo, Pekka Vihervuori, Ympäristövahinkolaki (Environmental Damages Act, 1995), pp. 161–87, and Erkki J. Hollo, 'Environmental Liability and the Precautionary Principle', in *Liber Amicorum Gunnar Schram* (2001), pp. 201–16.

of losses are concerned, the polluter, in this case *A*, is liable for loss of life, personal injury and property damage suffered by *B*. No fault determination is required, as strict liability always applies in this case. There must, however, be a sufficient, though not necessarily fully proven, probable cause connection between the polluting activity and the damage.

Question (b)

Personal injury (including minor health damage) and significant damage to property are compensable where sufficient causality is proven. In the case of property damage or economic loss, however, there is a duty to tolerate minor damage.[130] On the other hand, in principle, injury to health should be compensated in full. Of course, the causal link between allergic reactions (and similar symptoms) and the activity in question cannot always be sufficiently proven to allow recovery. Unlike Sweden, Finland has not yet adopted a system of class actions for claims for environmental damage, but a working group of the Ministry of Justice is preparing a proposal.

France

Question (a)

Answering a parliamentary question, Mrs Lepage, then Minister for the Environment, explained that: 'in French law, liability for environmental damage is essentially classical civil liability, i.e. the rules of the Code Civil and jurisprudence.'[131]

In the present case, Article 1384 § 1 of the Code Civil[132] applies: *A* is liable to *B* because the damage is caused by instrumentalities that are in *A's* custody. As a custodian, *A* has powers of 'use, command and control'

[130] According to § 4 of the Act, damages can be prescribed only if it is not reasonable to tolerate the pollution. The assessment of the situation as a whole shall take into account the local conditions, the reasons for the origin of the pollution and how commonly the pollution in question occurs. The chronological order of the polluting activity and the losses incurred is not decisive, but in some cases, it would not be reasonable to pay compensation for pollution that existed when the victim moved into the neighbourhood (the victim well knowing the degree of pollution). But this rule is not taken up in law and is, therefore, not always applicable. There is no duty to tolerate damage caused by tortious or criminal acts. Also damage to health is always compensable, as are major, real losses; here, losses need not be tolerated at all. But the requirement to show causality still exists in all these cases.

[131] *Journal Officiel de la République française*, *édition Sénat*, 19 September 1996, p. 2420.

[132] French Civil Code, hereinafter CC.

of the instrumentality[133] and is therefore liable for the damage it can cause. Civil courts interpret the notion of 'custody' rather widely: it applies to both immovable and movable property,[134] and notably to smoke,[135] vapours[136] and wastewater,[137] and even to noise.[138] However, as far as noise is concerned, civil courts[139] are more likely to refer to the theory of excessive nuisance (*troubles du voisinage*),[140] i.e. liability for nuisance whenever any (even non-negligent) activity results in excessive inconvenience to the neighbourhood.[141] This theory could also be applied to nuisance generated by smoke[142] or wastewater.[143]

To have legal standing in a case of loss or damage to property,[144] *B* must be title owner of the damaged property. On the other hand, in cases of personal injury or loss of life, the injury gives legal standing to *B* or to *B's* beneficiaries. It should be noted in this case that it would certainly be difficult to prove that injury or death resulted from the pollution produced by the plant.[145]

[133] Cass., chambres réunies, 2 December 1941, *Recueil Dalloz critique*, 1942, p. 25; see Fabrice Leduc (ed.), *La responsabilité du fait des choses* (Economica, 1997), p. 35.

[134] Cass., civ. III, 25 June 1952, *Dalloz*, 1952, p. 614.

[135] Cass., civ II, 11 June 1975, *Bulletin* II, No. 173, p. 141.

[136] Cass., civ. I, 17 December 1969, *Bulletin* I, 1969, p. 261.

[137] Cour d'appel (hereinafter CA) Chambéry, 27 March 1996, *Juris-Classeur périodique* (hereinafter *JCP*), 1996, IV, No. 2580.

[138] Cass., civ. I, 8 March 1978, *Dalloz*, 1978, p. 641.

[139] In France, the civil courts are the Tribunal de grande instance (hereinafter TGI) which deals with most cases, the Tribunal d'instance, which deals with other cases (especially in rural neighbourhood) and the Tribunal de commerce, where the defendant is an industrialist or a merchant and the plaintiff chooses to use this court (territorial jurisdiction is determined by the *actor sequitur forum rei* rule enshrined in Article 42 of the new Code of Civil Procedure); appeal is possible before a Cour d'appel (CA), and cassation before the Cour de cassation (Cass.).

[140] Cass., civ., 27 November 1844, *Sirey*, 1844, I, p. 211.

[141] Cass., civ. II, 16 October 1991, *JCP*, 1991, IV, 440; see Boris Starck, Henri Roland and Laurent Boyer, *Obligations 1: Responsabilité délictuelle* (5th edn, Litec, 1996), p. 170; Denis Seguin, 'Les atteintes à l'environnement dans la responsabilité civile: de l'illicite à l'anormal', *Droit de l'environnement*, No. 117, 2004, p. 69.

[142] Cass., civ. III, 3 November 1977, *Dalloz*, 1978, p. 434; Cass., civ. III, 23 February 1982, *Gazette du Palais*, 1982, No. 2, Panorama, p. 225.

[143] Cass., civ. III, 15 February 1989, *JCP*, 1989, IV, No. 142.

[144] *B* would have legal standing even if he or she no longer resides in his or her property: Cass., civ. II, *Ficarelli* v. *SA Laiterie Harrand*, 28 June 1995, in David Deharbe, *Le droit de l'environnement industriel: Dix ans de jurisprudence* (Litec, 2002), p. 344.

[145] For cases in which industrialists were found to have damaged the physical integrity and psychological equilibrium of their neighbours, see Cass., civ. II, 18 December 1962, *Bulletin* II, 1962, No. 815, and 22 October 1964, *Bulletin* II, 1964, No. 637.

Strict liability applies before civil courts only with regard to installations such as mines,[146] nuclear power plants,[147] or defective products.[148] In all other cases, *B* has to prove that the damage is the result of an interference caused by *A* that exceeds the threshold of tolerance. However, Article L.112-16 of the Code de la construction et de l'habitation (Code of Construction and Housing) will prevent *B* taking action against *A* if *B* moved into his property after the plant started to function,[149] provided that there is no increase in the nuisances[150] and that the activities of the plant comply with relevant laws and regulations.[151]

If damages are proven, *B* is entitled to financial compensation (*pretium doloris*),[152] compensation for 'amenity wrong' (*prejudice d'agrément*),[153] 'aesthetical wrong' (*prejudice esthétique*)[154] or, if *B* died from the pollution, *B's* beneficiaries will be entitled to a sum that is said to compensate the loss of a beloved person (*pretium affectionis*)[155] and compensation for

[146] Article 75-1 of the Code minier (the Code on Mines). Strict liability also applies to cableways (according to the Law of 8 July 1941), vessels (according to Article L.218-1 of the Code de l'environnement which refers to the International Convention on Civil Liability for Oil Pollution) and aircraft (according to Article L.141-2 of the Code de l'aviation civile) which cannot be considered as 'industrial plants'.

[147] Law on Civil Liability for Damages Caused by Nuclear Energy of 30 June 1968, revised by the Law of 16 June 1990, which incorporates into French law the OECD Paris Convention of 29 July 1960 and Brussels Convention of 31 January 1963 and their Additional Protocols of 16 November 1982.

[148] Directive 85/374/EEC of 25 July 1985 is transposed into French law by Law No. 98-389 of 19 May 1998 (Articles 1386-1 to 1386-18 CC); but, for the position where, contrary to Article 16 of the Directive, there is no limitation of liability, see Geneviève Viney, 'L'introduction en droit français de la directive européenne du 25 juillet 1985', *Dalloz*, 1998, II, chronique, p. 291.

[149] The burden of proof lies on *A*: Cass., civ. III, 27 April 2000, in Deharbe, *Droit de l'environnement*, p. 346; see also Frédéric Malaval, *Développement durable, assurances et environnement* (Economica, 1999), p. 81; M. Trémorin, 'Le privilège de la pré-occupation et la reparation des troubles du voisinage', *Revue de droit rural*, No. 320, 2004, p. 95.

[150] Cass., civ. II, *Société La Milanaise*, 3 February 1993 in Deharbe, *Code de l'environnement*, p. 347.

[151] Cass., civ. III, 11 February 1998, *Bulletin* III, 1998, No. 220.

[152] Starck, Roland and Boyer, *Obligations I*, p. 78; Geneviève Viney and Patrice Jourdain, *Les effets de la responsabilité* (2nd edn, Dalloz, 2001), p. 273.

[153] I.e. loss in the quality of life (e.g. loss of sensory capacities or the defacing of the landscape), see Starck, Rolland and Boyer, *Obligations I*, p. 78; Viney and Jourdain, *Les effets de la responsabilité*, p. 276.

[154] If *B* is disfigured by the pollution (e.g. by a severe skin disease), see Starck, Rolland and Boyer, *Obligations I*, p. 80; Viney and Jourdain, *Les effets de la responsabilité*, p. 275.

[155] See Starck, Rolland and Boyer, *Obligations I*, p. 80; Viney and Jourdain, *Les effets de la responsabilité*, p. 277.

the loss of *B's* financial support.[156] Courts may also order *A* to repair or rebuild the plant in order to alleviate the nuisance,[157] as well as order suspension of activities while the necessary work is carried out;[158] or a court may even close down the plant altogether[159] or order its demolition.[160] However, this latter remedy is rather exceptional, due to the severity of the measure, on the one hand, and, on the other, the reluctance of the civil judges to interfere with administrative jurisdiction, where operation of the plant is governed by the Law on Classified Installations for the Protection of the Environment (Articles L.511-1 *et seq*. of the Code de l'environnement) (civil courts may only order measures that do not contradict administrative instructions).[161]

If *A* is a public authority or a private person in charge of a public service, administrative courts[162] impose strict liability for 'damage caused by public works', according to the Law of 28 pluviôse an VIII,[163] provided that *B* was established in his property before the plant was functioning (or before its functioning was authorised).[164] However, even where *B* was not previously established, *A* could still be liable if *B* could not foresee future damage,[165] or if the level of nuisance has increased since *B* became established.[166] Administrative courts could also hold *A* liable for 'risks exceeding regular inconveniences of the

[156] See Starck, Rolland and Boyer, *Obligations I*, p. 94; Viney and Jourdain, *Les effets de la responsabilité*, p. 247.

[157] Cass., civ. I, 20 January 1964, *Bulletin* I, 1964, p. 24; Cass., civ. II, 12 November 1997, *JCP*, 1997, IV, No. 2563.

[158] Cass., civ. II, 20 October 1976, *Bulletin* II, 1976, No. 220.

[159] Cass., civ. II, 30 May 1969, *Bulletin* II, 1969, No. 22.

[160] Cass., civ. III, *Spouses Eloi* v. *Société Garage du Gymnase*, 22 March 1997, *Bulletin* III, 1997, No. 113.

[161] Tribunal des conflits, 23 May 1937, *Sirey*, 1927, III, p. 94; Cass., civ. I, 12 January 1974, *JCP*, 1975, II, No. 18106.

[162] Administrative courts are the Tribunal administratif (TA) in first instance (territorial jurisdiction generally follows the *lex rei sitae* rule if a property is concerned, or the location of the damage if it is a physical damage), the Cour administrative d'appel (CAA) for appeal, and the Conseil d'Etat (CE) in cassation. I am here referring only to action in administrative liability in which a plaintiff claims financial compensation, and not to judicial review (*recours en excès de pouvoir*) in which a plaintiff challenges an administrative decision such as granting a licence for the operation of a classified installation.

[163] CE, *EDF* v. *Spouses Caous-Lenormand*, 30 January 1970, *Recueil des décisions du Conseil d'Etat* (hereinafter *Rec.*) 1970, p. 72.

[164] CE, *Société Citroën*, 25 November 1998; CAA Nantes, *Jean-Bernard Bidault*, 9 April 1997, in Deharbe, *Code de l'environnement*, p. 359.

[165] CE, *Comité de défense des riverains de l'Aéroport Paris-Nord*, 7 May 1975, *Revue française de droit administratif*, 1975, p. 295.

[166] CE, *SNCF* v. *Goncet*, 11 July 1960, *Rec.*, 1960, p. 476.

neighbourhood'.[167] In such a case, only financial compensation is available, given that the administrative judge lacks the authority to direct the administration[168] or to order the demolition of a public building.[169]

Finally, note that, if *B* is a public authority and *A* is a private person, civil courts have jurisdiction over the case.[170]

Question (b)

The number of the injured parties does not alter the case against *A* before the civil or administrative courts. Each of the victims may act individually or have his or her interests defended by an association (whether pre-existing or *ad hoc*). Suits by several parties may also be joined according to traditional judicial procedure.

Affected persons (individually or in an association) may also sue the *préfet* (local representative of the state), rather than suing *A*, before an administrative court for failing to take all necessary measures under his or her power to stop the pollution emitted by an industrial plant according to the Law on Classified Installations for the Protection of the Environment. Similarly, such plaintiffs may sue the mayor in administrative court for failing to use his or her police powers to stop pollution by a non-classified industrial plant. Finally, a state or town could be liable under similar theories. However, such cases have not been very frequent, although the number of such cases is increasing.[171]

[167] CE, *Nicot*, 31 January 1890, *Rec.*, p. 112.

[168] CE, *Morin*, 30 October 1981, *Rec.*, p. 395. However, administrative courts are empowered by the Law on Classified Installations for the Protection of the Environment to modify administrative decisions concerning a plant (e.g. ordering stricter preventive measures to combat pollution), to suspend the activities of a plant (as a preventive measure or as an administrative sanction), or even to close down a polluting plant by way of judicial review of administrative decisions (see Deharbe, *Code de l'environnement*, p. 273). Consequently, if the plaintiff really wants the nuisance to cease, they prefer to challenge the administrative authorisation of the (publicly or privately owned) plant rather than attempt to prove liability before a civil or administrative court.

[169] See Michel Prieur, *Droit de l'environnement* (4th edn, Dalloz, 2001), p. 884. The rule of the 'inviolabity of a public building' (*intagibilité de l'ouvrage public*), which applies to any structure, not only to edifices, is justified by the desire to serve the taxpayers' money.

[170] Cass., civ. II, *Communauté urbaine de Lyon* v. *SA Mollard & fils*, 14 June 1995, in Deharbe, *Code de l'environnement*, p. 338.

[171] See Raphaël Romi, 'La responsabilité pour carence des autorités de police administrative', *Les Petites Affiches*, 12 December 1986; Laurence Chabanne-Pouzynin and David Deharbe, 'L'affaire de Guingamp ou la condamnation de l'Etat en matière de pollution de l'eau par les nitrates', *Droit de l'environnement*, No. 89, 2001, p. 99; Patrice Cossalter and Patrice Salamand, 'Responsabilité et pollution à la dioxine', *Droit de l'environnement*, No. 100, 2002, p. 193.

Germany

Question (a)

I. Claims pursuant to § 906(2) sentence 2 of the Civil Code[172] for property damage

1. The first requirement for a compensatory claim pursuant to § 906(2) sentence 2 Bürgerliches Gesetzbuch (BGB, or Civil Code)[173] under the law of nuisance (*Nachbarrecht*) is that *B* has standing as the owner or authorised occupant of an adjoining property.[174] No factual explication is given on this point.

   The second element is the existence of a significant infringement to *B's* property rights, in the form of an impact on the land above reasonably acceptable limits. An infringement is insignificant pursuant to § 906(1) sentence 2 BGB if it does not exceed the substantive limits or norms (legal standards) set by public law. Thus, § 906(1) sentence 3 BGB equates the substantive law on this point with the administrative regulations under § 48 BImSchG (Federal Emission Control Act).[175] In fact, under § 906(2) sentence 1 BGB, *B* may be required to tolerate the emissions from *A's* property. To deny *B* any remedy under this provision, *A's* use of the installation would have to be customary for the locality (*ortsüblich*), and any measures which might prevent the significant infringement of *B's* rights would have to be deemed unreasonable for *A* (§ 906(2) sentence 1 BGB). Nevertheless, courts may find a significant infringement where the limits or legal values are not exceeded,[176] using instead the perception of the average person as a standard. In determining the significance of an infringement based on such a standard, the type and designated purpose of the affected land are of decisive importance.[177]

   A use is customary for a locality containing an installation if the majority of similar properties are used with similar adverse effects on other properties.[178] In judging the reasonableness of possible preventive measures, courts must determine whether the average installation of the type causing the nuisance can be expected to bear the financial burden of the necessary measures.[179] In other words, if the cost of preventative measures is at such a level that the comparable, average company could no longer realise an appropriate counterbalancing profit, a measure is no longer 'financially reasonable'.[180] However, the

[172] 18.8.1896, RGBl. p. 195. [173] German Civil Code, hereinafter BGB.
[174] Cf., for example, BGH 15.4.1959, BGHZ 30, 273, 276; BGH 14.10.1994, NJW 1995, 132; Staudinger/Roth, BGB, 13th edn, 2002, § 906 n. 231.
[175] 14.5.1990, BGBl. I p. 880. [176] Palandt/Bassenge, BGB, 63rd edn, 2004, § 906 n. 23.
[177] BGH 6.2.1986, BGHZ 97, 97, 104. [178] BGH 20.11.1992, BGHZ 120, 239, 260.
[179] Staudinger/Roth, BGB § 906 n. 207.
[180] Soergel/Baur, BGB, 13th edn, 2002, § 906 n. 98.

Bundesgerichtshof[181] applies § 906(2) sentence 2 BGB correspondingly if an illegal emission under § 906 BGB cannot, for specific reasons, be prevented by the owner or occupier of the property.[182] Since the necessary specific facts in Question 1(a) are not given, it cannot be answered definitively whether *B* has a claim against *A* pursuant to § 906(2) sentence 2 BGB.

2. Provided that *B* is under no duty of tolerance under § 906 BGB, he can demand the removal of the infringement pursuant to § 1004(1) sentence 1 BGB, unless he is otherwise required to tolerate the nuisance pursuant to § 14 sentence 1 item 1 BImSchG. The existence of a duty of toleration depends on whether the plant's licence may be challenged. Again, this question cannot be answered for the situation in Question 1(a) on the basis of the facts given.
3. If there is, in fact, a duty of toleration under § 14 sentence 1 item 1 BImSchG, *B* can instead claim compensation from *A* pursuant to § 14 sentence 2 BImSchG, if the preventative options for *A* are, again, technically impracticable or economically unreasonable.
4. A claim under § 1 UmweltHG (Environmental Liability Act)[183] is only actionable against one of the plants designated in Appendix 1 if its environmental impact causes *B's* damage. Environmental impacts pursuant to § 3(1) UmweltHG include substances, vibrations, noise, pressure, rays, gases, fumes, heat emissions or other phenomena which are disseminated in the soil, air or water. Installations pursuant to § 3(2) UmweltHG are stationary facilities, such as operational facilities and warehouses. However, the emitting plant (in the interests of legal certainty and clarity) ultimately must belong to the categories in Appendix 1 UmweltHG, a category designated by the legislature as particularly hazardous. Section 1 UmweltHG is a strict liability provision.

   Liability arising from *force majeure* is excluded pursuant to § 4 UmweltHG. Section 5 UmweltHG also excludes liability for property damage if (i) the installation is operated within the requirements of § 6(2) sentence 2 UmweltHG, and (ii) the affected property is only minimally impaired, or impaired only to a reasonably acceptable extent under local conditions. Section 15 UmweltHG sets a maximum liability limit at €85 million for property damage caused by a single environmental impact.
5. Under § 22(1) sentence 1 WHG (Water Supply Code),[184] anyone who introduces or discharges any substance into a body of water, or otherwise detrimentally affects the water, such that the physical, chemical or biological properties of the water are changed, is subject to liability. 'Introduction' of a substance means contamination by solid

[181] Federal Supreme Court, hereinafter BGH. [182] BGH 2.3.1984, BGHZ 90, 255.
[183] 10.12.1990, BGBl. I p. 2634. [184] 3.9.1986, BGBl. I p. 1529.

substances, while 'discharge' of a substance refers to contamination by liquid or gaseous substances. 'Impact' on water includes drawing off, damming or heating.[185] Introduction, discharge or another impact are intentional acts.[186] Thus liability under § 22(1) sentence 1 WHG does not apply to harmful substances that enter a body of water due to a disturbance or an accident.[187] The given facts in Question 1(a) are insufficient to determine whether *A* has, in fact, introduced or discharged substances or impacted water, pursuant to § 22(1) sentence 1 WHG.

6. Under § 22(2) sentence 1 WHG, an installation causing substances to enter a body of water may be liable for damages. An installation here refers to any plant which is intended to produce, process, store, keep, transport or conduct water-contaminating substances.[188] The concept of an installation is broad and not limited to immovable installations in a locality.[189]
7. There may be a claim for property damage under § 823(1) BGB, which is applicable pursuant to § 18(1) UmweltHG. However, a claim under § 823(1) BGB requires fault on *A's* part, which is not the case in Question 1(a). However, with respect to product liability, the BGH[190] reverses the burden of proof for fault, if the cause of damage constitutes a significant infringement under § 906 BGB. The BGH justifies this reversal of the burden of proof on the grounds that the injured party is not in a position to take a view of the operating conditions leading to the emissions, and the operator is in a better position to put forward the facts relevant to the elements of the tort. Whether there is a significant infringement in the Question 1(a) scenario is unclear because of the incomplete facts in this regard (see point I.1 above).
8. A claim under § 823(2) BGB in connection with a penal protective law does not apply because of a lack of inculpatory evidence.

II. Claims for personal injury and damage to health

1. To the extent that *B* is owner or authorised occupant of an adjoining property, a claim under § 906(2) sentence 2 BGB should be considered. However, since, under this section, impacts are only deemed significant

[185] Schimikowski, *Umwelthaftungsrecht und Umwelthaftpflichtversicherung* (6th edn, 2002), n. 100.

[186] Czychowski, *Wasserhaushaltsgesetz*, (7th edn, 1998), § 22 n. 7.

[187] *Czychowski*, Wasserhaushaltsgesetz § 22 n. 8. Here the omission of preventative measures can result in damage liability. This, however, requires a corresponding duty and that the setting of a positive act would have prevented the damage with a degree of likelihood close to certainty. Furthermore, the inaction must be purposeful with regard to the water.

[188] Schimikowski, *Umwelthaftungsrecht* n. 108.

[189] Cf. *ibid*., n. 108; Czychowski, *Wasserhaushaltsgesetz* § 22 n. 43; BGH 22.11.1971, BGHZ 57, 257, 259.

[190] BGH 18.9.1984, BGHZ 92, 143, 150 *et seq*. (the *Cupola Furnace* case).

based upon the average person's perception,[191] it may be assumed that death, personal injury or damage to health are perceived as 'significant' to the average person, and thus the nuisance is no longer an acceptable infringement. Furthermore, *B* must not be under a duty pursuant to § 906(2) sentence 1 BGB to tolerate the emissions emanating from *A's* property. If *A* is using the property in a manner customary for the locality, and it would be unreasonable to expect *A* to take measures to prevent the significant infringement, then there is a duty of toleration on *B*. However, the facts in Question 1(a) give no indication of a duty of toleration nor whether *B* was actually prevented from averting the emission infringement pursuant to § 1004(1) BGB (§ 906(2) sentence 2 BGB). Nevertheless, *B* can demand cessation of the infringement under § 1004(1) sentence 1 BGB if he is not under a duty of toleration pursuant to § 906 BGB.

2. A claim under § 1 UmweltHG is also possible. This provides for damages for injury to health due to the environmental impact of an installation specified in Appendix 1. If *A* is running such an installation, then he is strictly liable. However, liability is excluded pursuant to § 4 UmweltHG if the damage has been caused by *force majeure*. Section 5 UmweltHG limits liability only as to marginal and reasonable material damage, and is therefore not applicable here. The maximum liability for death as well as personal injury or damage to health is €85 million (§ 15 sentence 1 UmweltHG).
3. *B* has a claim against *A* for death or personal injury or damage to health under § 22(1) sentence 1 WHG or § 22(2) sentence 1 WHG. Injuries to health are subject to the same requirements as property damage under these sections (see the discussion in points I.5. and 1.6 above).
4. Life, the person and health are also protected under § 823(1) BGB. In view of the above-mentioned reversal of burden of proof relating to fault, no provisions are applicable here as the fault question arises independently of the type of legal interest in § 823(1) BGB that has been violated. In addition, *B* has a claim against *A* in case of personal injury or damage to health derived from § 253(2) BGB, or general compensation of non-property damage.

III. Claims arising from death

In the case of *B's* death, only claims by third parties may be considered.

1. The heirs can pursue claims, which descend to them by universal succession under § 1922(1) BGB.

[191] Palandt/Bassenge, BGB § 906 n. 16.

2. The tortious act entitles *B's* heirs to claim funeral costs under § 844(1) BGB; compensation for dependants under § 844(2) BGB; and indemnification pursuant to § 845 sentence 1 BGB for the person to whom *B* owed a legal duty to provide services. The claims arising from §§ 844 and 845 BGB correspond to strict liability under § 12 UmweltHG.

Question (b)

I. Minor property damage

1. A claim under § 906(2) sentence 2 BGB requires a significant infringement beyond what is reasonably acceptable, as discussed above. Here, the legal norms of administrative regulations under § 48 BImSchG are relevant. Nevertheless, again, liability may also attach where regulatory limits are not exceeded (see the discussion in Question 1(a), point I.1 above).
2. If *B* is not subject to a duty of toleration under § 906 BGB, then he may demand the removal of the infringement by *A* pursuant to § 1004(1) sentence 1 BGB.
3. A claim under § 1 UmweltHG may fail, however, due to the liability exclusion under § 5 UmweltHG. The precondition for the exclusion is that the installation be operated in accordance with its intended purpose.[192]

II. Minor health impairment

1. With minor health impairment, the relevant question is whether there is a significant infringement beyond what may reasonably be acceptable pursuant to § 906(2) sentence 2 BGB. Impacts are generally insignificant if an average person can hardly perceive them,[193] so it would appear that an impairment such as chronic bronchitis would be likely to be perceivable, and, therefore, significant. Nevertheless, where there are threats to health by emissions, the local customary standard will normally be exceeded at that point, so there would be no duty of toleration.[194] Despite the absence of a duty, however, a claim analogous to one under § 906(2) sentence 2 BGB is possible if *B* was prevented by circumstance from averting the emissions, including where he has no knowledge of the emissions. Otherwise, there is no difference in the jurisprudence regarding this scenario and that discussed in Question 1(a), point II.1 above.

[192] Finally, note that no new claims for either minor property damage or minor health impairment arise under §§ 22(1) s. 1, (2) s. 1 WHG, or § 823(1) BGB (see Question 1(a) II.3, 4).

[193] Palandt/Bassenge, BGB § 906 n. 16. [194] Staudinger/Roth, BGB § 906 n. 202.

2. Where, as here, *B* is most likely under no duty of toleration pursuant to § 906 BGB, *B* can demand cessation of the infringement by *A* under § 1004(1) sentence 1 BGB.
3. Liability is also incurred for minor health impairment under § 1 UmweltHG.
4. The claim under § 823(1) BGB requires damage to health, specifically. In order to prove damage to health, according to the dominant opinion in civil law literature, there needs to be an objectively ascertainable disturbance, which in magnitude, strength and duration exceeds the limits of negligibility, is clinically diagnosable, or, at least, leads to a short-term pathological condition.[195] In addition, a physiological alteration to health is required,[196] and it may further be required that the injury necessitates medical treatment.[197] An impairment of well-being without any symptoms of sickness, on the other hand, will not be deemed to amount to damage to health.[198] 'Illness' is the conceptually opposite condition to 'health'.[199] Civil law and public law jurisprudence defines the legal interest of health more broadly than the legal literature. The Supreme Court of the German Reich and Federal Supreme Court understand damage to health as a disturbance of the inner bodily life processes or of an emotional and mental nature.[200] The creation or accentuation of any adverse physical condition is sufficient for the affirmation of a bodily (physical) damage to health. It is immaterial whether pain is present or whether a radical alteration in the state of health has subsequently occurred.[201] Mental injury, such as a nervous disease,[202] a nervous breakdown[203] or an accident neurosis[204] are also injuries to health. Here, an organic cause is not required.[205] For a claim pursuant to § 823(1) BGB, however,

[195] Deutsch, 'Die Gesundheit als Rechtsgut im Haftungs- und Staatshaftungsrecht', KF 1983, 93, 94; Staudinger/Schäfer, BGB, 12th edn, 1986, § 823 n. 26; RGRK/Steffen, BGB, 12th edn, 1986, § 823 n. 10; for § 1 UmweltHG, see Landsberg/Lülling, *Umwelthaftungsrecht*, 1991, § 1 n. 28.

[196] RGRK/Steffen, BGB § 823 n. 10.

[197] MünchKomm/Mertens, BGB, 3rd edn, 1996, § 823 n. 55 *et seq*.

[198] RGRK/Steffen, BGB § 823 n. 10; Staudinger/Schäfer, BGB § 823 n. 24.

[199] Landsberg and Lülling, *Umwelthaftungsrecht* § 1 n. 28.

[200] BGH 20.12.1952, BGHZ 8, 243, 248 (lues infection through blood products). See also Möllers, *Rechtsgüterschutz im Umwelt- und Haftungsrecht* (1996), p. 35.

[201] BGH 30.4.1991, BGHZ 114, 284 (AIDS infection through blood products, including cases in which no illness has due to lack of immunity has occurred); BGH 20.12.1952, BGHZ 8, 243, 245 (infection of mother and unborn child through blood products); also Palandt/Sprau, BGB § 823 n. 4.

[202] See RG 5.10.1914, RGZ 85, 335 for the adverse psychological effects of marriage failure.

[203] OLG Oldenburg 6.7.1990, NJW 1990, 3215 (nervous breakdown and threats of suicide as a result of low-level flights).

[204] BGH 12.11.1985, NJW 1986, 777 (neurosis of an accident victim).

[205] BGH 9.4.1991, VersR 1991, 704 (psychological effects of an accident).

damage to mental health must be pathologically, or clinically, identifiable.[206] It should be noted that minor impairments are seldom sufficient in practice. Generally, this is because social insurance indemnifies the injured party immediately. Furthermore, social insurers often take no action against the responsible party, either because they are unaware of the possibility of making a claim in a given case or because litigation is too costly. The result is that the law in this area has no deterrent effect.

5. A claim for damages for pain and suffering is only possible under § 253(2) BGB, subject to the requirement of equitable compensation. Trivial harm, which does not affect daily life and causes no lasting damage, cannot generally be compensated financially.[207]

Greece

Question (a)

I. Article 29 of Law 1650/1986 'for the protection of the environment' deals with civil liability, and provides: 'Whoever, whether a physical person or legal entity, causes pollution or other degradation to the environment, is liable for damages, unless he proves that the damage is due to an act of God or was the result of a third party's culpable act. The third party must have acted intentionally.' This provision of Article 29 has been severely criticised by scholars on two main grounds:

(a) It is too general in that it does not differentiate between minor and severe polluting activities, based on their consequences.
(b) Allowing the exception to liability in the case of an act of God could prove inequitable for those who have sustained the damage.[208]

Due to the generality of Article 29 of Law 1650/1986, scholars and the courts tend to find a solution elsewhere in civil liability. The legal basis of other theories of liability is the Astikos Kodikas of 1946 (Civil Code).[209] The Code reflects a period when pollution of the environment was not considered to be a serious problem; thus the Code does not include provisions specifically dealing with protection of the environment. Nevertheless, certain provisions of the Code prove to be sufficient solutions to the legal problems arising from pollution of the environment. In particular, the following subject areas of the law, read in light

[206] BGH 9.4.1991, VersR 1991, 704 (psychological effects of an accident); see also Palandt/Sprau, BGB § 823 n. 4.
[207] BGH 27.5.1993, NJW 1993, 2173 (low-level military flights).
[208] See I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 166–8.
[209] Greek Civil Code, hereinafter AK.

of the Greek Constitution of 1975, Article 24 of which provides an express right on the environment, are a source of current environmental law:

(a) the law of the neighbourhood (Articles 1003 *et seq*. AK);
(b) the protection of common goods, such as the air and the sea, and of goods of common use, such as larger lakes, rivers etc.; and
(c) the protection of the personality (Articles 57–59 AK).

It should also be noted that there are relatively few decisions that deal with pollution of the environment in Greek civil jurisprudence; nevertheless, whenever such matters arise in Greek civil courts, judges have succeeded in producing satisfactory solutions by applying the above-mentioned Articles of the Civil Code, particularly those relating to protection of the personality (Articles 57 *et seq*. AK).[210]

In the Question 1(a) scenario, *A* will be liable to *B* if *A's* polluting activity damages a vital and/or common element of life, such as air, and also causes either specific loss of or damage to *B's* property, or death or personal injury to *B*. Plaintiff *B* will not have to prove *A's* culpability in this case. Rather, the burden is on *A* to prove that the cause of the damage lies outside the ambit of his responsibility or risk. Legal authority for such liability is found in Article 29 of Law 1650/1986 or under Article 57 AK (protection of the personality) in conjunction with Article 914 AK (regulation of civil liability for an illegal act). Although Article 914 regulates civil fault liability, *B* may still obtain damages in no-fault liability for the reasons given immediately below.

II. Article 57 AK governs the right to the use and enjoyment of goods that are common to everyone, such as the air and the sea, and the right to one's personality, which grants usage of goods commonly used

[210] AP 286/1987, EllDni 29, 1365; AP 7/1992, NoV 41, 63; decision 5/1974 of the Court of First Instance of Kalamata, Dni 1975, 125; 93/1981 of the Court of First Instance of Edessa, EllDni 22, 366; Athens Court of First Instance 702/1981, NoV 29, 1301; 80/1985 of the Court of First Instance of Thiva, NoV 33, 1057; 58/1989 of the Court of First Instance of Naxos (not published); 1097/229/1989 of the Court of First Instance of Volos, NoV 38, 308; 163/1991 of the Court of First Instance of Nafplio, NoV 39, 786; 301/1992 of the Court of First Instance of Korinthos (not published); 336/1992 of the Court of First Instance of Chalkida, EllDni 33, 1513; 12/1994 of the Court of First Instance of Serres, NoV 42, 1032; 471/1996 of the Court of First Instance of Ioannina PerDik 1997, 84, followed by a note by E. Dacoronia, pp. 89, 90; 14/1980 of the Justice of the Peace of Ypati, EllDni 21, 781; 25/1986, 127/1986 and 238/1986 of the Justice of the Peace of Chalkida, EllDni 28, 931, 1130 and 1472 respectively; 30/1991 of the Justice of the Peace of Tinos (not published); 19/1992 of the Justice of the Peace of Tinos, ArchN 43, 640.

(streets, large lakes, rivers, etc.).[211] If these goods are polluted in such a way that their common utility is impaired, liability for an offence against the personality, under Article 57 AK, attaches to the polluting behaviour, as it is deemed to indirectly contravene Article 24 of the Greek Constitution.[212]

Therefore, under Article 57, *B* may sue *A* and seek:

(a) remediation of the impairment by *A* (Article 57 § 1 AK), i.e. elimination of the consequences of *A's* act and restoration of the common utility to its previous status;[213]
(b) an injunction against future offences (Article 57 § 1 AK);
(c) monetary compensation for moral harm (Greek courts award very small sums for moral harm, and only where fault is proven;[214] most scholars, however, are of the opinion[215] that compensation for moral harm should not require proof of culpability); and
(d) damages (Article 57 § 2 AK).

Except in cases of strict liability, *A* will be liable to pay damages set according to Article 914 AK, only if he was at fault, that is, acting intentionally or negligently. Increasingly, in theory,[216] however, the burden of proof in cases of environmental harm is treated in the same way as in cases of product liability.[217] The owner or possessor of a potential environmental hazard, just as the producer of a defective product, should be held liable for the damage caused, unless he proves that he is not responsible. This shifting of the burden of proof under a presumption of liability is a *hybrid strict liability* in Greece. The rationale for the presumption and the reversal of the burden of proof is that, in both cases, the plaintiff whether the (consumer or the person sustaining environmental harm) is not in the position to shed light on the facts that led to the damage. These facts are best disclosed by the defendant who owns or operates the source of the damage. The defendant,

[211] See I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 43, 44, 175 *et seq.*
[212] *Ibid.*, p. 47, 178. [213] *Ibid.*, p. 49, 182.
[214] AP 706/1969, NoV 18 (1970), 569; Court of First Instance of Karditsa 91/1982, EED 42, 321; Court of First Instance of Patras 3292/1982, EED 42, 333; EfAth 3962/1982, EllDni 23, 489.
[215] See A. Gasis, para. 44; Ap. Georgiades, in Georgiades-Stathopoulos, Articles 932 No. 5; I. Karakatsanis, *Perivallon kai Astiko Dikaio*, Articles 59, No. 6; N. Papantoniou, para. 28; I. Karakostas, *Perivallon kai Astiko Dikaio* p. 54, 186.
[216] See *ibid.*, p. 124, 295.
[217] For an analysis in English of the legal basis of the producer's liability in Greece, see E. Dacoronia, 'Mass Torts: A Greek Approach', RHDI 47, pp. 89–91, with further references to the Greek literature.

therefore, owes a general duty of care and providence,[218] arising from the requirement of good faith in business usages (Articles 200, 281 and 288 AK), and he should therefore be given the burden to prove the absence of fault on his part ('principle of the origin of risks' or 'principle of the areas of influence').[219]

These principles have analogous application in the law under Article 925 AK, dealing with the responsibility of the owner or possessor of a building or structure that totally or partially collapses. The owner/possessor under Article 925 is presumed to be responsible, unless he or she proves that the collapse is not due to defective construction or to faulty maintenance of the building or the structure.

In order to obtain compensation for damages in Question 1(a) under Article 57, *B* must prove that he has sustained damage and that such damage is attributable to *A's* activity. *B* will not have to prove *A's* culpability. Instead, *A* must prove that the cause of the damage lies outside the ambit of his responsibility or risk.

Question (b)

If the pollutants caused minor health damage and/or property damage to the majority of the people living in the community affected by the pollutants, the answer would be the same as the discussion above. The issue in court will be proof of causation between the damage (e.g. chronic bronchitis) and the polluting activity/consequent contamination.

Ireland

Question (a)

In principle, *A* is liable to *B*. Liability may arise under statute or at common law. Statutory liability exists for air pollution and water pollution. Liability at common law may exist for the torts of nuisance, negligence, or trespass, or under the rule in *Rylands* v. *Fletcher*.[220]

[218] For details relating to this duty of the owner or possessor of a source of risk to take all measures of care and providence (a product of the German jurisprudence, called in German *Verkehrssicherungspflichten)*, see in the Greek literature I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 118–22 and 286–91.

[219] Known in German as *Gefahrenbereich*, it is a product of the German theory and jurisprudence specially developed in the field of the producer's liability and introduced recently in the law of tort liability for emissions. For references to the German literature, see I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 122, 123, nn. 31–6, 292, n. 33.

[220] (1866) LR 1 Ex 265.

I. Statutory liability for air pollution

For smoke or other air pollution, section 28B of the Air Pollution Act 1987 (as inserted by the Environmental Protection Agency Act 1992, Schedule 2) provides that a person may recover damages where an emission causes damage to that person or to that person's property. An emission is defined in section 7 as an emission of a pollutant, and a pollutant is defined in the Second Schedule as all smoke, gas, aerosols and dust, particularly those consisting of:

(a) sulphur dioxide and other sulphur compounds;
(b) oxides of nitrogen and other nitrogen compounds;
(c) carbon monoxide;
(d) organic compounds;
(e) heavy metals and their compounds;
(f) asbestos fibres, glass fibres or mineral fibres;
(g) chlorine and its compounds; or
(h) fluorine and its compounds.

In addition, a pollutant is any other substance or energy which, when emitted into the atmosphere, causes pollution.

Damages can be recovered against either the occupier of the premises or a third party whose conduct caused the emission and constituted a breach of the Air Pollution Act.

The occupier will not be liable, however, where the emission was caused by an act of God or by the act or omission of a third person over whom the occupier had no control. The exclusion only applies if the act or omission was one which the occupier could not reasonably have foreseen and guarded against. Here, the statutory wording is a little unclear: the foreseeability question may apply to acts of God and third parties, or it may apply only to acts of third parties. It is presumed that it is intended to apply to both. If the occupier could have foreseen that an act of God would cause damage and could have prevented it, there is no reason why he should not be liable for failing to do so.

The defence of causation by a third person is interesting. While there is no requirement for the plaintiff to show that the respondent caused the pollution, the respondent may escape liability if he or she can show that someone else, in fact, caused it. The Irish courts, taking their lead from the English courts, have interpreted the term 'cause' very broadly in holding polluters liable for pollution (see *Maguire* v. *Shannon Regional Fisheries Board* and *Shannon Regional Fisheries Board* v. *Cavan County Council*[221]).

[221] [1994] 3 IR 530 and [1996] 3 IR 267 respectively.

It will be interesting to see if the courts interpret 'cause' as broadly when a polluter relies on the broad interpretation as a defence. The reasons for the broad interpretation of 'cause' are directly reversed when a polluter seeks a causation defence. The logic of environmental law would suggest that 'cause' should be given a narrow interpretation in the defence context. However, where 'cause' is used earlier in section 28B in the context of 'causing' injury or damage, it would seem logical to resort to the broad construction. This interpretive contradiction will no doubt give rise to difficulty in the future.

Liability is also excluded in section 28B where the emission was made under and in accordance with an air pollution licence granted under the Act; where the emission complied with an emission limit specified under the Act; or where the emission complied with a directive under the Act specifying the best practicable means for preventing or limiting the emission.[222] In practice, these exceptions seldom apply. Most major industrial installations now require an Integrated Pollution Control (IPC) licence under the Environmental Protection Agency Act 1992, instead of an air pollution licence, and 'best practicable means' is now largely replaced by the concept of 'Best Available Technology Not Entailing Excessive Cost' (BATNEEC), specified under the Environmental Protection Agency (EPA) Act. Curiously, the EPA Act did not extend the exception in the Air Pollution Act to cover IPC licences and BATNEEC, so compliance with them will not be a defence, notwithstanding that the EPA Act inserted section 28B into the Air Pollution Act. The consequences of any conflict here should not be of great practical significance, however, since an IPC licence cannot be granted if it would allow any air pollution to occur.

In the present Question 1(a) scenario, *B* appears to have a right of action against *A* under section 28B, as *A* appears to be the occupier of the factory causing the air pollution.

II. Statutory liability for water pollution

For wastewater or other water pollution, section 20 of the Local Government Water Pollution (Amendment) Act 1990 provides that, where trade effluent, sewage effluent or any other polluting matter enters waters and thereby causes damage to any person or to that person's property, the person may recover damages.

[222] Section 28B.

Relevant definitions are contained in section 1 of the Local Government (Water Pollution) Act 1977. 'Polluting matter' is defined as including 'any poisonous or noxious matter, and any substance (including any explosive, liquid or gas) the entry or discharge of which into any waters is liable to render those or any other waters poisonous or injurious to fish, spawning grounds or the food of any fish, or to injure fish in their value as human food, or to impair the usefulness of the bed and soil of any waters as spawning grounds or their capacity to produce the food of fish or to render such waters harmful or detrimental to public health or to domestic, commercial, industrial, agricultural or recreational uses'. 'Sewage effluent' is defined as 'effluent from any works, apparatus, plant or drainage pipe used for the disposal to waters of sewage, whether treated or untreated'. Finally, 'trade effluent' is defined as 'effluent from any works, apparatus, plant or drainage pipe used for the disposal to waters or to a sewer of any liquid (whether treated or untreated), either with or without particles of matter in suspension therein, which is discharged from premises used for carrying on any trade or industry (including mining), but does not include domestic sewage or storm water'.

An injured person can recover from the occupier or a third party on the same terms, and subject to the same exceptions, as apply to recovery under the Air Pollution Act, discussed above.

As with the Air Pollution Act, the right to recover damages from the occupier or any other person is excluded where the emission was made under, and in accordance with, a licence to discharge polluting matter to waters, granted under section 4 of the Act or section 171 of the Fisheries (Consolidation) Act 1959. This is covered by section 3(5) of the 1977 Act. Again, liability is not excluded where the discharge is made under, and in accordance with, an IPC licence. However, in any event, an IPC licence would not authorise a discharge in such quantity as to allow damage to occur.

Section 3(5) of the Water Pollution Act also covers discharges of sewage effluent. This area is quite complex. Liability and causes of action depend on the distinction between a sewer and a common drain. A sewer is a pipe owned by the local authority, which carries sewage. Any other pipe carrying sewage is a common drain. A discharge of sewage effluent from a sewer is thus generally not a basis for liability, considering that the state prefers not to impose liability on itself for the damage it may cause to its citizens. There is one exception to non-liability: where a standard for sewage effluent is set and violated,

liability may then attach. Such standards exist due to the implementation of Council Directive 91/271/EEC on urban wastewater treatment.[223]

Discharge of private sewage effluent from a common drain, on the other hand, is subject to liability according to the Act.

In Question 1(a), therefore, *B* appears to be able to recover from *A*, the occupier of the factory that is causing damage by water pollution.

III. Statutory liability for pollution by waste

There is no statutory liability for pollution by waste. It is not clear why no similar provision to those applicable to air and water was included in the Waste Management Act 1996. In the absence of such a provision, unless the waste causes air pollution or water pollution, as a result of which injury is suffered, there is no statutory liability for such pollution.

Section 32 of the Waste Management Act prohibits a person from holding, transferring, disposing or recovering waste in a manner which causes, or is likely to cause, environmental pollution. In some cases, a prohibition of this nature may give rise to an action for breach of statutory duty, depending on whether the statute is intended to create rights for individuals. However, given that such rights are specifically created for air and water, the legislature's silence in relation to a similar private right concerning waste would likely lead the courts to infer that no such right was intended. It therefore seems unlikely that an action for breach of statutory duty would lie to attach liability for injury resulting from waste.

IV. Statutory liability for pollution by noise

There is no statutory liability for pollution by noise. However, there are injunctive remedies in the EPA Act.

V. Common law liability for environmental emissions

Common law no-fault liability may exist in nuisance, in trespass or under the rule in *Rylands* v. *Fletcher*.

Common law is distinct from statutory law in that it is laid down over time by judges through court cases. Common law evolves as old rules are tested and re-expressed in new cases.[224] Therefore, although it is

[223] OJ L 135/40, 30.5.1991.

[224] Common law originated in England after the Norman conquest, and was extended to Ireland in the sixteenth century, during the Tudor reduction of Ireland. The Normans

possible to lay down broad principles, these are only generalisations, and any case will depend on its own facts and analogous other cases. The Irish constitution after independence in 1922, and subsequent constitutions, have continued the common law in force to the extent that it is not incompatible with the constitution. English and Irish common law share a common heritage and are therefore very similar, and Irish courts often quote English cases, which have persuasive authority, but are not binding. Moreover, due to the greater population of England, there are more English cases, so English common law tends to develop more quickly than Irish common law. Any person reading this book, therefore, should also have regard to the English response to the questions in this project as an example of how the Irish law may develop.

For the moment, however, the Irish courts have not had occasion to adopt any of the restrictions imposed by decisions such as *Cambridge Water* v. *Eastern Counties Leather*,[225] nor have they cut back the rule in *Rylands* v. *Fletcher*, as the English courts appear to have done.

In fact, there is really only one major modern Irish case on liability in tort for pollution: *Hanrahan* v. *Merck Sharpe and Dohme*,[226] a case which was decided on the basis of the law of nuisance.

Subject to these caveats, the following is a synopsis of the current state of the common law of tort as it applies to environmental liability.

1. Negligence A person is liable in damages to anyone whom he or she could reasonably foresee would suffer injury as a result of his or her act or omission. An action for negligence is the principal remedy available for injury to the person, but it also covers damage to property, including loss of profits from property damage. It probably does not extend to cover purely financial loss, although this point has not been definitively settled in Ireland.

In relation to environmental torts, it is necessary to examine what was emitted, what its consequences are, who was injured, and how foreseeable that injury was. Defendant *A* may not have known what the factory was emitting or that it was harmful. If no one knew, and no one exercising reasonable care could have known of the harm because

conquered England in 1066. In 1169, the Norman King of England, Henry II, invaded Ireland at the invitation of the deposed Irish King, Richard Mc Murrough. Conquest was not completed until the sixteenth century when English common law was extended to all parts of Ireland.

[225] [1994] 2 AC 264. [226] [1988] ILRM 629.

the state of scientific knowledge made it impossible to know, *A* may not be liable. Nevertheless, if a reasonable person in *A's* position would have known or suspected and taken corrective action, or if *A* had knowledge which should have raised suspicion of injury, yet did nothing, *A* may be liable to *B*, having breached his or her duty to take reasonable care to avoid injury to *B*. Similarly, in this case, *B* must be a foreseeable victim/plaintiff.

Negligence must usually be proven, but a court can infer negligence from the circumstances. This is known as the '*res ipsa loquitur*' rule: 'the thing speaks for itself.' The rule applies where there is no evidence as to how something happened, but the only logical explanation for the occurrence is that it resulted from the defendant's negligence. In *Grant* v. *Australian Knitting Mills Ltd*,[227] the House of Lords held that the defendants were negligent by applying the rule; either the defendants' quality control was not applied, or it was inadequate, in any event. In response to the application of the rule, in *Fleming* v. *Henry Denny and Sons Ltd*,[228] the Supreme Court pointed out that a defendant can overcome the rule by showing that it was, in fact, not negligent. The rule must be treated with caution: it enables the court to bridge a gap in the proof, but only if the plaintiff can show that this is what *must* have happened. The burden of proof lies with the plaintiff. Finally, it appears from the decision in *Hanrahan* v. *Merck Sharpe and Dohme* that the rule applies to questions of causation in nuisance or other torts.

In the present case in Question 1(a), fault cannot be established. Therefore, unless the *res ipsa loquitur* rule applies here to show that the only explanation for what happened is negligence on the part of *A*, there will be no liability in negligence.

If liability is established, on the other hand, *B* can recover damages for any personal injury from *A*. If *B* suffered damage to property, *B* can recover damages for the replacement of that property and all consequential damage. If *B* was killed, *B* cannot sue; but dependent members of *B's* family may. They may recover up to IR£7,500 (just under €10,000) damages for distress and shock arising from the death, as well as funeral expenses, and, most significantly, damages for the loss of support which they would have expected from the deceased had he or she lived.[229] These categories of damages apply to all rights of action, not just the right of action in negligence.

[227] [1936] AC 85. [228] Supreme Court, 29 July 1955, unreported.
[229] Section 48 of the Civil Liability Act 1961.

2. Nuisance A person who uses property in such a way as to interfere, to an unreasonable degree, with the lawful use of property by another person is, in principle, liable for the tort of nuisance. Although the principal remedy is an injunction, damages may also be awarded, bringing the tort within the realm of 'liability' in the sense of 'liability in damages'. The injury must be unreasonable and specifically affect 'the use or enjoyment of land'. However, damage to health while on the land, or damage to property held on the land, does come within the tort. Whether a person will be liable in any particular case depends on the facts of the case and on established case law.

If the emissions from *A's* factory in Question 1(a) end up on *B's* land and cause damage there, *B* is legally entitled to sue. A court might favour damages as an adequate remedy in this case, which damages will include the diminution in the value of the land, compensation for property/chattels on the land, and, in some cases, compensation for personal injury. In practice, damages in nuisance actions are lower than damages for negligence, and a plaintiff will seek an award in negligence which is more likely to be awarded.

One advantage of nuisance law is that there is no need to prove fault; the plaintiff merely has to establish causation and damage. However, the right to a remedy is not absolute. Damages are only awarded where the interference with property is 'unreasonable'.[230]

In *Hanrahan*, Henchy J stated that: 'what an occupier of land is entitled to as against his neighbour is the comfortable and healthy enjoyment of the land to the degree that would be expected by an ordinary person whose requirements are objectively reasonable in all the particular circumstances'.[231]

In the present case, the courts will balance *A's* interests in using the factory against *B's* interest in using his land, and courts will include the interest of the overall community in the balance. In the past, under the balancing determination, courts have tended to favour factory owners because of the economic benefit they bring. With growing awareness of environmental issues, however, this policy may change in the future and lead to a change in the law.

3. Rule in Rylands v. Fletcher In *Rylands* v. *Fletcher*, Blackburn J stated a rule as follows:

[230] See, for example, *Hanrahan* v. *Merck, Sharpe & Dohme* [1988] ILRM 629.
[231] [1988] ILRM 629.

> The person who for his own purposes brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, is prima facie answerable for all the damage which is the natural consequence of its escape.[232]

The rule only applies to non-natural uses of land. It is probable that a use of land which involves bringing a polluting substance onto the land (or creating it there through an industrial process) would count as a 'non-natural' use. Thus, where *A*, in this Question, creates the polluting substance in its factory, *A* is strictly liable for the damage which that polluting substance causes when it escapes. Liability does not appear to be limited to damage to land but should include personal injury and damage to property.

4. Trespass When a person does something which directly causes any object or substance to be placed on the land of another person, he or she is strictly liable for a trespass. There is no requirement that the conduct be unreasonable. Trespass also differs from nuisance in that the damage must be direct.

Traditionally, discharge of pollutants has not been regarded as a trespass, but was dealt with under other remedies. However, it is understood that section 32 of the Waste Management Act 1996 alters the position. Under that section, a person cannot transfer waste to anyone other than a person authorised to receive it. Essentially, if a person throws away waste or abandons it, title to the waste still remains with that person. Thus, because the person retains title to the waste, he or she may be liable for trespass since his or her property is placed (or abandoned) on the land of another person. Generally, a discharge of a pollutant constitutes an ongoing trespass.

In the present case under Question 1(a), the ongoing discharge of pollutants onto *B's* land constitutes an ongoing trespass for which *B* may recover damages.[233]

VI. Summary of common law and statutory position

A plaintiff bringing an action in the Question 1(a) scenario would sue on the basis of all available provisions, and leave it for the court to decide

[232] (1866) LR 1 Ex 265.

[233] A potential, though not very persuasive, defence is that the discharge was not direct (as a discharge to air or water), and thus did not fall within the tort. Contrary to this argument is the fact that anything which causes a trespass must pass through the air or other medium to reach *B's* land.

the basis on which to award compensation. The statutory provisions provide the clearest line of action, but it is believed that they have never been relied on before a court in this type of case. Nuisance and trespass are the most useful actions for an injury to property, since the act itself creates liability without the need to prove negligence. The rule in *Rylands* v. *Fletcher* is the closest common law remedy to the statutory remedies and provides the best general cover. Overall, *B* should expect to be able to recover for loss of or damage to property under one of the legal remedies, provided all necessary proofs are available.

VII. Public nuisance

The type of nuisance law referred to in the Questionnaire answers is the law relating to private nuisance. Public nuisance is the other branch of nuisance law. In this branch of the law, the state can prosecute anyone who causes a nuisance to the public at large. In addition, any person can sue for a nuisance affecting the public at large, provided the person suing has suffered particular injury. However, the individual can only recover for the particular injury. Therefore, an individual could not use public nuisance to assign liability for general damage to the environment, although the state could. McMahon and Binchy[234] say:

> The fact that special injury must be shown in [public nuisance cases] serves, however, to blunt the edge of public nuisance as a weapon used by environmentalists to counter pollution. The problem here is that if a factory pollutes a stream or the air, all persons in the area suffer from it . . . [A]n action for private nuisance or for interference with riparian rights may be more effective in such cases. The possibility of judicial recognition of the 'class' action or of successful constitutional litigation to protect the citizen's right to bodily integrity should also not be discounted.

It is clear, therefore, that these authors believe that public nuisance could, if the courts were willing, be developed to provide a further remedy for environmental damage, one focusing more on injury to a class of people than to individuals (as the remedies outlined above do).

VIII. Liability and injunctive relief

The answers to the questions above have generally dealt with liability in the sense of liability in damages. It should not be overlooked, however, that damages and injunctions are available as remedies for the same wrong in the same action. Irish law regards the two remedies as a means

[234] *Irish Law of Torts* (2nd edn, 1992) pp. 449–50.

of giving redress once it is established that a wrong has been done. The same substantive rules apply, regardless of the remedy. A plaintiff will generally seek both an injunction and damages if a wrong is continuing. It is up to the court to decide which remedy to award. Often an injunction for the future will be a more effective remedy than damages for past suffering.

IX. English and Irish law

English and Irish common law share a common heritage, although they have diverged somewhat in the past eighty years since Irish independence. One of the most significant divergences has been in judicial attitudes. The Irish courts have tended to be more favourable to plaintiffs in their interpretation of common law rules. The differences in attitude are no doubt due to differences between the societies in the two states, a matter which is outside the scope of a legal paper. It should, nonetheless, be borne in mind that English cases are accepted as persuasive in Irish courts. Sometimes they are applied uncritically, sometimes rejected out of hand, and sometimes taken into account along with cases from other common law jurisdictions. Any person assessing the Irish position should therefore also read the English responses to the Questionnaire on the basis that the more restrictive English approach to liability may be canvassed. Ultimately, it is felt that the existence of statutory strict liability in Ireland will lead tort law on environmental liability to develop in the same direction.

It is interesting that the same tort rules applied in the two jurisdictions so often appear to lead to a conclusion of liability in the Irish context, and of no liability in the English context.

X. European law and environmental liability under Irish law

The Irish statutes focused on in this Questionnaire implement European Directives on air pollution, water pollution and waste. The statutes must be interpreted in the light of the object and purpose of the Directives. The interpretation of the Directives is informed by the EC Treaty. Article 174 of the Treaty says that European environmental law aims for a high level of environmental protection and is based on certain principles, including the principle that the polluter should pay for the damage caused. Article 10 of the Treaty obliges all organs of Member States, including the courts for matters within their jurisdiction, to give effect to Community law. In giving effect to the Directives, therefore, the Irish courts must give effect to the objectives of the

Directives and to the objectives underlying the Directives. The civil liability provisions of the Irish statutes, and the corresponding tort rules, are one way in which the Irish courts can ensure that European environmental law is effective. The courts should therefore approach the question of civil liability for environmental damage on the basis that they are aiming for a high level of protection and that they should apply the 'polluter pays' principle. This should lead to a presumption that the courts lean in favour of liability. In this respect, it is interesting to note the decision of Kelly J in *Maher* v. *Bord Pleanala*[235] to the effect that a threshold for environmental impact assessment should be interpreted to set the lowest threshold, since the objective of the Directive on the subject is to protect the environment.

It is believed that Irish law tends, regardless of European law, towards liability where damage is suffered, and European law should simply be regarded as reinforcing this trend. If there is to be an underlying rationale, it should be provided by the 'polluter pays' principle.

Question (b)

The position here would be the same as for the first part of the question. Each individual affected would have an equal individual cause of action. There is no such thing as a representative action or a class action in Irish law (apart from a wrongful death action brought by or on behalf of the dependants of a deceased person, which is technically a class action).

The most likely routes for recovery for bronchitis, for example, would be for civil liability under the Air Pollution Act, liability for personal injury in negligence, and liability under the rule in *Rylands* v. *Fletcher*.

Italy

Introduction

I. The availability of a strict liability regime for dangerous activities in Italy

In Italy, the first national Italian Civil Code of 1865, Article 1151, repeating the wording of the French archetype, provided that: 'Whichever act of man that causes damage to others compels the one by whose fault it has taken place to compensate the damage done.'

At the end of the nineteenth century, there were various attempts by Italian scholars to strengthen the theoretical bases for the assignment

[235] [1992] 2 ILRM 198.

of liability in tort law. Venezian,[236] for example, elaborated an original theory which tended to radically exclude fault by basing liability on mere causality, and thus took an opposing position towards Jheringian doctrines which considered fault the very foundation of the tort system.

The principle of *mere causality* was criticised for its excessive radicalism, both by contemporary scholars,[237] as well as by the present-day ones.[238] Yet, it cannot be denied that, starting from the end of the nineteenth century, even in Italy, scholars' contributions in this field helped to redefine the problem of the assignment of liability for damages.[239]

The 1942 Code could have introduced a clear and definite system of risk liability more effectively than its French and German predecessors. But, in fact, it did not do so, which led one author to assert that, 'at the time of forming this code, the old ideas were worn out but the new ones that could constitute the basis of tomorrow's law are not yet ripe'.[240]

In fact, in Italy, the historical weight of the canon-Roman law tradition was such that it forbade the assertion of a *doctrine* of strict liability.[241] The only serious attempt in this direction was Venezian's, which, however, was so extreme that it was quickly rejected.

[236] See G. Venezian, 'Danno e risarcimento fuori dei contratti', in *Opere giuridiche*, I (Rome, 1919), pp. 85f.

[237] See L. Barassi, *Contributo alla teoria della responsabilità per fatto non proprio* (Turin, 1898), p. 66, who considers it a '*reazione brutale*' (brutal reaction) to the tort.

[238] P. Trimarchi, *Responsibilità civile per danno all'ambiente: prime riflessioni*, in Amni. re, 1987, 15.

[239] See Barassi, *Contributo alla teoria*; F. Carnelutti, *Infortuni sul lavoro*, I (Rome 1913); N. Coviello, 'La responsabilità senza colpa', in Riv.it.sc.giur., XXIII, 1897, 188. Less concerned the problems proposed by strict liability was P. Chironi, in his fundamental work: *La colpa nel diritto civile odierno: Colpa extracontrattuale*, vol. I (Turin, 1903); vol. II (2nd edn, Turin, 1906); this author affirms the substantial responsibility of entrepreneurs towards their employees as a basis for a presumption of fault 'per non avere adoperato apparecchi efficaci, oppure qualche nuovo mezzo preventivo suggerito e adottato negli opifici industriali, sebbene il regolamento industriale di tale impiego non faccia obbligo . . . la quale omissione può essere dimostrata mercè la prova diretta compiuta dal danneggiato del non aver il padrone fatto quanto si poteva e doveva a prevenire gli infortuni, oppure adottando la teoria della interversione mediante la presunzione di colpa': (*ibid*., vol. I, pp. 119ff.).

[240] R. Nicolo, 'Codice civile', in *Enciclopedia del Diritto*, vol. VII (Milan, 1960), p. 248.

[241] Rodolfo Sacco argues that one of the conditions that must exist in order to achieve an *original* codification is the existence of '*una dottrina affiatata e prestigios*' (that is, the existence of a reputable scholarship) that in Italy did not exist with regard to the problem of strict liability. See Sacco, *Introduzione al Diritto Comparato* (Turin, 1992), p. 222.

The courts responded to the demands for a principle of strict liability by drawing on a whole arsenal of procedural manoeuvres: by applying the doctrine of *res ipsa loquitur*, by shifting the burden of proof, and by developing various legal fictions which integrated the element of negligence.[242]

Yet, since the beginning of the work of re-codification (when the times seemed right for a codification of the principle of strict liability), the legal theory necessary to exert an influence on the structure of a code was missing. In the event, the code was bound to the principle that a finding of fault was a necessary prerequisite for the award of damages.[243] Thus, lacking a basis in the code that clarified the matter, the case law could not develop a coherent system of strict liability, and therefore had to rely instead upon rather unsophisticated legal techniques.

The use of intepretitive techniques to reach a desired result not expressly provided in the code caused uneasiness. To work through legal fictions hoping to find negligence even where there was none might have done justice in individual cases, but it did not help to clarify the law.

Article 2050 of the new Italian Civil Code,[244] which attempts to resolve the negligence criterion for dangerous activities, is considered one of 'the most disappointing rules of the whole 1942 code' in the eyes of legal scholars.[245]

[242] Generally, on legal fictions, see L. L. Fuller, *Legal Fictions* (Stanford, 1967) and F. Geny, *Science et Technique en Droit Privé Positif*, III (Paris, 1921), pp. 360 *et seq*. See also A. Gambaro, 'Finzione giuridica nel diritto positivo', in *Digesto delle Discipline privatistiche*, (4th edn, Turin, 1992), vol. VIII, pp. 342 *et seq*.; F. Galgano, 'La commedia della responsabilità civile', in *Rivista Critica di Diritto Privato*, 1987, 191; M. Franzoni, 'Danno da cose in custodia nei supermercati e obiter dicta della giurisprudenza', in *Contratto e Impresa*, 1987, 47.

[243] See Trimarchi, *Responsabilità civile*, p. 2; S. Rodota, *Il problema della responsabilità civile* (Milan, 1967), pp. 80 *et seq*.; G. Alpa and M. Bessone, 'I fatti illeciti', in *Trattato di Diritto Privato diretto da Pietro Rescigno*, vol. 14, pp. 46 *et seq*.; see also A. Figone and M. R. Spallarossa, 'La colpa', in *La responsabilità civile*, vol. I, *Giurisprudenza sistematica di diritto civile e commerciale* (edited by Alpa and Bessone), pp. 47 *et seq*.

[244] Article 2050 (Liability arising from exercise of dangerous activities) provides: 'Whoever causes injury to another in the performance of an activity dangerous by its nature or by reason of the instrumentalities employed, is liable for damages, unless he proves that he has taken all suitable measures to avoid the injury.'

[245] On the problem of strict liability for dangerous activities, see also M. Franzoni, *Giurisprudenza sistematica di diritto civile e commerciale* (Turin 1987), vol. II, book II, p. 459; M. Cinelli, 'Contributi e contraddizioni della giurisprudenza in materia di responsabilità da attività pericolose', *Rivista di Diritto Civile*, 1970, II, 161 *et seq*.

In fact, the interim solution which was adopted in this rule constituted a hybrid which seemed to satisfy neither the supporters of the fault principle, nor those favoring strict liability.[246] Among the former were the supporters of the thesis that ascribes importance to *a culpa levissima*;[247] among the latter were those who assign a different meaning to the rule.[248]

Towards the end of the nineteenth century, there developed throughout Europe a constellation of ideas, which led to a critical reflection on the role of negligence as a general criterion regarding certain industrial activities, which had been developing over the course of the century. By then it was clear to legal scholars that the fault principle could not ensure recovery of damages, as novel industrial practices inevitably brought with them a series of accidents, even where great care was taken. Given that accidents could not be avoided, a need was felt to at least guarantee compensation in the form of damages, thereby placing the responsibility on those who made a profit from activity and who, at the same time, were best able to foresee and, therefore, to prevent risks.[249]

This approach, which was most particularly supported in the legal scholarship, failed to assert itself positively in the drawing up of the codes, thus leaving in abeyance the issue of where, within the tort system, to place the strict liability principle.

With the present approach, it must be borne in mind that the sectors where strict liability could most appropriately be applied – thanks to *ad hoc* legislative interventions – were the same sectors in which industrial activities had the greatest impact on the environment. This is an important historical fact which needs to be borne in mind in the analysis that follows below.

[246] In the *Relazione al Codice Civile*, n. 795 states that: 'sulla materia non si è creduto di adottare nessuna delle soluzioni estreme: nè quella che annetterebbe a tali attività una responsabilità oggettiva, nè quelle che vi ricollegherebbe l'ordinaria responsabilità per colpa. Si è adottata, invece, una soluzione intermedia per la quale, sempre mantenendo la colpa a base della responsabilità, non solo si è posta a carico del danneggiante la prova liberatoria, ma si è ampliato il contrenuto del dovere che è a suo carico.'

[247] See, for example, A. De Cupis, *Dei fatti illeciti*, p. 79.

[248] There are some authors who understand Article 2050 CC as a strict liability scheme (for example, Trimarchi, *Responsibilità civile*, pp. 275 *et seq.*) and others who riconduct the Article to the theory of responsibility for *exposition to a danger* (for example, M. Comporti, 'Tutela dell'ambiente e tutela della salute', in *Rivista Giuridica dell'Ambiente*, 1990, 191, 255).

[249] This is the opinion of Trimarchi, *Responsabilità civile* 13.

II. The statute of 1986

1. The liability rule In 1986, the Italian Parliament enacted a new statute, No. 349/86, concerning civil liability for environmental damages.[250] Article 18 of this statute provides that, for a person to be liable, there must be 'fraudulent or faulty acts in violation of statutory provisions or of measures adopted according to the law'.[251] The Italian legislator chose not to follow the examples set in other legal systems on this matter, nor the suggestions coming from the economic analysis experience, nor from the same Italian scholars who favoured the introduction of a strict liability rule.[252]

For reasons relating to the genesis of the rule, the Italian choice stands out in as much as it follows criminal law schemes. The abovementioned rule recalls Article 42 of the Italian Penal Code, when it defines the fault-bearing act as that deriving from 'non-observance of laws, rules, ordinances or disciplines'.[253]

This is also confirmed by the criteria according to which the Italian courts assess and quantify environmental damages, according to Article 18 No. 6 of the same statute. Among these criteria we also find that of the 'gravity of individual fault', which is a clear reference to Article 133 of the Penal Code (entitled 'Evaluation of the gravity of the offence for the purpose of the penalty').[254]

Fault is also required by Article 18 as a means of determining the share of compensation to be paid by those who contributed to the damage (Article 18, No. 7), notwithstanding the rule of joint liability (*in solido*) established by Article 2055 of the Civil Code.[255]

[250] Legge 8 luglio 1986, No. 349, *Istituzione del Ministero dell'ambiente e norme in materia di danno ambientale*. On the practical application over the last decade, see B. Pozzo, *Danno ambientale* (Milan, 1998), which also refers to the various solutions developed by case-law. Law 349/1986 was replaced by Articles 311 *et seq.* of Legislative Decree 152/2006.

[251] The original Italian-language version of Article 18 of Law 349/86 refers to 'atti dolosi o colposi in violazione di disposizioni di legge o di provvedimenti adottati in base a legge'.

[252] See e.g Trimarchi , *Responsabilità civile*, p. 189; E. Briganti, *Considerazioni in tema di danno ambientale e responsabilità oggettiva*, in Rass.Dir.Civ., 1987, 289; A. Gambaro, *Il danno ecologico nella recente elaborazione legislativa letta alla luce del diritto comparato*, in Studi parl.pol.cost., 1986, No. 71-1 trim., 73; A. Costanzo and C. Verardi, *La responsabilità per danno ambientale*, in *Rivista trimestrale di diritto e procedura civile*, 1988, 691.

[253] Cf. R. Bajno, *Profili penalistici nella legge istitutiva del Ministero dell'Ambiente*, in *Studi parlamentari e di politica costituzionale*, anno 19, No. 71–1° trim., 1986.

[254] See S. Patti, 'La valutazione del danno ambientale', *Rivista di diritto civile*, 1992, 447, especially 460 *et seq.*

[255] Article 2055 CC (Liability in solido) states: 'If the act causing damage can be attributed to more than one person, all are liable in solido for the damages. The person who has

The formulation of the norm, although it has been authoritatively defended, may appear unsatisfactory in some respects.[256] It will suffice to note that the Italian solution produces considerable incoherence at an internal level and diverges from the trend followed by the majority of the Western legislation. For example, Italy is a signatory to the 1961 Brussels Convention on civil liability for damages deriving from pollution by hydrocarbons, which introduced a strict liability rule for damages caused to sea waters and the environment.[257] A 1982 Italian law on the sea also introduced the same principle of strict liability.[258] This means that in Italy there are two different civil liability rules concerning water pollution: a fault-based liability rule for internal waters, a strict liability rule for the high seas, and this inevitably gives rise to confusion and contradiction.[259]

2. Problems of proof A convincing legal argument in favour of strict liability is that the fault-based system seems rather inappropriate for the field of environmental law, as it imposes upon the victim a sort of *probatio diabolica*, which has as its object the fault, or the malice, of the polluter.[260] However, the burden of evidence is linked neither to the fault-based system, nor to the strict liability system. Rather, it is based on case law. Indeed, the fault principle is logically consistent with *res ipsa loquitur*.[261] This is because the notion of fault refers back to the notion of negligence, and negligence implies a violation of the standard of care that is deemed to be appropriate. This standard of care is very much influenced by cultural factors, which change over time. When a *mentalité* is inclined towards the benefit of security, a judge will be

compensated for the damage has recourse against each of the others in proportion to the degree of fault of each and to the consequences arising therefrom. In case of doubt, the degree of fault attributable to each is presumed to be equal.'

[256] The criticisms of the formulation of Article 18 of Law 349/86 are numerous. See e.g. L. Bigliazzi Geri, 'Quale futuro per l'art. 18 Legge 8 lugli 1986, n. 349?', Riv.crit.dir.priv., 1987, anno V, 685; P. Cendon and P. Ziviz, 'L'art. 18 della legge n. 349/86 nel sistema di responsabilità civile', Riv.crit.dir.priv., 1987, anno V, 521.

[257] Convention of 29 November 1961, introduced in Italy by the Law of 6 April 1977 No. 185.

[258] Law 979/1982, Article 21.

[259] See Trimarchi, *Responsabilità civile*, 1193.

[260] See P. Honsell, 'Entwicklungstendenzen im Haftpflichtrecht', in *Symposium Stark – Neuere Entwicklungen im Haftpflichtrecht veranstaltet zum 70. Geburtstag von Emil W. Stark* (Zurich, 1991).

[261] On the application of *res ipsa loquitur* in the environmental field, see, for example, T. Pugh and V. Easty, *Toxic Torts and Group Actions*, NLJ, 17 September 1993, vol. 143, 1293.

inclined to find negligence in everything that went wrong. For this reason, the *res ipsa loquitur* principle can be explicit or implicit, but the result is the same: on the one hand, the fault principle gives way to judgments that are not so dissimilar to those generated by strict liability; without *res ipsa loquitur*, the victim will face a burden of proof that is extremely high; when *res ipsa loquitur* works, the burden of proof is limited to merely showing that the victim is indeed a victim.

3. Access to information In environmental matters, there is a particular difficulty in accessing information, and the information is of course often of an extremely technic nature. This kind of information is generally not freely accessible to the public and, in any case, obtaining such information can be difficult for third parties without the requisite technical knowledge. Also, environmental damage often becomes apparent only after a long period of time has elapsed since the damaging activity took place, and can often be a result of many causal interactions. National and European legislation has attempted to remedy this difficulty of accessing information.[262] In particular, the EC has drafted a Directive on the matter.[263]

The facts of a case often make it hard to prove the existence of fault in each case. As a consequence, most foreign legislators have rejected

[262] See the German Umwelthaftungsgesetz, §§ 8 and 9, which give the victim a right to be informed. § 8 Umwelthaftungsgesetz states: 'Auskunftsanspruch des Geschädigten gegen den Inhaber einer Anlage: (1) Liegen Tatsachen vor, die die Annahme begründen, daß eine Anlage den Schaden verursacht hat, so kann der Geschädigte vom Inhaber der Anlage Auskunft verlangen, soweit dies zur Feststellung, daß ein Anspruch auf Schadenersatz nach diesem Gesetz besteht, erforderlich ist. Verlangt werden können nur Angaben über die verwendeten Einrichtungen, die Art und Konzentration der eingesetzten oder freigesetzten Stoffe und die sonst von der Anlage ausgehenden Wirkungen sowie die besonderen Betriebspflichten nach § 6 Abs. 3.' § 9 of the same statute provides a similar right in respect of a public authority: Auskunftsanspruch des Geschädigten gegen Behörden: Liegen Tatsachen vor, die die Annahme begründen, daß eine Anlage den Schaden verursacht hat, so kann der Geschädigte von Behörden, die die Anlage genehmigt haben oder überwachen, oder derer Aufgabe es ist, Einwirkungen auf die Umwelt zu erfassen, Auskunft verlangen, soweit dies zur Feststellung, daß ein Anspruch auf Schadenersatz nach diesem Gesetz besteht, erforderlich ist . . .'

[263] On the content of this Directive, see G. Morandi, 'Informazione ambientale e accesso ai documenti amministrativi', in Riv.Giur.Amb., 1992, 805; H. Blumenberg, 'Die Umwelt-Informations-Richtlinie der EG und ihre Umsetzung in das deutsche Recht', NuR, 1992, 8; A. Scherzberg, 'Der freie Zugang zu Informationen über die Umwelt – Rechtsfragen der Richtlinie 90/313', UPR, 1992, 48.

fault-based liability because it would externalise the costs of environmental damage, which is viewed as being contrary to the objective of full internalisation of environmental costs. The fact of having opted for a regime based on fault is certainly one of the most evident shortcomings of the Italian statutes.

4. Restoration and damages Article 18 establishes that, whenever materially feasible, restoration in kind should be the preferred option:[264] the polluter should restore the environment to the state prior to the occurrence of the damage. Only if this is no longer possible should a court award damages.

It is necessary to underline that neither the Italian legislature, nor the Italian administration, has ever indicated the criteria which should be applied by the courts to assess damages to the environment, as happened for example in the United States with the regulations developed by the Department of the Interior (the so-called Regulations for the Assessment of Damages for Natural Resource Injuries).[265] The issue is, of course, of profound concern, as it leaves to the judges a very difficult task. The 1986 statute establishes only that, where damages cannot be easily quantified, courts should apply an equitable appraisal where different variables, indicated by the statute itself, should be taken into account, namely, the degree of fault, the costs of restoration and the profit unduly gained by the polluter as a consequence of the wrongful act.[266]

5. The problem of standing Private citizens cannot claim damages for environmental harm. Even if they can sue on the ground of tortious liability when their individual rights have been affected, Article 18 of Law No. 349/1986 establishes that only the state, the 'municipality' or the 'region' in whose territory damage has occurred may claim for 'environmental damages'.

The state, as with every other bureaucracy, does not always have sufficient incentive to act promptly. The statute of 1986 does not provide

[264] Article 18.8 provides: 'Il giudice nella sentenza di condanna, dispone, ove sia possibile, il ripristino dello stato dei luoghi a spese del responsabile.'

[265] Regulations for the Assessment of Damages for Natural Resource Injuries were published by the Department of the Interior (DOI) in 43 CFR §§ 11.10–11.93 (1987).

[266] Article 18.6: 'Il giudice, ove non sia possibile una precisa quantificazione del danno, ne determina l'ammontare in via equitativa, tenendo comunque conto della gravità della colpa individuale, del costo necessario per il ripristino, e del suo profitto conseguito dal trasgressore in conseguenza del suo comportamento lesivo dei beni ambientali.'

any particular incentive to overcome the inertia of the state and of other local authorities. The Italian civil procedure system does not recognise *citizens' suits* as in the United States, where citizen suits provisions were included in nearly every major federal environmental statute, because of a tacit recognition by Congress that the executive branch often lacks either the resources or the will to prosecute polluters.[267]

In Italy, environmental associations may only give 'notice' to the public authorities that damage to the environment has occurred. They do not have the possibility of bringing a legal action.

6. Some final remarks The Italian statute No. 349/86 after a decade in operation, has shown all of its shortcomings. The courts have tried to develop new solutions on the legislative basis of Article 18, often with unpredictable results.[268]

Question (a)

A may be liable to *B* on several grounds. If *A's* activity is a 'dangerous activity' in the sense of Article 2050 Civil Code,[269] then *A* may be considered 'liable for damages, unless he proves that he has taken all suitable measures to avoid the injury'. Specifically, Italian case law has interpreted Article 2050 to hold an industrial plant with polluting activity a 'dangerous activity' *per se*.

If *A* is not carrying out a dangerous activity as required by Article 2050, but is a neighbour of *B* and his polluting effects exceed normal tolerance levels,[270] *B* could sue under Article 844 Civil Code, without proving fault. Article 844 which was inspired by German doctrine and § 906 BGB,[271] states that:

[267] For the United States experience see Tolbert, 'The Public as a Plaintiff: Public Nuisance and Federal Citizen Suits in the Exxon Valdez Litigation', 14 Harv. Env. LR (1990) 511.

[268] See e.g. a recent case annotation: B. Pozzo, 'La retroattività della responsabilità civile per danno ambientale alla ricerca delle ragioni di un obiter della Cassazione', *Foro italiano*, 1998, I, 1143.

[269] Italian Civil Code, hereinafter CC. Article 2050 CC (Liability arising from exercise of dangerous activities) provides: 'Whoever causes injury to another in the performance of an activity dangerous by its nature or by reason of the instrumentalities employed, is liable for damages, unless he proves that he has taken all suitable measures to avoid the injury.'

[270] For the interpretation given to the concept of 'normal tolerability' by Italian case law, see e.g. Procida Mirabelli DI Lauro, 'Immissioni, normale tollerabilità e tutela dell'ambiente', nota a Tribunale di Napoli, 15 February 1988, in Rass.dir.civ. 1990, 903.

[271] See Gambaro, 'Il diritto di proprietà', in *Trattato di Diritto Civile e Commerciale Cicu-Messineo-Mengoni* (Milan, 1995), pp. 496 *et seq*. Visintini, 'Le immissioni nel quadro dei

The owner of land cannot prevent the emission of smoke, heat, fumes, noises, vibrations or similar propagation from the land of a neighbour unless they exceed normal tolerability, with regard to the condition of the sites. In applying this rule, the court shall reconcile the requirements of production with rights of ownership. It can also take account of the priority of given use.

Defendant *A* may have a defence if he has respected all terms and standards settled by the law for the activity in which he is engaged because, if he has complied with regulatory standards, it is presumed that the normal level of tolerance has not been exceeded. Nevertheless, case law has consistently held that, if *B* has suffered a violation of the right to health, protected by the Italian Constitution (Article 32), *A* may be held liable for compensation, even if *A* has respected the standards established by the law for his activity.

Question (b)

According to the interpretation that Italian legal scholars[272] have given to the concept of environmental damage in the sense of Article 18 of statute No. 349/86, minor health damage such as chronic bronchitis, affecting the majority of the people in a community suffering polluting activity, could be included in a broad notion of environmental damage. As such, the state, municipality, or region in whose territory the damage has occurred has standing to claim compensation from *A*. It is suggested by scholars that the state is given standing in such a case because individuals would not have sufficient incentive to seek compensation individually. If no one addresses the problem, the polluter has little incentive to avoid causing small but widespread damages because he will not be obliged to internalise those costs as he would through obligatory compensation. Thus, it is the task of the state to supply the necessary deterrence to polluters.

conflitti di vicinato, II, L'esperienza italiana', Riv.dir.civ., 1975, I, 29 *et seq.*; Salvi, *Le immissioni industriali, rapporti di vicinato e tutela dell'ambiente* (Milan, 1979), pp. 147 *et seq.*; Procida Mirabelli di Lauro, *Immissioni e 'rapporto proprietario'* (Naples, 1984), pp. 97 *et seq.*; Nappi, *Le regole proprietarie e la teoria delle immissioni* (Naples, 1986), pp. 136 *et seq.*

[272] Trimarchi, *Responsabilità civile*, p. 189: 'si può ritenere che nella valutazione del danno ambientale siano da includere quei danni alla salute, di cui è certa l'esistenza in relazione alla collettività complessivamente considerata, ma dei quali i singoli non possano ottenere il risarcimento per la difficoltà di dimostrarne il rapporto causale con fatti specifici.'

The Netherlands

Question (a)

Dutch private law establishes the principle of the accumulation of causes of action, which, in effect, means that more than one cause of action may apply in any given case. Unless it is clear that a more specific rule demands exclusive applicability, a general liability rule such as Article 6:162 Burgerlijk Wetboek[273] may be invoked in addition to any specific liability rule(s) that apply.[274] For a successful general tort claim under Article 6:162 BW, the elements of unlawfulness, relativity, imputability, causality and damage must be proven.

The more specific liability rules as set out in Articles 6:173–178 BW are referred to as qualitative liabilities. To establish liability under Articles 6:173–178 BW, fault does not have to be proven. For example, Article 6:174 BW applies to strict liability damage that occurs from defective buildings or construction. The industrial use of construction ('*opstal*') imposes liability on the person that runs the business (e.g. industrial plant) for damages, unless the damage sustained is not related to the activities in the particular industrial field (Article 6:181 BW). If it can be stated in Case 1 that the smoke, wastewater or noise are connected to *A's* industrial activities in a defective construction, then *A* can be held strictly liable under Article 6:174 BW.

Articles 6:175–178 BW establish strict liability for dangerous substances and pollution of air, water and soil. In accordance with Article 6:175 BW, *A* can be held strictly liable if, at the time of the incident that caused the damage, *A* was using a dangerous 'substance' for professional purposes and was aware of the fact that the substance had certain qualities which would render it a special danger to persons or goods. The term 'substance' has been interpreted in a broader sense than the term 'objects' which is defined in Article 3:2 BW. Unlike an 'object', a 'substance' does not have to be a material thing under human control. In the first part of Article 6:175 BW, the element 'dangerous substance' refers to a significant risk to man and/or property (subsection 1, first sentence). In the second part, the text refers more broadly to characteristics which, in any event, fall within the element of 'dangerous substance' (subsection 1, last sentence). Finally, in the third part, Article 6:175(6) BW refers to a Legislative Decree containing a list of substances which

[273] Dutch Civil Code, hereinafter BW.
[274] Betlem, *Civil Liability for Transfrontier Damage* (1993), p. 299.

are definitively considered to be dangerous.[275] The list is by no means exhaustive, so strict liability may also apply to other substances. According to Parliamentary history, the 'state-of-the-art' principle in the specific industrial field in which *A* operates is important for assessing the dangers of which *A* should have been aware at the time of the pollution.[276] However, to be held strictly liable does not mean that *A* had to be aware of the possible danger of the substance.

Generally, under Dutch tort law, a plaintiff in a tort action may sue for reparation in kind or in money, for a declaration of unlawfulness, and/or an injunction. In Article 6:95 BW, a distinction is made between material and non-material damage. The recoverable damages are limited to these two categories. Article 6:95 BW refers to non-material damage as 'other harm', which can only be recovered if provided for by a specific rule (Article 6:106 BW). Material damage, on the other hand, consists of any loss sustained and/or lost profits (Article 6:96(1) BW). The following may also be considered 'material' damages: the reasonable costs of prevention and limitation of damage, the costs of determining damage, and the costs of establishing liability (Article 6:96(2)(a)–(b) BW). Material damage can consist of damage to property, goods, persons, pure economic loss, or any combination thereof (Article 6:96 BW).

Under Dutch tort law, damage to property is damage resulting from the loss or destruction of a thing, as intended in Article 3:2 BW. This Article states that the thing has to be a material object, under human control. (See above distinction with 'substance' under Article 6:175 BW.) The range of actionable damage to property is incredibly broad. For example, the paintwork of *B's* car could be damaged as a result of air polluted by *A*, or wastewater polluted by *A* could damage *B's* groundwater and soil. Another example might be reduced productivity in *B's* milk cows and their ultimate death as a result of grazing on ground that was polluted by wastewater from *A's* industrial plant.

In principle, the nature of damage is irrelevant when establishing liability. Nevertheless, the different types of damage are dealt with separately under different Articles, as stated above, personal damage is included under the category of material damage. One example would be damage to someone's health as a result of the emission of polluting

[275] See 'Uitvoeringsbesluit aansprakelijkheid gevaarlijke stoffen en milieuverontreiniging', 15 December 1994, Stb 1994, 888.

[276] Explanatory Memorandum, p. 42.

substances into the air (Article 6:107 BW).[277] In addition, if *B* loses his or her job due to personal injury resulting from *A's* polluting activities, then *B's* loss of income will also be recoverable.

In the case of personal injury caused by environmental pollution, as in Question 1(a), Article 6:106(1)(b) BW provides for compensation for non-material loss. The victim is only entitled to an equitably determined reparation of harm other than patrimonial damage. Even in the case of mental health problems caused by polluting activities, for example, *B* has the right to an equitably determined reparation of harm, other than patrimonial damage, if *B* has consequently suffered physical injury, injury to honour or reputation, etc. When determining the value of damages, the judge must take all the circumstances of the case into account, including the way in which the victim has been affected, the nature of the defendant's conduct, the nature of the liability and the economic situation of both the victim and the defendant.[278] The requirement of equity in Article 6:106 BW was further articulated by a judgment of the Netherlands Supreme Court (Hoge Raad) in 1992.[279] The circumstances of a case that must be taken into account are both the nature of the liability and the nature, duration and intensity of the pain, sorrow and/or impairment of enjoyment of property. When estimating damages, the judge may also take into account damages paid in other legal systems for similar kinds of damage.

Although the remedy for personal injury seems quite attractive in theory, in practice, there are some causation difficulties to overcome. One problem with establishing causation in this respect might be prior or concurrent causes of *B's* illness (personal injury). For example, *B* may have lived in an unhealthy environment before exposure to the emission in question, or he could have led an unhealthy lifestyle for a number of years.[280] On the other hand, there are contrary examples where the causation requirement is easily proven. In a nuisance case, a lady was awarded Dfl 15,000 in damages for her physical injuries caused by noise nuisance from an industry located and operated in her neighbourhood.[281]

[277] HR 12 December 1986, NJ, 1987, 958, note CJHB (Poly/Rockwool).
[278] TM and Final Report I, p. 377, Parliamentary History 6, p. 388.
[279] HR 8 July 1992, NJ, 1992, 714 (AMC/O); see also HR 17 November 2000, NJ, 2001, 215 (Druijff/Bouw) and HR 27 April 2001, NJ, 2002, 91.
[280] See Bauw and Brans, *Milieuprivaatrecht* (2003), pp. 227–38.
[281] Rb Roermond 15 August 1991 and 23 July 1992, Milieurechtspraak 1992, No. 30 (Geluidsoverlast te Panningen).

If *A's* polluting activities caused the death of *B*, then Article 6:108 BW provides compensation to a specific group of *B's* relatives for the loss of *B's* income.

Question (b)

In general, professional users or holders of dangerous substances are strictly liable for damage caused by these substances. However, Article 6:178(f) BW offers an exemption from liability under Article 6:175 BW in cases of pollution that are considered to be an 'acceptable inconvenience'.[282] Essentially, the rationale for the exemption is that certain small emissions have to be accepted by society without being considered tortious, regardless of whether the polluter was aware that his or her acts might have damaging effects on the people living in the area.

An example from case law about 'acceptable inconveniences' can be found in the *Voorste Stroom 1* case.[283] The facts were as follows: the water in a small river in the Netherlands had become completely unusable as a consequence of municipal wastewater discharge. The Hoge Raad held that 'some pollution, caused by normal use of the water by the upstream user', should be accepted by the downstream owner. In other words, a basic level of nuisance had to be tolerated by the owners of adjacent property.

In a similar judgment on transboundary water pollution, the Hoge Raad had to decide whether the discharge of saline waste into the River Rhine by French potassium mines was tortious with respect to the downstream user of the River Rhine (in that case, a number of Dutch horticultural firms).[284] This *Mines de Potasse d'Alsace* case was decided under the law of nuisance, and, in particular, the Hoge Raad had to balance the gravity of the nuisance inflicted with the economic interest of the French company and the very specific usage interests of the Dutch defendants downstream. The Hoge Raad held that whether 'a party who discharges substances into a river fails to observe its duty of due care towards those using the river-water downstream depends on the nature, seriousness and duration of the damage caused to the latter and on the other circumstances of the case … [I]n weighing up the respective interests, special significance must be attributed to the

[282] HR 28 April 1995, NJ 1995, 531 (Bijenspat); also, in this respect, see HR 29 October 1993, NJ, 1994, 107 (Hanengekraai).
[283] HR 19 March 1915, NJ, 1915, 691 (Voorste Stroom).
[284] HR 23 September 1988, NJ, 1989, 743, note by JHN/JCS (the MDPA case or Kalimijnen).

interests of the user downstream in that such a user may, in principle, expect that the river is not excessively polluted by large discharges.'[285] In other words, a community may be required to accept discharges into the environment that are not considered to be excessively large.

Another case serves to illustrate this perspective. In the *Van Dam* case,[286] the plaintiff filed suit against a defendant on noise nuisance. The plaintiff primarily claimed enforcement of statutory norms, and his claim was based on the unwritten duty of due care. The Hoge Raad affirmed the verdict of the Court of Appeal (Gerechtshof), and held that, 'even if it should be accepted that the norms used by the plaintiff based on noise-levels are indeed generally accepted in society, not every transgression of these norms, under the given circumstances, will in itself constitute "unlawfulness". To the extent that such allowable peak noise levels are not provided for by a statutory provision or by a licence under the Nuisance Act, their transgression, as such, is insufficient to constitute a tort in relation to those who experience ensuing nuisance; by contrast, the unlawfulness of the nuisance must in addition depend on several criteria which can form a so-called "nuisance formula".'[287] In other words, noise nuisance can sometimes be an 'acceptable inconvenience'.

A general rule may be deduced from the above-mentioned case law. Even if activities carried out by a neighbouring industrial plant cause pollution and a number of people suffer damage to health or property, the damage may not be unlawful, depending on the particular specific circumstances of the case in question, and the community may be required to suffer the nuisance.

Portugal

Introduction

I. The Portuguese system of liability for ecological and environmental harm

1. The general principle that a duty exists to repair ecological and environmental harm[288] is stated by the Constitution of the Portuguese

[285] HR 23 September 1988, NJ, 1989, 743, para. 3.3.2.

[286] HR 9 January 1981, NJ, 1981, 227, note by CJHB (Van Dam/Beukeboom).

[287] HR 9 January 1981, NJ, 1981, 227, para. 12.

[288] By ecological damage (ökologische Schäden) we mean an impairment of the natural heritage that affects its functional ecological capacity and its capacity for human exploitation determined by the environmental law regime. Ecological damage can be included as part of the wider category of damage to the environment, which includes harm not only to ecological assets constituting the environmental heritage (*inter alia*,

Republic (CRP). Specifically, Article 52(3) of the Constitution, under the aegis of the *actio popularis* fundamental right, guarantees the right of the injured party or parties to apply for compensation for damage to the environment. This constitutional norm is now enforced by ordinary domestic law, and is part of the legal regime governing procedural participation and *actio popularis* approved by Law 83/95, of 31 August (LAP). Articles 22 and 23 LAP define instances of liability for harm to the environment.[289]

2. Two of such instances are envisaged. First, there is liability for harm to the environment based on the *fault principle*. Paragraphs (1), (2) and (3) of Article 22 LAP provide that 'for liability for intentional or negligent breach of the interests set out in Article 1, the defendant will be obliged to compensate the injured party or parties for the harm caused'.
3. Secondly, Article 23 LAP creates the obligation to compensate irrespective of fault. This obligation is based on *risk*, and exists whenever the acts or omissions of the defendant are prejudicial to environmental rights or interests and whenever such actions or omissions are part of, or occur as a result of, an *activity* that is *objectively dangerous*.
4. The *responsibility principle* also finds legislative expression in Article 41 of the Base Law on the Environment (LBA). This Article creates the obligation to compensate for 'significant harm caused to the environment, by virtue of an especially dangerous act, notwithstanding the observance of the applicable norms'. To this obligation is added the legal duty to insure against risks inherent in activities involving a 'high degree of risk' for the environment (Article 43 LBA).

   In contrast to the situations envisaged by Articles 22 and 23 LAP, applicable to damage to various types of legally recognised assets protected by the Constitution (for example, the cultural heritage and public health), the type of liability contemplated by the Base Law on the Environment is functionally directed at attributing liability for *damage to the environment* (*ökologische Schäden*), and constitutes the general regime governing compensation for this type of harm in Portuguese law.

air, water and soil) but also to other environmental assets protected by the legal system, such as, for example, the landscape. Portuguese procedures for attributing liability, however, do not appear to distinguish between the two types of damage. Damage to the environment can be distinguished from damage caused by the environment to other legally recognised assets (i.e. environmental damage, *Umweltschäden*). Compensation for such harm, although it gives rise to a set of problems common to the issue of harm to the environment (for example, causality and concurrent attribution of liability), lacks the same axiological justification, and thus it does not give rise to a specific set of problems, such as, for example, the question of how to define the holder of the legal right to compensation, and the specific form of compensation. With regard to this issue, see our text – *Responsabilidade civil por danos ecológicos* [Civil Liability for Ecological Harm] (Coimbra, 1998).

[289] Although such situations in which liability can be found also appear to be applicable to environmental damage.

However, precise criteria on the fixing of the '*quantum of damages*' *for harm to the environment* still await regulation, notwithstanding the fact that the cited Article 51 LBA states that this law should be provided with regulations within a term of one year beginning with its entry into force. For this reason, jurisprudential doubts have been raised as to whether the said norm contained in Article 41 has legal effect.

In the absence of clarification provided by case law, one line of Portuguese jurisprudential thinking contends that, in the part laying down the fundamental requirements for attribution of liability, the norm is *directly applicable*, insofar as this school of thought considers that remission to complementary law applies only to the *quantum of financial compensation*. From this point of view, it is conceded that the financial compensation for harm to the environment shall be fixed by the courts[290] by applying the rules of the Código Civil, specifically, those contained in Articles 509 and 510.[291]

Another line of jurisprudence is inclined to allow liability for ecological harm having as a legal base Article 41(1) LBA, while confining this liability to an obligation to restore the impaired natural assets (Article 48 LBA).

In contrast, it has been suggested of this latter interpretation that the intention of the legislator in expressly remitting the quantification of damages to complementary legislation (Article 41(2) LBA) was to avoid the immediate application of the norm, if only because, in a system of strict liability for environmental harm, the quantification of damages, particularly the fixing of the upper limit thereof, is a crucial issue.[292] All the same, it should be noted that this latter argument has been made obsolete to some extent by the entry into force of Law No. 83/95, of 31 August (LAP), Article 23 of which provides for compensation for harm to the environment based on risk without a special regime for calculating that compensation having been drawn up.

5. If the rule is understood as being in force, it must be concluded that, as concerns the attribution of liability for ecological harm based on risk, there currently exists a potential overlap of norms, as both rules – Article 23 LAP and Article 41 LBA – may theoretically be applicable.

[290] See D. Freitas do Amaral, 'Lei de Bases do Ambiente e Lei das Associações de Defesa do Ambiente' [Base Law on the Environment and Law of the Associations for the Defence of the Environment], in *O direito do ambiente* [Environmental law] (INA, Lisbon, 1994), pp. 371–2.

[291] See V. Pereira da Silva, *Responsabilidade administrativa em matéria de ambiente* [Administrative Liability in Respect of the Environment] (Lisbon, 1997), p. 35.

[292] On this topic, see A. Menezes Cordeiro, 'Tutela do ambiente e direito civil' [Environmental Protection and Civil Law], in *Direito do Ambiente* (INA, Lisbon, 1994), pp. 377 *et seq.*, although published before the entry into force of Article 23 of Law No. 83/95. Adopting the same position, see J. Pereira Reis, *Lei de Bases do Ambiente anotada e comentada* [LBA with Annotations and Commentary] , pp. 88 and 89.

There can be no doubt that in drafting Article 41 the legislator set up a legal regime of *special* strict liability for harm to the environment. For example, this regime in practice confines the obligation to compensate to cases of 'significant' harm, and widens possible attribution of liability to cases in which harm is caused by lawful activities, i.e. those complying with current legislation. We feel that environmental axiology calls for a special configuration of this 'area of liability', and for this reason the legal regime expressed by the special norm laid down in the LBA should take precedence over the legal regime laid down in the LAP.

6. Finally, it should be noted that the legal regime invoked by the instances of liability referred to above, must be complemented by the regime laid down by Article 48 LBA. This Article imposes the obligation to *compensate* for harm to the environment by means of *restoring it to its natural state*, or by means of special compensation in the event of specific compensation not being possible. However, as before, special compensation must be regulated by complementary legislation; for this reason, the part of the norm imposing financial compensation still awaits legislative elaboration.

   Article 48 LBA is applicable to damages for all types of harm to the environment (ecological harm) including that resulting from acts by the state – civil liability on the part of the state for acts of public administration.[293]

7. In addition to the general instances cited of liability for damage done to the environment, the legislator has made provision for *special* liability – i.e. the scope of which is restricted to a specific type of harm. An example of such is Article 73 of Decree-Law 236/98, of 1 August, which incorporates specific rules governing compensation for harm caused to *water quality*.

   Specifically, Article 73 of Decree-Law 236/98 lays down that 'those who, whether intentionally or merely negligently, breach the provisions of this law, causing harm to the environment in general and affecting the quality of the water in particular, shall be obliged to compensate the State for the harm they have caused'.

[293] The norm contained in Article 48 LBA has a dual function. On the one hand, it imposes natural restoration as a form of compensation for ecological damage, and. on the other, it grants jurisdiction to the state to attribute liability to the offending party and to delimit the obligation to pay damages for the ecological harm, comprising an administrative penalty of a *compensatory* nature. In common with other legal systems, Portuguese environmental law allows reparation for harm to the environment to be made by way of two complementary routes: by having recourse either to *jurisdictional protection* or to *administrative protection*. It should be added that, in the event of the infractors' failure to comply with the obligations imposed by the state, the bodies with jurisdiction must order 'the demolition, construction and other work necessary for the restoration of the situation existing prior to the infraction, at the expense of the infractors' (Article 48(2) *in fine*, LBA).

Another example is Article 10 of Decree-Law 348/89, of 12 October, governing activities likely to create risks of exposure to ionising radiation or radioactive contamination. In such a case, liability for harm resulting from use or installation is attributed to the person who has *effective control* of the industrial plant, equipment or material producing the radiation and who uses these in his own interest, irrespective of fault.[294]

8. The norms briefly described here constitute the essence of the Portuguese system of liability for environmental and ecological damage. They were introduced in the 1980s and are part of a near-universal trend towards reintroducing the theme of liability into the evolving set of principles underlying environmental law.

This trend, which has made itself felt on both sides of the Atlantic, articulates, as is well known, a reaction to the crisis in the legal system of command and control which had hitherto been the bedrock of the Environmental Rule of Law. Its *raison d'être* is, *inter alia*, the admission of the already mentioned 'enforcement deficit' implicit in the web of legal-environmental regulations which, besides having other consequences, permits numerous kinds of ecological damage.

An additional justification is the need to promote, through the attribution of ecological harm to the person or persons causing that harm, the internalisation of the social costs accruing from environmental use, thereby contributing to the efficiency of the system and, consequently, to greater environmental protection.

In this context, new possibilities are offered by structures of attribution of liability based on the principles of civil liability but suitable for application to the *specific character* of issues of ecological harm. These structures may lead to normative regimes functionally applied to compensation for harm to the environment and offering *specific responses* to the problems posed by such types of losses. The norms to which we have referred are examples of such responses.

However, in Portugal the (sub)system constituted by the above-mentioned norms appears to be unfinished and imprecise.

[294] Another example of an instance of liability applicable only to one particular type of harm to the environment is to be found in Article 1 of the International Convention on Civil Liability for Harm Due to Pollution by Hydrocarbons, signed in Brussels on 29 November 1969 and approved for ratification by Decree 694/76 of 21 September 1976. In the field of nuclear power, the Convention on Civil Liability signed in Paris on 29 July 1960, approved for ratification by Decree 33/77 of 11 March 1977, also lays down a special regime of strict liability.

In short, the manners of attributing liability that we have described do not provide an adequate response to the basic problems of liability for harm to the environment. Much remains to be resolved: issues linked to establishing the chain of causality, concurrent attribution of liability, delimitation of norms in terms of space and time, access to information and competition between pleas for damages. All these issues continue to be resolved by invoking the general rules of interpretation and application of the Portuguese legal system, considered as a whole.

II. General rules of the system of civil liability

1. Damage caused to persons and property 'by way of' the environment (environmental harm) can be subsumed within 'classical' models of liability. A brief survey of the general rules of the Portuguese system of civil liability is therefore justified.
2. We should note first that the Portuguese legal system adopts, as a general regime, liability based on fault. Article 483(1) of the Código Civil[295] provides that 'whosoever, whether with intent or merely negligently, infringes without lawful excuse another's right or any legal term that protects others' interests, shall be obliged to compensate the injured party for the harm resulting from that infringement'.
3. However, in cases of *dangerous activities*, Article 492(2) Código Civil establishes a presumption of fault on the part of the offending party, which may, however, be rebutted by showing that all possible preventative measures were taken that were demanded in the circumstances.
4. In the case of harm resulting from the control, supply or installation of electricity or gas, legislation provides for a special regime: Article 509 Código Civil lays down a regime of strict liability, attenuated in regard to harm resulting from installation, given that such liability is nullified by proof that the installation work conformed to all the technical requirements in force and was in a perfect state of repair at the time of the accident.
5. Portuguese positive law additionally provides for a special regime of civil liability arising from *restrictions to property imposed by relations of proximity*, to be found in Articles 1346 and (in particular) 1347 Código Civil. This regime is also suited to safeguarding the environmental interests of proprietors and is of immense practical importance in view of the fact that most environmental conflicts settled in the Portuguese courts have their origin in relations between neighbours.

[295] Portuguese Civil Code, hereinafter CC.

The first norm is contained in Article 1346 (based on § 906 of the German BGB). This norm provides that the proprietor of real property may *oppose* given emissions issuing from a neighbouring building whenever such emissions lead to a *substantial loss* in the use of the property or do not result from the *normal use* of the building from which they emanate.

6. Additionally, Article 1347 Código Civil makes it possible for the proprietor to contest work on a neighbouring building or the construction in or adjoining that building of installations or deposits of substances that are corrosive or otherwise dangerous, when there is a risk that such substances may have harmful effects on the proprietor's property that are prohibited by law. It would thus appear that this rule does not require the actual occurrence of harm but merely the possibility (risk) of harm. It therefore constitutes a *preventative restriction*.

Whenever the works, installations or deposits are authorised by the state authorities, or whenever the special conditions laid down by law for their construction and maintenance have been complied with, the risk of harm is understood to be substantially reduced, making prohibition of these activities impossible (Article 1347/2). However, when harm results from the authorised activity, it appears that the proprietor may request that the respective installations be shut down, and may call for corresponding damages irrespective of fault (Article 1347/3 CC).

Question (a)

I. Damage to property

Because *B* has suffered loss of or damage to property, *B* has a claim under Article 1346 and 1347 CC (neighbour law, *Nachbarrecht*).[296] Under Article 1347 CC, *B* may seek compensation for damages, without proving fault. Under Article 1346 CC, on the other hand, *B* may only seek an injunction against *A's* conduct if *B* is the owner or authorised occupant of an adjoining property (i.e. a neighbour). However, Portuguese jurisprudence has interpreted the concept of adjoining property broadly, requiring only juridical vicinity and not a physically contiguous position.[297] Thus, *B* should be considered a neighbour if his land could be affected by emissions coming from *A's* land, even if the two properties

[296] See the introduction above.

[297] Menezes Cordeiro, *Direitos Reais* (Lisboa, 1999), p. 425; H. Mesquita, *Direitos Reais* (Coimbra 1967); C. Mota Pinto, *Direitos Reais* (Coimbra, 1976); and Pires de Lima and Antunes Varela, *Código Civil Anotado*, Vol. III, p. 160 (requiring physical proximity).

were located at a distance from each other. Beyond standing, there must also be a significant impairment to *B's* property caused by emissions from *A's* land. Under Article 1346 CC, the impairment is considered significant when it exceeds the legal standards set by public law, though there is no specific explanation on this point. However, a significant impairment may exist where regulatory standards are not exceeded, depending on the local circumstances and use of the property emitting the pollution. If the use of the property is not normal under local standards, it can be prevented, regardless of the level of impairment,[298] but only if the preventative measures are reasonable. If *B* cannot prove a claim under Article 1346 CC, *B* must tolerate the emissions coming from his neighbour.

II. Personal injury or loss of life

Plaintiff *B's* personal injury or death could qualify an impairment to property as 'significant' under Article 1346 CC. However, such damages could not be compensated under Article 1346 CC. Rather, personal injury and loss of life damages must be claimed under Article 23 LAP.

III. Environmental damage

If *A's* industrial activity is objectively dangerous, *B* may have a claim under Article 23 LAP.[299] However, the LAP does not define the concept of 'dangerous' used in Article 23 LAP, nor does it provide a list of dangerous activities. Article 41 LBA will not be satisfied because there is no significant damage to the environment (ecological damage).

Question (b)

I. Property damage

A claim under Articles 1346 or 1347 CC could be filed by the affected property owners or authorised users, according to the requirements mentioned above (Question 1(a)). However, only damages to property are compensable under these Articles.

II. Environmental damage

Damages to health and property could be compensated under Article 23 LAP, if the industry is objectively dangerous. The LAP also has a special regime for class actions.

[298] *Ibid.*, p. 160; Cunhal Sendim, *Reponsabilidade*. [299] See introduction above.

Scotland

Question (a)

A is not liable to *B*.

Civil liability for damage caused by pollution may be found under the general law of delict or the law of nuisance. However, in both cases, fault must be established if a claim in damages is to be made.[300] There is no basis for strict liability at common law: the *Rylands* v. *Fletcher* rule, insofar as it still has a shadowy existence under English law, does not apply in Scotland.[301] Statutory strict liability arises only in very specific circumstances (e.g. as provided by the Nuclear Installations Act 1965, governing injury or damage suffered following emissions of radiation from nuclear installations). No statute applies to the situation in Question 1(a). However, while the ambit of strict liability is narrow, devices such as heightened duty of care or reversal of the burden of proof may be used to produce results, which, although fault-based, differ little in function from strict liability.

A distinction should be drawn here between those cases in which *B* sues for damages in respect of a one-time incident, requiring establishment of fault, and those cases in which *B* sues for interdict/injunction to prohibit an ongoing nuisance. Proof of fault is not required for an interdict. Instead, the court will attempt to balance the interests of the parties to determine whether the harm suffered is *plus quam tolerabile* from the plaintiff's point of view.[302] Moreover, if the consequences of an ongoing nuisance are drawn to the attention of the offending plant-owner, but he or she takes no subsequent action to mitigate the consequences, his or her omission may be argued as proof of fault, in that the nuisance has become intentional.

Although Question 1(a) deals with private, civil litigation, it should be noted that common law actions are also supplemented by sections 79–82 of the Environmental Protection Act 1990 (extended to Scotland by Schedule 17 of the Environment Act 1995), which provides that certain types of pollution may constitute a statutory nuisance. If the person responsible does not abate the nuisance when required to do so by the local authority, he or she may be criminally liable. It is also possible

[300] *RHM Bakeries (Scotland) Ltd* v. *Strathclyde Regional Council*, 1985 SC (HL) 17.

[301] *RHM Bakeries (Scotland) Ltd* v. *Strathclyde Regional Council*, 1985 SC (HL) 17 *per* Lord Fraser at 41. The suggestion that the *Ryland* v. *Fletcher* rule might form part of Scots law was described as 'a heresy which ought to be extirpated'.

[302] *Watt* v. *Jamieson*, 1954 SC 56.

for a person who has suffered from the nuisance to commence proceedings in the local court to force its abatement.

In principle, the nature of the interest harmed has no bearing upon the issue of liability. Thus, if fault cannot be established, *A* is not liable.

Question (a)

Again, liability in Scotland is based upon fault. In order to establish that *A* is liable, those who have suffered loss will be required to show that their damages were directly caused by *A's* failure to comply with a legally required standard of care, where the harm was reasonably foreseeable. If they cannot establish fault on these facts, their claim will fail. Thus, if the damage/injury was the unforeseeable consequence of a one-time incident, there will be no liability. On the other hand, if the pollution is ongoing and within *A's* control, the affected parties may argue that *A's* failure to take measures to prevent such damage indicates fault.

Spain

Question (a)

Due to the lack of special legislation on nuisance at the national level, claims under nuisance rely primarily on general doctrines of tort law and abuse of rights. The following discussion will leave aside the abuse of rights aspect and focus only on tort law, concentrating on private civil remedies.

Proof of fault is the basic requirement to establish tort liability in general. According to Article 1902 Código Civil,[303] 'the person who by action or omission causes damage to another, with the intervention of fault or negligence, is obliged to repair the damage caused'.[304]

There are several qualifications to this rule, however. First, a different provision (Article 1908.2 CC) refers to liability for damage to persons or things caused by toxic fumes. This is one of the few cases of strict liability to be found in the Código Civil. Pursuant to this provision, the owner is liable. The operator of the industrial plant could not be held liable under this Article, unless he is also an owner.

The second qualification to Article 1902 CC is found in case law. Spanish courts consistently state that fault liability, as established by

[303] Spanish Civil Code, hereinafter CC.

[304] The Article states: 'El que por acción u omisión causa daño a otro, interviniendo culpa o negligencia, está obligado a reparar el daño causado.'

Article 1902 CC, is still the basic principle of liability. However, their decisions have evolved to what has been called an 'objectivisation' of fault liability, by use of different technical devices, such as: (a) requiring a higher standard of care in certain activities; (b) extending the scope of fault to embrace also the slightest negligence (*culpa levissima*); (c) considering that compliance with administrative regulations is insufficient to show the required standard of care;[305] or (d) systematically reversing the burden of proof of fault.[306] In addition, some authors have stated that the courts undertake extensive construction of the factual elements of some strict liability provisions, Article 1908.2 CC being among them.[307] Because of these developments, environmental liability is very close in practice to strict liability. Illustrations are abundant. For example, STS 30.10.1963,[308] relying upon previous case law, stated that, 'when the precautions adopted in accordance to the legal provisions to prevent foreseeable and avoidable damages from occurring have been unsuccessful, this reveals that they were insufficient and that there still was something that should have been foreseen'.[309] Legal doctrine supports this 'objectivisation' on the basis that it is desirable from the point of view of the protection of the environment and is more in conformity with the 'polluter pays' principle.[310]

The third and final qualification to Article 1902 CC refers to personal harm caused by noise. An interesting development seems to have taken place. In the case decided by STS 29.4.2003,[311] the claimant sued the operator of a neighbouring industrial facility for damages because of

[305] E.g. decision of the (Tribunal Supremo, STS) 7.4.1997 [RJ 1997/2743].

[306] See Miquel Martín-Casals, Jordi Ribot and Josep Solé Feliu, 'Spain', in Bernard A. Koch and Helmut Koziol (eds.), *Unification of Tort Law: Strict Liability* (The Hague/London/Boston, Kluwer Law International, 2002), pp. 281–321, at pp. 281–2.

[307] See Miquel Martín Casals, Jordi Ribot and Josep Solé Feliu, 'Compensation for Personal Injury in Spain', in Bernard A. Koch and Helmut Koziol (eds.), *Compensation for Personal Injury in a Comparative Perspective* (The Hague/London/Boston, Kluwer Law International, 2003), pp. 238–92, at p. 251. Cf. also, favouring that extension, Agustín Viguri Perea, 'La responsabilidad en material medioambiental: el seguro ambiental', in Comité Econòmic i Social de la Comunitat Valenciana, *V Conferencias sobre el Medio Ambiente. Medio Ambiente y Empresa* (Valencia, 2002), www.ces-cv.es, pp. 25–48, at p. 28; Jaime Santos Briz, *La responsabilidad civil. Temas actuales* (Madrid, Montecorvo, 2001), p. 89; and Clemente Auger Liñán, 'Problemática de la responsabilidad civil en materia ambiental', *Poder Judicial*1988 Especial IV, pp. 111–23, at p. 116.

[308] RJ 1963/4321.

[309] See also STS 24.5.1993 [RJ 1993/3727].

[310] See Antonio Cabanillas Sánchez, 'La responsabilidad por inmisiones industriales', ADC, 1993, pp. 1957–94, at p. 1974.

[311] Actualidad Civil 2003/524.

the noise it caused, and also sued the municipality for having failed to take any steps to stop it. The noise was produced by municipally authorised loading and unloading of trucks throughout the day and night. The Tribunal Supremo (Spanish Supreme Court) relied upon the well-known decision of the ECtHR in the case of *López Ostra* v. Spain[312] and its interpretation of the concept of domicile under the Convention, to state that excessive and persistent noise violates a claimant's right to privacy, despite the fact that the activity giving rise to the noise was legally authorised. According to the Tribunal Supremo, fundamental rights have an expansive force, so they are not limited to the specific parameters provided for by the legislature. Further, protection of privacy is not limited to prevention of the unauthorised divulging of private information or penetration into the area where private life is developed. (Not even the Noise Act 2003[313] is this broad, since it only governs administrative nuisance law.) This decision broke new ground, since it expanded the constitutional protection of private life[314] to cover nuisance disputes such as that in STS 29.4.2003. The Civil Chamber of the Tribunal Supremo followed the reasoning of the Criminal Chamber, which – after quoting *López Ostra* – stated in another decision that noise is a form of environmental pollution which negatively affects constitutional rights, including the rights to physical and moral integrity (Article 15 CE), privacy, and domicile by hindering free development of personality.[315]

Constitutional arguments have not always been so fruitful. The Tribunal Constitucional (TC, Constitutional Court), in an earlier case, determined that no invasion of privacy had taken place where the claimant had not produced any evidence as to the noise level of the nuisance in her home, and had not satisfied her burden of proof as to causation between the noise and the alleged deterioration of her health condition.[316] Moreover, some scholars have objected to the Supreme Court's decision: '[T]he protection of the constitutional human rights

[312] Decision of 9 December 1994. On the case, see Luis Jimena Quesada and Beatriz S. Tomás Mallén, 'El derecho al medio ambiente en el marco del Convenio Europeo de Derechos Humanos', RGD, 618, 1996, pp. 2135–60; Juan A. Carrillo Donaire and Roberto Galán Vioque, '¿Hacia un derecho fundamental a un medio ambiente adecuado?', REDA, 1995, pp. 271–85.

[313] Ley 37/2003, de 17 noviembre, *del ruido* (BOE No. 276, 18.11.2003).

[314] Article 18 of the Spanish Constitution (CE).

[315] STS 2a 29.4.2003 [RJ 2003/3041].

[316] STC 119/2001, 24.5.2001 [RTC 2001/119].

is not a good way to get reparation of environmental damages.'[317] Nevertheless, a later decision of the Tribunal Constitucional – taken in the light of *López Ostra* – in 2004 has probably paved the way for a more extensive development in this direction in Spain.[318]

A Draft Bill (hereinafter Draft), prepared by the Spanish government in 1997, should be mentioned here, as it addresses civil liability flowing from activities with environmental impact.[319] In fact, the Draft was neither presented to Parliament nor officially published, but it was 'officially' presented by the Minister of the Environment during a conference in Barcelona on 24 November 1999.[320] Since then, it has been the object of some doctrinal debate because of its innovative character in contrast to existing Spanish law. The Draft is based on the 'polluter pays' principle and it is said to adapt Spanish law to the Lugano Convention of 21 June 1993 on Civil Liability for Damage Resulting from Activities Dangerous to the Environment even though Spain has not yet signed that Convention.[321] The Draft establishes a strict liability rule (Article 3.1) applicable to those who cause damage to the environment 'while developing activities with environmental impact' (Article 1.1). The 'activities' contemplated in the Draft were to be enumerated in an annex thereto. Activities not listed in the annex would fall under the general fault liability regime. Finally, the Draft sets a liability cap at 15 billion pesetas (€90 million) and requires insurance coverage. The Spanish government shelved the Draft, due to parallel legislative endeavours at the EU level to draft the 2004 Environmental Liability Directive.[322]

There are no special rules in Spanish environmental law concerning the elements for liability for personal injury and/or loss of life.

[317] See María Paz García Rubio and Javier Lete, 'Spain', in Helmut Koziol and Barbara Steininger (eds.), *European Tort Law 2001* (Vienna and New York, Springer 2002), p. 418, although without any further argumentation.

[318] STC 16/2004, 23.2.2004 [RTC 2004/16].

[319] *Anteproyecto de ley de responsabilidad civil derivada de actividades con incidencia ambiental.*

[320] See *Información de Medio Ambiente* No. 46, 1996, p. 6.

[321] A different source of inspiration is the German Umwelthaftungsgesetz. See Pedro Poveda Gómez and Carlos Vázquez Cobos, 'La reparación de los daños ambientales. Estudio comparativo entre el Anteproyecto de Ley de responsabilidad civil derivada de actividades con incidencia ambiental y el Libro Blanco de la Comisión Europea sobre reparación medioambiental', *Noticias UE*2001, No. 193, 59–72, p. 68; Pedro Poveda Gómez, 'La reparación de los daños ambientales mediante instrumentos de responsabilidad civil', *Información de Medio Ambiente* No. 68, p. 2.

[322] The Directive has been incorporated into Spanish law by Ley 26/2007, de 23 octobre, de responsabilidad medioambiental (BOE no. 255, 24 October 2007).

Article 1908.2 CC refers to damage to both persons and property, and legal doctrine understands that liability arises equally from both.[323] However, in practice, most claims in the environmental context are brought for damage to property.[324]

Finally, the Catalonian regional nuisance law system should be noted in any discussion of environmental tort law in Spain, as it differs in some aspects from the Spanish Código Civil, as constructed by the courts. The Catalan Nuisance Act [LANISRV][325] provides not only legal regulation of injunctive relief (*acció de cessació*) but also of a type of compensation action (*acció d'indemnització*, Article 2.2) which is considered independent of Article 1902 CC and therefore does not require proof of fault.[326] Under the Act, a property owner is obliged to tolerate a nuisance which is innocuous or which causes minimal harm (Article 3.2). The property owner has no remedy, including in tort, in such a case. Also under the Act, a property owner affected by nuisance coming from a neighbouring property must tolerate a nuisance which causes substantial losses if (i) the losses are a result of the normal use of the neighbouring land, according to the local custom, and (ii) putting an end to the activity producing the nuisance would entail disproportionate financial costs to the defendant. Nevertheless, in the latter case of substantial harm, the plaintiff owner is permitted to take measures to mitigate the harm, and compensation for these measures will be paid by the neighbouring owner (Article 3.3). The plaintiff owner also has the right to compensation for past harm, and for harm which could occur in the future if the nuisance disproportionately affects the productivity

[323] See Joan Egea Fernández, 'Relaciones de vecindad, desarrollo industrial y medio ambiente', in José Esteve Pardo, *Derecho del medio ambiente y Administración local* (Madrid, Civitas, 1996), pp. 63–97, at p. 86, and Mª del Carmen Sánchez-Friera González, *La responsabilidad civil del empresario por deterioro del medio ambiente* (Barcelona, J. M. Bosch, 1994), p. 97.

[324] See Antonio Cabanillas Sánchez, 'La responsabilidad por daños ambientales según la jurisprudencia civil', in Área de Derecho Civil de la Facultad de Derecho de la Universidad de Zaragoza, *Estudios de Derecho civil en homenaje al Profesor Dr José Luis Lacruz Berdejo*, I, (Barcelona, J. M. Bosch, 1992), pp. 191–218, at pp. 196–7; R. Huerta Huerta and C. Huerta Izar de la Fuente, *Tratado de Derecho ambiental*, II (Barcelona, Bosch, 2000), pp. 1051–2.

[325] Llei 13/1990, *de 9 de juliol, de l'acció negatòria, les immissions, les servituds i les relacions de veïnatge*, DOGC No. 1319, 18 July 1990. These rules are now incorporated into the Catalan Civil Code (Articles 546-13 and 14): Llei 5/2006, DOGC No. 4640, 24 May 2006.

[326] The limitation period would also be longer under the LANISRV (five years: Article 2.5) than under the Spanish Código Civil (one year: Articles 1902 and 1968.2). See Joan Egea Fernández, *Acción negatòria, inmisiones y defensa de la propiedad* (Madrid, Marcial Pons, 1994), pp. 56–8 and 191.

of the land or its normal use according to the local custom (Article 3.4). In this Act, Catalan law imports the German criterion of 'normal use according to the local custom' (*ortsübliche Benutzung*) established by the BGB (§ 906).

Liability in Question 1(a) is clearly affected by looking to the Catalan Act. The plaintiff/victim *B* has less protection under Catalan law than under Spanish 'common law'. Legal doctrine has sharply criticised the provisions of the Catalan law, being of the opinion that a plaintiff should be entitled to claim compensation, at the least, for substantial damage to health.[327] On the other hand, it should be noted that a claim for compensation does not depend on the fact that the plaintiff has a property interest in the land, since the property interest is taken into account by the legislature only in defining standing for injunctive relief.[328]

Question (b)

It is commonly accepted that victims of environmental torts behave rationally, though apparently apathetic to their harm. Incentives for suing polluters are scarce because of the many hurdles of tort litigation, including proof of causation. Moreover, since all Spaniards and foreign citizens in Spain are entitled to health protection and care under a social security scheme, victims do not usually bring a claim against tortfeasors for personal injuries caused by pollution. Nothing prevents them from doing so, however, since social security allowances and services do not, in theory, replace tort liability.[329] Nevertheless, it is unlikely that victims would sue in court to claim compensation for minor damage, in spite of the fact that there is no requirement that his damage be distinguished in some way from that sustained by other members of the general public.

A relevant but distinct issue under Question 1(b) is whether damage must reach at a certain level of severity in order to establish liability. Pursuant to Article 1908 CC, strict liability for damage caused by fumes can be imposed only if the fumes are 'excessive', without further statutory

[327] See the convincing remarks by Egea in Esteve, *Derecho del medio ambiente*, pp. 89–90; Egea, *Acción negatòria*, pp. 119–20; later, see also Mª del Rosario Díaz Romero, *La protección jurídico-civil de la propiedad frente a las inmisiones* (Madrid, Civitas, 2003), pp. 107 and 119.

[328] See again Egea, *Acción negatòria*, p. 117.

[329] See Martín, Ribot and Solé, in Koch and Koziol, *Compensation*, p. 238.

articulation of this standard. Another provision, Article 590.1 CC, has sometimes been interpreted to establish a threshold of tolerability, below which there would be no liability. Article 590.1 CC prohibits construction of a well, sewer, aqueduct, furnace, forge, chimney or stable, the storage of corrosive substances, the use of vapour-powered installations or the operation of dangerous or noxious factories, if the applicable regulations and local customs regarding safe distances are violated. If there is no violation, therefore, minor damage to property could be considered tolerable and the damage left uncompensated. Some scholars have suggested that liability should not attach only where the damage was 'irrelevant', but, in unclear cases, the protection of the environment should prevail.[330]

On the basis of these views, there seems to be no clear operative criterion for when to establish liability. The concept of 'irrelevant damages' for exemption to liability seems too vague, as is 'protection of the environment' as a default principle, which would rule out the tolerability principles in Spanish neighbour law. Moreover, Article 1908 CC is also vague, neither clarifying which standard determines 'excessive' fumes, nor stating any distinction for minor damage. Generally, it seems the criteria that apply in the field of neighbour law, such as obligatory tolerance and standards based on local circumstances, do not govern liability in tort under Article 1908 CC,[331] and there is no clear alternative criterion. The Tribunal Supremo pointed out that it is possible for the environment to suffer from a general disturbance affecting the public interest without amounting to damage to specific individuals.[332] Nevertheless, in tort, individuals would be permitted to bring a claim if they were to suffer specific damage.[333] This multiple-standards problem is dealt with by the Catalan law, as described above. The Draft Bill would also have excluded liability for insignificant damage, or damage to property considered reasonable and acceptable

[330] So e.g. Carlos de Miguel Perales, 'La responsabilidad civil por daños al medio ambiente', in SEAIDA, *Estudios sobre la responsabilidad civil medioambiental y su aseguramiento* (Madrid, MAPFRE, 1997), 63–97, p. 73; Carlos de Miguel Perales, *Derecho español del medio ambiente* (2nd edn, Madrid, Civitas, 2002), p. 344.

[331] See Mª del Rosario Díaz Romero, 'La acción negatoria frente a inmisiones en el derecho de propiedad', in Antonio Cabanillas *et al.*, *Estudios jurídicos en homenaje al Profesor Luis Díez-Picazo*, III (Madrid, Thompson-Civitas, 2003), pp. 3699–719, at p. 3718.

[332] STS 12.12.1980 [RJ 1980/4747].

[333] See Ricardo de Ángel Yágüez, 'La responsabilidad por los desastres ecológicos. Reflexiones de carácter general', BIMJ, 1991, pp. 2773–8 and 2889–903, at p. 2782.

according to local circumstances (Article 4). In summary, damage does not need to reach any precise threshold of seriousness under Spanish environmental liability law.

Procedurally, it has often been argued that a class action mechanism could improve the situation of environmental tort plaintiffs.[334] The class action would aggregate the damage of a group of victims and allow them to recover a substantial sum in damages, thus solving the problem of rational apathy. In Spain, certain collective actions exist in the field of consumer law. For instance, plaintiffs successfully brought a class action in the famous rapeseed oil case.[335] In that case, an association of consumers (Organización de Consumidores y Usuarios) was given standing to sue, not only for damage to its members, but also for damages to other consumers probably affected, but not present before the court.[336] It is doubtful whether this kind of action could also be employed for protecting environmental interests, or, indeed, whether class actions can really work properly in the Spanish legal environment. It is well known that one of the reasons why class actions are used in the United States is that the attorney fees of the winner of a trial are not a separate category of damages, so these fees are paid out of the moneys recovered as compensation in damages. In contrast, the loser in Spanish courts has to pay attorney fees when the court rejects all of his or her claims (Spanish Civil Procedure Act).[337] It seems rather unlikely, then, that class actions, like those in the US, will achieve legal recognition in a system such as Spain's, if winning a case does not entail a right to recover fees from the opposing party.

[334] Among others, Ana Crespo Hernández, *La responsabilidad civil derivada de la contaminación transfronteriza ante la jurisdicción estatal* (Madrid, Eurolex, 1999), p. 58; Agustín Viguri Perea, 'Las acciones de defensa de intereses colectivos desde la perspectiva del medio ambiente', in Gerardo Ruiz-Rico (coord.), *Derecho comparado del medio ambiente y de los espacios naturales protegidos* (Granada, Comares, 2000), pp. 39–53, at p. 40; Joaquín Huelin Martínez de Velasco, 'La protección jurisdiccional del medio ambiente', in José L. Requero Ibáñez, *Protección administrativa del medio ambiente* (Madrid, CGPJ, 1994), pp. 207–33, at p. 219; Eulalia Moreno Trujillo, *La protección jurídico-privada del medio ambiente y la responsabilidad por su deterioro* (Barcelona, J. M. Bosch, 1991), p. 286; Carlos de Miguel Perales, *La responsabilidad civil por daños al medio ambiente* (2nd edn, Madrid, Civitas, 1997), p. 319.

[335] STS Sala 2a, 26.9.1997 [RJ 1997/6366].

[336] Cf. Juan José Marín López, *Daños por productos: estado de la cuestión* (Madrid, Civitas, 2001), p. 170.

[337] Article 394 of Ley 1/2000, de 7 de enero, de Enjuiciamiento Civil (LEC).

Sweden

Question (a)

The issues in Question 1(a) (and the remainder of the questions in this study) are primarily regulated by the basic Environmental Code.[338] The Code came into force on 1 January 1999. Chapter 32, specifically, contains the rules on strict civil liability, and is based on the previous Environmental Damages Act of 1986. Chapter 32 is also supplemented by the regulation of administrative liability in Chapter 10, which is partly new and partly based on rules and case law from the previous Environmental Protection Act of 1969. The first two chapters of the Code provide a new format for the interpretation of environmental law in Sweden. The status of the previous relevant case law is therefore still somewhat uncertain, although the statutory language has only been changed to a minor extent. Finally, the Code is supplemented by the rule of negligence under the general Tort Law Act,[339] which concerns both public and private actions.

The civil environmental liability scheme in Sweden concerns the use of real property, which causes certain disturbances to the 'surroundings'. Under Chapter 32 of the Environmental Code, the operator, *A*, is held strictly liable to *B* for personal injury including loss of life, property damage, and substantial pure economic loss, provided the loss or damage exceeds what must reasonably be tolerated (Chapter 32 § 1). Generally, *A* is liable for damage caused by 'disturbance', such as surface water or ground water pollution, alteration of ground water level, air pollution, contamination of land, noise, vibration, or similar disturbance (e.g. emissions from smoke, soot or germs).[340]

Plaintiff *B* is required to establish that a disturbance exceeds the level of 'reasonable tolerance' as an element of the tort. This required level of tolerance is based on local circumstances or the general occurrence of similar disturbances under comparable conditions.[341] Under the 'reasonability rule', therefore, common pollution in industrial areas will not be likely to exceed the level of tolerance. Where the factual question

[338] Sw: Miljöbalken (1998:808). [339] Sw: Skadeståndslagen (1972:207).
[340] Environmental Code, Ch. 32 § 3.
[341] Environmental Code, Ch. 32 § 1, para. 3. Note that the analysis is focused on disturbance as a source of damage, not on judging whether the effect has to be accepted or not: see the Governmental Bill to the Environmental Damages Act, 1985/86:83, p. 41, and M.-L. Larsson, *The Law of Environmental Damage – Liability and Reparation* (1999), p. 294.

of the level of tolerance appears, such as by a defence to liability, the burden of proof is shifted to *A*.[342]

If *B* fails to prove a disturbance above the level of tolerance, he must instead establish fault in order to be able to recover any compensation. In such a case, the general Tort Law Act applies, and the activity causing damage or loss is subject to general fault rules.[343]

Question (b)

The Swedish civil liability system currently recognises only individual claims. If each individual plaintiff in Question 1(b) can establish damage exceeding the level of tolerance, an action based on strict liability is possible. Otherwise, the rule of negligence might be available for each of the affected persons.

However, in 2003, a new rule on class actions was introduced.[344] This provision includes claims in liability and provides for a composite action built on many small claims, be they personal injury or property damage. The rule is a novelty in Swedish law, so it is impossible to suggest its application at this stage.

[342] For general comments on the scheme, see J. Hellner, *Skadeståndsrätt* (6th edn, 2000), pp. 333–57, and Larsson, *The Law of Environmental Damage*, pp. 268–302. For case law discussing the level of tolerance, see e.g. NJA (Supreme Court case) 1975 s 155, 1977 s 424, 1988 s 376 and 1992 s 896.

[343] See the Tort Law Act, Ch. 2 § 1.

[344] Environmental Code Ch. 32 § 13.

Case 2 Sudden incident

A runs an industrial plant that has no adverse effects on the environment, but poses an imminent threat to the environment in case of a breakdown. Due to a breakdown, *B* suffers loss of, or damage to, property. Fault cannot be established.

a) Is *A* liable to *B*? Would there be any difference if *B* had suffered loss of life or personal injury?
b) What would liability be like if the polluting effects cause minor health and/or property damage to the majority of the people living in the community?
c) Is *A* liable to *B* if the damage was caused by unusual circumstances, such as an act of war, hostilities, civil war, insurrection or a natural disaster?
d) Is *A* liable to *B* if the damage was caused by an act done by a third party with the intent to cause damage?
e) Is *A* liable to *B* if the damage resulted necessarily from compliance with a specific order or compulsory measure of a public authority?
f) Is *A* liable to *B* if *B* has, by his own fault, contributed to the damage?

Comparative remarks

1. Comparison

a) Sudden incident

In most countries (Austria, Belgium, Finland, France, Italy, the Netherlands, Portugal, Scotland, Spain and Sweden), the outcome is the same, whether damage is caused by a sudden incident due to a breakdown or by continuous interference. In Germany, however, the victim cannot rely on § 906 BGB and § 22(1) WHG, which relate to continuous interference only. Fault liability will apply, and, if the damage was caused by an installation enumerated in Annex 1, then the

victim can also rely on strict liability under the UmweltHG. With regard to water pollution, only § 22(2) WHG will apply, which requires that the pollution be caused by an installation. In England, the situation is similar. An action in private nuisance would not be available, but rather strict liability under the rule in *Rylands* v. *Fletcher* would be used instead. With regard to sudden incidents, thus, the rule in *Rylands* v. *Fletcher* complements liability in nuisance. This claim, however, will only apply when the operator of the activity was able to foresee the risk of causing such damage during site operation. In Ireland, nuisance is not restricted to continuous interference. Thus, when damage arises from a sudden incident, the victim will not be restricted in the choice of legal remedies. From a practical point of view, the victim will usually claim on the basis of negligence, as awards of damages in negligence tend to be higher than in nuisance.

b) Defences

With regard to the actions available in strict liability, several defences may apply. Although the phrasing used by the various jurisdictions is quite different, the outcome is rather similar. The Austrian statutes providing for strict liability usually list the different types of occurrences that will relieve liability, or they will apply the concept of *force majeure*. This defence comprises acts of war, hostilities, armed conflict, civil war, insurrection and natural disaster of an unforeseeable character, similar to the tradition in French, German, Greek, Portuguese and Spanish law. In France, however, the victim will be compensated by a special state fund if the damage was caused by *force majeure*. The Dutch Burgerlijk Wetbook provides for this defence in Article 6:178(a) and (b) with regard to liability for dangerous substances according to Articles 6:175, 176 or 177 Burgerlijk Wetboek. In Finland, the Environmental Damages Act of 1995, which regulates liability for a polluting interference, does not contain a comparable provision. The defence of *force majeure*, however, is part of the general rules of tort law. In the opinion of the reporter, courts will, therefore, be inclined to deny liability in case of *force majeure*. In Sweden, the situation is somewhat similar. Although the Swedish special liability statute does not provide for a defence in cases of *force majeure*, it is possible that courts will apply this defence when such a case is brought before the courts.

In English, Irish and Scots law, such occurrences are regarded as 'acts of God' or 'acts of a stranger', which, corresponding to *force majeure*, comprise events that cannot be prevented by human foresight, and,

therefore, cannot be attributed to the defendant. In Ireland, the Air Pollution and Water Pollution Act do not explicitly provide for such a defence, yet the reporter is of the opinion that courts will be inclined to apply such a doctrine. The Irish reporter also pointed out that the defence, although not directly applicable, may even be available under a cause of action for trespass.

In Italy, the defence of *force majeure* is provided for by Article 1218 Codice Civile only for contractual relationships. In torts, occurrences like acts of war, hostilities, civil war, insurrection and natural disaster are dealt with under the doctrine of causation. They may constitute '*fatti interruptivi*', which means that the occurrence is regarded as interrupting the causal connection between the damage and the act of the defendant. This doctrine was originally established with regard to the regulations of the Penal Code dealing with the prerequisite of causation, but it is now also applied to tort law. Liability, therefore, will be denied because of a lack of causation. The same applies under Belgian law. Thus, under the theory of strict liability of the custodian of a thing (Article 1384 § 1 Burgerlijk Wetboek) in case of war, hostilities, civil war, insurrection or natural disaster, the mere use of the premises from which pollution emanated will not amount to a necessary condition according to the principle of equivalence, which is the prevailing theory of causation.

Most reporters stress that the acceptance of a *force majeure*-like defence varies with the amount of risk posed by the relevant activity and the availability of preventive measures to the defendant. Only the most extreme and unpredictable occurrences will amount to a defence. The burden of proof usually lies with the defendant.

The same applies to an act done with the intent to cause damage by a *third party*. In most countries, this may serve as a defence for the operator of a dangerous activity, provided that the operator was not obliged to prevent the occurrence of such damage (Austria, Finland, Ireland, the Netherlands, Spain and Sweden). In France, however, the act of a third party is usually not a defence in cases of strict liability. German law does not explicitly provide for this defence, either. Relief of liability under § 22 WHG and § 1 UmweltHG, therefore, will depend on whether the act of the third person amounts to an act of *force majeure* with regard to the operator. An act of sabotage will usually not fulfil this requirement, because such acts are foreseeable and can be prevented by the operator. This analysis is shared by the Portuguese reporter with regard to liability according to Article 23 LAP. English and Irish law deal with this

problem through the doctrine of the 'act of a stranger', which will serve as a defence when a third person deliberately causes damage to another, given that the act could not be foreseen or prevented by the operator. In Italy, relief of liability will be granted to the operator under the doctrine of interruption of the causal link. According to Belgian law, the intentional act of a third person will not amount to a defence under the theory of strict liability of the custodian of a thing (Article 1384 § 1 Burgerlijk Wetboek). In Scotland, where strict liability for dangerous activities is not provided, the question of exemption from liability due to the acts of third persons is, consequently, only discussed under fault principles. But, as the Scottish reporter pointed out, even under fault-based liability, a defendant can be liable for damage caused by the intentional behaviour of a third party on condition that he or she was under a duty to prevent the damage.

If harm is caused because of a specific *order or compulsory measure of a public authority*, the defendant will be exonerated in most European countries (Austria, France, Germany, the Netherlands, Italy, Ireland and Sweden). Liability then might lie with the public authority itself. Such a case will only arise if the public authority, not the defendant, is primarily responsible for the occurrence of the harm and if the defendant was forced by law to follow the instructions of the public authority. In Belgium, however, such a defence will not be available under nuisance or other theories of no-fault liability, unless it can be shown that the fact potentially giving rise to strict liability is no longer a necessary condition for the damage. In English law, the concept is somewhat broader. An exemption from liability is provided for by the defence of statutory authority, which is available with regard to liability under *Rylands* v. *Fletcher* and under nuisance law. In order to avoid liability, the defendant must show that his or her conduct was permitted by a statute and that the damage was the inevitable consequence of it. Whether this is provided by the statute depends on the construction of the statute in question. The same applies under Scots law. Reporters from both countries stress that, despite this authorisation, liability may arise if the activity was carried out negligently. In Spain, compliance with an order or compulsory measure of a public authority may be regarded as a legitimate exercise of a right. This would exclude liability unless it constitutes an abuse of right. The Finnish and Portuguese reporters did not accept such a defence at all.

Acting within the limits granted by a licence, or the mere compliance with legal or administrative regulations, such as pollution control

consent or planning permission, however, does not automatically amount to a defence. This was pointed out by the Belgian, English, Greek, Dutch and Spanish reporters and is also the case in Austrian, Finnish, French, German, Irish and Swedish law. In Austria, compliance with a licence does not exonerate the defendant, either under fault liability or strict liability. If an activity is licensed, the operator will be liable according to § 364a ABGB, the specific no-fault liability of the law of the neighbourhood. In Italy, however, compliance with all the conditions and standards provided for by public law can serve as a defence for liability under the law of the neighbourhood, as the neighbours must tolerate polluting interference within such limits. This defence, however, only applies to property damage. Interference causing personal injury is always deemed to exceed the threshold to tolerance, and such harm is therefore recoverable.

Contributory negligence is a defence accepted in most of the European countries according to the general rules of tort law. In many civil law countries, this is governed by the civil codes and will apply to all sorts of liability, whether it is fault based or strict (Austria: § 1304 ABGB; Greece: Article 300 Astikos Kodikas; Germany: § 254(1) BGB; Finland: Chapter 6 § 1 Tort Law Act; the Netherlands: Article 6:101 Burgerlijk Wetboek; Italy: Article 1227 Codice Civile; Portugal: Article 587 Código Civil; Sweden: Chapter 6 § 1 Tort Law Act). The defence of contributory negligence comprises not only the negligent behaviour of the plaintiff, but also other factors that justify burdening him or her with part of the damage, such as responsibility for a dangerous good, vicarious liability, or failure to prevent further aggravation of loss. In Belgium, however, there is no specific legal provision confirming the theory of contributory negligence, and, in France, contributory negligence is not a defence in cases of strict liability. In Spain, the defence of contributory negligence is commonly accepted, although it is not provided for in the Código Civil but only in some specific strict liability statutes like the Nuclear Energy Act, the Products Liability Act and the Hunting Act. The duty to mitigate the damage is derived from the principle of good faith of Article 7 Código Civil.

In England, Scotland and Ireland, special statutes apply (England and Scotland: Law Reform (Contributory Negligence) Act 1945; Ireland: Civil Liability Act 1961, Part III).

If the plaintiff contributed to the damage by his or her own fault, the amount of recoverable damage will be reduced. If both parties are at fault, then the damage will be apportioned at the discretion of the court,

mainly according to the seriousness of their misconduct and the extent of the consequences arising out of it. Predominant fault on one side, however, can justify full recovery or total exclusion of the recovery of damages. In England and Scotland, such an outcome is established by the doctrine of *volenti non fit injuria*, which provides for release from liability if the plaintiff's conduct amounts to consent to harm. In Scotland, liability can also be excluded by the concept of interruption in the chain of causation through the intentional act of a third party. In Ireland, however, courts are ready to attribute very small liability portions.

2. *Conclusions*

Case 2 explores two issues, the applicability of nuisance liability to sudden incidents and the availability of defences in strict liability actions. It seems that some sort of common core can be established with respect to both of them. With regard to the first question, an important aspect of convergence lies in the fact that the action in nuisance usually also covers damage caused by sudden incidents due to a breakdown. The two exceptions are Germany and England where nuisance relates to continuous interference only.

With respect to the second issue, the availability of defences, a common core can be found in the fact that most jurisdictions allow for some sort of defence in strict liability. A major difference can be observed in that some jurisdictions (Belgium and Italy) do not accept the concept of a defence in strict liability as such. Rather, they deal with the notion of defences under the doctrine of causation, in that such events are regarded as an interruption of the chain of causation. The national reports also indicate that the acceptance of defences in strict liability varies considerately from one jurisdiction to another, with a clear dividing line between the Romanistic countries that seem to be rather reluctant to accept exonerating defences in favour of the tortfeasor and the other European jurisdictions.

Despite this fundamental difference, many convergencies can be observed. This applies to the concept of *force majeure*, and the corresponding common law concept of *acts of God*, both of which relieve liability in case of extreme occurrences that cannot be prevented by human foresight such as war, insurrection and grave natural disasters. In many countries, such a defence is explicitly provided by legislation and, as the Finnish, Irish and Swedish reporters pointed out, will, owing to the general character of the concept, be applied by courts even in the

absence of explicit legislation. Many reporters stress that only the most extreme and unpredictable occurrences will amount to a defence, as the degree of acceptance of a *force majeure*-like defence varies with the amount of risk posed by the relevant activity and the availability of preventive measures to the defendant. A further common core seems to lie in the wide acceptance of the doctrine of contributory negligence. In most countries, this defence is expressly provided by the civil code or by specific legislation, or, where this is not the case, it is accepted as a general principle of tort law. A specific solution applies in France, where contributory negligence does not serve as a defence in strict liability cases.

Discussions

Austria

Question (a)

As stated in the Case 1 discussion, in Austria there is no comprehensive liability law providing for strict liability for dangerous activities. Plaintiff *B*, however, may invoke § 364a ABGB, which also covers damage caused by accidents. Strict liability may only be applied if *A's* activity is governed by one of the specific strict liability regimes described under Question 1(a); for personal injury also, see the discussion under Question 1(a).

Question (b)

In Austrian law, there are no specific provisions regarding this type of damage. The answer is therefore the same as under Question 2(a) above.

Question (c)

Acts of war, hostilities, civil war, insurrection and natural disasters are defences usually governed by special strict liability statutes. In Austrian law, these defences are explicitly provided only by § 79c(1) GTG. They are, however, also encompassed by § 1a(3) RHPflG and § 26(2) WRG, which refer more generally to *vis major*, and by § 9 EKHG[1] and § 164 MinroG, according to which the operator is not liable if the damage was caused by circumstances beyond the control of the operator. With

[1] Eisenbahn- und Kraftfahrzeughaftpflichtgesetz [Act on Railway and Motor Vehicle Liability; EKHG], BGBl 1959/48 as amended by BGBl I 2004/115.

regard to extremely hazardous activities, such as the operation of an aircraft[2] or of a nuclear power plant,[3] however, these defences are not available. For such activities, it is presumed by the legislature that the liable person has the responsibility to take adequate precautions against the risks of such occurrences.

Question (d)

This defence is explicitly outlined by § 79c(2) GTG. Insofar as the operator is not in a position, by exercising utmost care, to prevent the damage caused by the intentional act of a third party, this defence is available under § 9 EKHG and § 164 MinroG. Again, with regard to 'extremely hazardous' activities, such as operating an aircraft, the defence is not available. Similarly, the operator of a nuclear power plant has no defence here, including the operator's general right of recourse to the supplier of services or goods.[4]

Question (e)

These defences are explicitly provided by § 8(1) PHG and § 79c(3) GTG.

Question (f)

In Austrian tort law, contributory negligence is a very common defence. It is a general tort rule governed by § 1304 ABGB. By direct or by analogous application,[5] § 1304 ABGB covers all types of tortious liability, such as intentional and negligent behaviour, trespass and strict liability. It also includes all types of damages from loss of life and personal injury to compensation for economic loss.

The defence of contributory negligence is also available under each strict liability regime for specific types of dangerous activities. Some of these provisions (§ 161 LFG, § 11 PHG, § 15 AtomHG, § 53(3) ForstG and § 79 h(3) GTG) simply refer to § 1304 ABGB and state that this provision must be applied *mutatis mutandis* to claims based on the respective strict liability statute. Section 1a(4) RHPflG, § 7(1) EKHG and § 165(1) MinroG

[2] See §§ 146–155 of the Luftfahrtgesetz [Civil Aviation Act, LFG], BGBl 1957/253, as amended by BGBl I 2006/149.

[3] See the Nuclear Liability Act.

[4] § 19(3) AtomHG.

[5] Koziol, *Haftpflichtrecht* I[3] (1997) n. 12/26; Reischauer, in Rummel (ed.), *Kommentar zum Allgemeinen bürgerlichen Gesetzbuch* II[2] (1992) § 1304 n. 8; Harrer, in Schwimann (ed.), *ABGB Praxiskommentar* VI[3] (2006) § 1304 n. 3; Ehrenzweig and Mayrhofer, *System des österreichischen allgemeinen Privatrechts II: Schuldrecht Allgemeiner Teil*[3] (1986) 305.

also refer to § 1304 ABGB. These provisions, however, extend the responsibility of the plaintiff under § 1304 to include persons within his or her sphere of influence. For example, according to § 1a(4) RHPflG, the negligence of the person who has charge of a plaintiff's damaged property (the plaintiff's agent) is imputed to the plaintiff. Section 7(2) EKHG and § 165(2) MinroG have similar provisions, extending the principle further to impute agent negligence to a person killed by the defendant. Claims for loss of support by a deceased's dependants are therefore reduced by the contributory negligence of the deceased. These contributory negligence rules are also applied generally under § 1304 ABGB, but including them in § 1a(4) RHPflG, § 7(1) EKHG and § 165(1) MinroG explicitly applies the principles to these strict liability regimes.

The concept of contributory negligence is rather broad. It encompasses not only the negligent behaviour of the plaintiff, but also other factors that justify burdening him or her with part of the damage, such as responsibility for a dangerous good, vicarious liability or failure to mitigate loss.

If *B*, in Question 2(b), contributed to the damage by his or her own fault, the amount of recoverable damage will be reduced. If both parties are at fault, the damage will be apportioned according to the seriousness of their misconduct. Predominant fault on one side, however, can justify full recovery or total exclusion of recovery of damages.

With regard to strict liability, the apportioning of damages is not quite as clear. In general, it will be possible to analogise from the operational hazards of a dangerous installation (attributable to the defendant) to any slight negligence of the victim.[6] Thus, just as operational hazards of a dangerous installation justify burdening the operator with strict liability, they can also be a rational ground for finding contributory negligence by the victim. The injurer's liability may be fault based or strict.[7]

The doctrine of contributory negligence is also applied if both parties have suffered a loss, and the injurer and victim are strictly liable to each other. Section 154 LFG, § 19(1) AtomHG and § 79e(2) GTG explicitly provide for the apportionment of damages in such situations. In

[6] OGH 16.3.2000, 2 Ob 59/00s, ZVR 2000/73. Extraordinary operational hazard attributed to the plaintiff leads to a 25 per cent reduction of damages, if the defendant was grossly negligent: OGH 20.1.2000, 2 Ob 359/99d, ZVR 2000/62 etc. For further details, see Koziol, *Haftpflichtrecht* I[3] n. 12/27.

[7] Koziol, *Haftpflichtrecht* I[3] n. 12/77.

motor vehicle accident cases, under § 11 EKHG,[8] the mutual recovery of damages depends on the existence and assessment of three factors: the seriousness of the fault of each party, whether or not there was an extraordinary operational hazard attributable to one party, and the relative weight of operational hazards each vehicle presents.

Belgium

Question (a)

This case is most likely to give rise to the application of nuisance law or, if the breakdown of the plant is due to a defect in the installation or any part thereof, to liability for defective things (Article 1384(1) BW).

Although many nuisance cases relate to continuous intrusions, nuisance law is also applicable to damages caused by a temporary situation or a sudden occurrence,[9] such as: the spraying of pesticides,[10] construction or demolition works,[11] fires and explosions and the rupture of gas or water pipes.[12] In the event of accidental damage due, for example, to fire and explosions, the issue seems to be whether the nuisance can be causally linked to the defendant's use of the premises. In many accident cases, therefore, the owner is not held liable, because his or her premises only played a passive role in causing the damage.[13] A case decided by the commercial court of Brussels[14] after a devastating, and highly fatal, fire in a L'Innovation supermarket serves as an illustration. The court held that the operator of the supermarket was not liable for the fire nuisance nor for the 'clean up' nuisance because he did not initiate the fire. However, the operator was liable for the nuisance resulting from the reconstruction of the building.

Should the plant breakdown occur due to a *defect* in the installation, Article 1384 BW applies. According to Article 1384(1) BW, as interpreted by the Cour de cassation (Hof van cassatie),[15] the custodian of a defective thing is liable, without proof of fault,[16] for damage caused by the

[8] For details, see Apathy, *Kommentar zum EKHG* (1992) § 11; Danzl, *Kommentar zum Eisenbahn- und Kraftfahrzeughaftpflichtgesetz*[7] (2002) § 11. The same applies under § 154 LFG, § 19(1) AtomHG and § 79e(2) GTG.

[9] S. Stijns and H. Vuye, 'Burenhinder', 376.

[10] Gent, 10 September 1985, T. Agr. R., 1985, 176.

[11] S. Stijns and H. Vuye, 'Burenhinder', 401.

[12] S. Stijns and H. Vuye, 'Burenhinder', 426 *et seq.*

[13] See S. Stijns and H. Vuye, 'Burenhinder', 426.

[14] 20 December 1971, TBH, 1972, 144.

[15] Cass. 26 May 1904, Pas. I, 246.

[16] Cass. 2 May 1974, Pas. 1974, I, 914.

defect.[17] This rule applies to material things:[18] individual objects, components of a composite object, as well as composite objects as a whole.

The scope of the liability for defective things largely depends on the definition given to the term 'defect'. Generally, to be considered defective, a thing must show an abnormal characteristic, or a departure from the characteristics of similar things.[19] A thing that is dangerous by nature, however, is not necessarily defective.

The defect should be an inherent, abnormal characteristic of the thing itself, rather than a characteristics such as its location in an abnormal place (a log on a road, a scoop of ice-cream on the floor of a cafeteria).[20] Case law also generally rejects the idea that a sudden change in the inherent nature of an object, due, for example, to an explosion or fire, by itself constitutes a defect.[21] The explosion or fire may actually be the result of a defect, but this is not always the case.[22] A defect may also result from a third party's intervention.[23] A deviation in structure, form or parts, or in the interrelation among the parts, qualifies as a defect. The presence of a foreign element in a composite thing also has been held to constitute a defect. This last definition has considerably increased the relevance of Article 1384(1) BW for pollution damages.[24] Belgian courts have held a canal 'defective' because of a gas container floating therein (the resulting explosion damaged a ship's propeller).[25] Courts have also considered a sandbox containing glass debris[26] and soil polluted by oil[27] as defective.

The custodian of the defective thing is liable. Being a custodian implies the factual use and control of the object for one's own gain. Generally, therefore, the owner of the object will also be its custodian. Custody and property however, do not necessarily coincide, and a lessee

[17] See generally, L. Cornelis, *De buitencontractuele aansprakelijkheid voor schade veroorzaakt door zaken* (Antwerp, Kluwer, 1982); *Beginselen*, 455–517.
[18] Cass. 21 April 1971, RW, 1972–3, 567.
[19] Cass. 23 October 1971, Pas. 1972, I, 80; Cass. 5 June 1998, TBBR, 1999, 332.
[20] Cass. 27 November 1969, RCJB, 1970, 41.
[21] Cass. 24 December 1970, RW, 1970–1, 1470.
[22] A recent decision, however, suggests that the Court is relaxing its control on the lower courts in this respect: Cass. 5 June 1998, TBBR, 1999, 332.
[23] Cass. January 1978, RW, 1978–9, 791.
[24] H. Bocken, 'Milieuwetgeveing en onroerende goederen. Aansprakelijkheid voor de kosten van bodemsanering'. TPR, 1992, 37.
[25] Cass. 14 November 1986, RW, 1986–7, 2146–7.
[26] Justice of the Peace Aarlen, 9 February 1979, Bull. Ass., 1980, 723.
[27] Commercial Court Sint-Niklaas, 2 December 1958, RW, 1959–60, 1904.

may also be a custodian, depending on the partition of responsibilities between lessee and owner.

The custodian cannot escape liability by proving that he was not at fault. Moreover, the fact that the custodian had no knowledge of the defect, and consequently could not avoid nor remedy it, is irrelevant, as is the fact that the origin of the defect was unforeseeable and unavoidable. Courts do allow plaintiffs to use a *res ipsa loquitor* type of proof of a defect. The custodian can only escape liability by proving that the damage was not caused by the defect, but was caused by an external factor – an act of the injured party, an act of a third party or *force majeure*. A plaintiff's contributory fault does apply to limiting liability against the defendant.

Question (b)

All forms of damage recognised under general tort law are compensable under Article 1384(1) BW, including personal injury, death, property damage, economic damage and moral damage – which cover the damage in this Question. The number of injured parties does not affect the legal basis for the claim. See also the answer to Question 1(b).

Question (c)

Strict liability statutes in Belgium do not generally recognise defences such as act of war, hostilities, civil war, insurrection, natural disaster, act of a third party or compliance with a government order. These statutes are thus more like absolute, rather than strict liability, rules.[28] There is also no possibility of exoneration from strict liability for nuisance or defective things, once the plaintiff has established his or her case, including causation. More particularly, in the context of the liability for defective things, both the origin of the defect and whether the custodian had knowledge of it are irrelevant. The intervening factors referred to in Question 2(c) are therefore generally dealt with at the level of causation.

Under the normal causation rules (equivalence of conditions), liability attaches as soon as it is established that, but for defendant's specific use of the premises or the defect of the defendant's thing, the damage suffered by the plaintiff would not have occurred. Of course, there is no

[28] There are exceptions, mainly in the Belgian statutes implementing the international treaties concerning nuclear liability and marine pollution. These statutes recognise the defences accepted by the treaties, to the extent they are not validly excluded.

liability where the defendant's use of the premises or the defect are not necessary in order to cause the damages.[29] In nuisance law, it is possible that no liability will attach where the damage was caused by an exceptional event such as an act of war, hostilities, civil war, insurrection or a natural disaster, regardless of the use of the premises by the defendant. As indicated above, no liability attaches if the defendant's property played a purely passive role in creating the damages.

Question (d)

The principles providing the answer to this question have been described under Question (c) above. It should be added, however, that a defendant who intentionally caused damage will be barred from invoking contributory negligence of either the claimant or a third party in an attempt to limit his liability.[30] Moreover, the intentional fault of a third party does not exclude liability of a co-defendant who acted negligently. There will be a case for fault liability against a defendant, therefore, if, for example, the third party was able to commit his or her intentional act because the defendant negligently failed to maintain adequate safety measures. In short, liability of the defendant who is at fault, either intentionally or negligently, is only affected as between co-defendants or tortfeasors, where the claimant is not contributorily negligent; as between the liable defendant and the claimant, the damage award alone is affected by intentional misconduct by a third party.

Question (e)

Since both nuisance law and Article 1384 BW are not based on fault, a justification defence will have no effect on their application.

The question of exemption from liability must again be addressed at the level of causation: would the claimant have suffered the same damage without the defendant's use of the premises or without the defect? If, for example, a fire or explosion, which is wholly unrelated to the defendant's use of his or her premises requires clean-up operations, the defendant will not be liable for any nuisance caused by the clean-up.

[29] H. Bocken and I. Boone, *TPR* 2002, 1627, No. 11.

[30] Cass. 6 November 2002, *RW*, 2002–3, 1362, with note by B. Weyts. The decision is based on the maxim *Fraus omnia corrumpit*. See, on this question, H. Bocken, 'Toerekening van aansprakelijkheid op grond van de equivalentieleer', in B. Tillemans and I. Claeys (eds.), *Buitencontractuele aansprakelijkheid Die keure*, 2004, 239–40; I. Boone, 'Recente ontwikkelingen inzake causaliteit', in Vlaamse Conferentie der balie van Gent (ed.), *Aansprakelijkheidsrecht* (Maklu, 2004), 57.

Question (f)

Contributory negligence leads to a reduction of liability.[31]

England

Question (a)

I. Private nuisance

Private nuisance usually requires continuous interference over a period of time with a person's use or enjoyment of land and, therefore, usually does not apply to one-time situations as that described in Case 2.[32]

II. Rylands v. Fletcher

Rylands v. *Fletcher* complements nuisance by covering these one-time situations. In *Cambridge Water* v. *Eastern Counties Leather*, Lord Goff expressed the view that, if the rule in *Rylands* v. *Fletcher* were regarded essentially as an extension of the law of nuisance to cases of isolated escapes from land, it would lead to a more coherent body of common law principles.[33]

The answer to Question 2(a) would depend on the foreseeability of the damage to *B's* property in case of a plant breakdown, not the foreseeability of the breakdown itself. As explained above in Case 1, recoverability of personal injury under *Rylands* v. *Fletcher* is unlikely.[34]

Question (b)

An individual in this community who is able to show special damage may have a remedy, but private nuisance and *Rylands* v. *Fletcher* rules do not otherwise provide a remedy, as explained in the answers to Question 1(a) and (b).

Question (c)

An act of God can be a defence against liability under *Rylands* v. *Fletcher*. An 'act of God' is an event which 'no human foresight can provide

[31] H. Bocken en I. Boone, *TPR*, 2002, 1639, No. 13.

[32] An exceptional case in this respect was the case of *Crown River Cruises Ltd* v. *Kimbolton Fireworks Ltd and London Fire & Civil Defence Authority* [1996] 2 Lloyd's Rep 533, where Potter J held that the holding of a fireworks display in a situation where it is inevitable that, for 15–20 minutes, debris, some of it hot and burning, will fall upon nearby property of a potentially flammable nature creates a nuisance actionable at the suit of a property owner who suffers damage as a result.

[33] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (304).

[34] See Questions 1(a) and 4(e) above.

against, and of which human prudence is not bound to recognise the possibility'.[35] Under *Nichols* v. *Marsland*, for example, the court rejected *Rylands* v. *Fletcher* liability where artificial lakes, bridges and waterways flooded neighbouring land after extraordinarily heavy rainfalls.[36] On the other hand, interestingly, unusually heavy rainfall was not regarded as an act of God in *AG* v. *Cory Brothers* because it was not so unique as to be a 'natural disaster' and could, therefore, be foreseen as possible.[37]

The 'act of a stranger' defence also applies in *Rylands* v. *Fletcher*, where a trespasser or other person acting independently, and over whom the defendant had no control,[38] caused the escape. In such a situation, defendant *A* will not be liable.[39] Actions by terrorists or during civil insurrection might be regarded as 'acts of a stranger'. *Obiter*, Mellish LJ stated in *Nichols* v. *Marsland* that the defendants similarly would not have been liable if the reservoir had been destroyed by some warlike operation.[40]

Question (d)

As explained above in (c), the 'act of a stranger' defence may be available here. It is, however, not entirely clear who is a 'stranger'. As a general rule, independent contractors, lawful visitors, servants and agents of the occupier would not be regarded as strangers/third parties.[41] The concept of 'stranger', however, seems to encompass persons, not necessarily unknown to the owner, whose acts the owner should have been able to foresee. In *Rickards* v. *Lothian*,[42] a third party maliciously caused a continuous overflow of water from a lavatory basin in a flat. The

[35] Lord Westbury in *Tennent* v. *Earl of Glasgow* (1864) 2 M (HL) 22.

[36] *Nichols* v. *Marsland* (1876–7) LR 2 Ex D 1 (4–5).

[37] *Attorney-General and Others* v. *Cory Brothers & Co. Ltd and Others* [1921] 1 AC 521 (536–7). See also the case of *Corporation of Greenock* v. *Caledonian Railway Company* [1917] AC 556, where extraordinarily heavy rain was not regarded as an act of God either.

[38] See *Box* v. *Jubb* (1879) 4 ExD 76, and *Perry* v. *Kendricks Transport* [1956] 1 WLR 85.

[39] See the critical comment by Harpwood, *Principles of Tort Law*, p. 260. In India, the common law has developed further in imposing strict liability regardless of who caused the accident: see *Mehta* v. *Union of India* (1987) AIR(SC) 1086, quoted by Harpwood, *Principles of Tort Law*, p. 261.

[40] *Nichols* v. *Marsland* (1876–7) LR 2 ExD 1 (5).

[41] See Williams, *Cambridge Law Journal*, (1973) 310 (317). For liability for the conduct of independent contractors, see *E. Hobbs (Farms) Ltd* v. *The Baxenden Chemical Co. Ltd* [1992] 1 Lloyd's Rep 54 (69). See also the nuisance case of *R* v. *Shorrock* [1994] QB 279, and the occupier's liability case of *H. & N. Emanuel Ltd* v. *Greater London Council and King* [1971] 2 Lloyd's Rep 36.

[42] *Rickards (Since Deceased)* v. *John Inglis Lothian* [1913] AC 263 (278–9).

occupier was held not liable under the rule in *Rylands* v. *Fletcher*. In the more recent case of *Emanuel* v. *Greater London Council*, the occupier was also not liable, and Lord Denning held that, even if a person who causes damage (in that case, by starting a fire) was an invitee, he may be a 'stranger', if his conduct was so alien to the owner's invitation that he should be regarded as a trespasser.[43] Thus, if, in Question 2(b), a third person caused damage deliberately, he or she would probably be regarded as a 'stranger' for whose conduct *A* would not be liable.

Question (e)

Liability under *Rylands* v. *Fletcher* and nuisance can be avoided if the statutory authority defence applies. In *Green* v. *The Chelsea Waterworks Co*., Parliament had authorised the defendant to lay a water pipe, which later burst and caused damage to the claimant's property. The defendant was under a statutory duty to supply water through this pipe and was therefore not held liable.[44] In *Charing Cross Electricity Supply Co.* v. *Hydraulic Power Co*., however, a legislative permission existed as well, but the defendants were liable under the rule in *Rylands* v. *Fletcher* as well as under nuisance because the Act did not specifically exclude their liability.[45]

Actors under statutory authority must use all reasonable regard and care to the interests of other persons in carrying out the permitted operations.[46] To fail to comply with all conditions in a consent is a criminal offence. This renders the regulatory conditions for operations a 'compulsory measure by a third party'. In addition, as stated above in the answer to Question 1(a), compliance with some pollution control consent is not a defence. Planning permissions are different. No one is

[43] *H. & N. Emanuel Ltd* v. *Greater London Council and King* [1971] 2 Lloyd's Rep 36 (39). See also the recent case of *Ribee* v. *Norrie* [2001] PIQR 8, 128 (142), where a tenant had lighted a cigarette and, accidentally, caused a fire for which the owner of the land was not held liable.

[44] *Green* v. *Chelsea Waterworks* (1894) 70 LT 547.

[45] *Charing Cross Electricity Supply Co.* v. *Hydraulic Power Co*. [1914] 3 KB 772.

[46] *David Geddis* v. *Proprietors of the Bann Reservoir* (1877–8) LR3 App Cas 430, where the operations in question were permitted by a parliamentary Act but the court found that the defendants had not taken all measures available in order to protect others from the consequences of their operations. The defendants were therefore liable for damages caused by flooding neighbouring fields. See also *Lord Mayor, Aldermen and Citizen of the City of Manchester* v. *Farnworth* [1930] AC 171 (194), *per* Viscount Sumner; *Allen* v. *Gulf Oil Refining Ltd* [1981] AC 1001 (1011), *per* Lord Wilberforce.

required to implement a planning permission once granted, so it cannot be regarded as compulsory.

Question (f)

Defendant *A* would avoid liability completely if the damage was entirely *B's* fault, under the principle *volenti non fit injuria*.[47] If *B* had merely been contributorily negligent, however, *B's* damages would normally be apportioned in accordance with the Law Reform (Contributory Negligence) Act 1945.[48] It is unclear whether this rule applies to liability under *Rylands v. Fletcher*, considering that the claimant's negligence might only offset a defendant's negligence, but not his strict liability. On the other hand, there is no good reason for privileging a negligent claimant in strict liability.[49]

Finland

Question (a)

Defendant *A* is liable. A suggested difference concerning the basis of such liability as between one-time incidents and continuous, damaging activities does not exist in the context of the Environmental Damages Act. The concept of 'activity' covers both permanent and irregular operations and their effects.

Question (b)

In case of minor property damage, the injured party(ies) may be obliged to tolerate the pollution, without compensation, up to a reasonable level, which is determined according to local circumstances and the nature of the activity, on a case-by-case basis. However, personal injuries and significant damage to property are always compensable.

Question (c)

In the environmental law context, there are no *expressis verbis* limitations of liability, but, according to general principles of civil liability, an operator would probably not be liable for damages caused by war, natural disasters, etc. If, however, it is evident that sufficient

[47] *Dunn and Another* v. *The Company of Proprietors of the Birmingham Canal Navigation* (1872) LR 7 QB 244 (260–1), *per* Cockburn CJ.

[48] [1945] Ch 28. Prior to the adoption of this Act, contributory negligence excluded the defendant's liability completely: see Markesinis and Deakin, *Tort Law*, p. 681.

[49] See Fleming, *The Law of Torts*, pp. 344–5; Markesinis and Deakin, *Tort Law*, p. 690.

precautions had not been taken in order to prevent damages resulting from a somewhat foreseeable *force majeure* (flood, earthquake etc.), it is possible that an operator may be liable, perhaps even strictly liable, for damages.[50]

Question (d)

If *A* is responsible for the third party (for example, *A* is employer and the third party is employee), then *A* can be held liable for the damage caused by the third party. Intent, or lack thereof, in the third party's act is not relevant to assessing liability when protecting *B's* interests. Nevertheless, *A* will not be responsible for the criminal acts of a third party.

Question (e)

Defendant *A* will be liable in this case, notwithstanding a public order, if there are two causal links shown: (i) between the order or compulsory measure and *A's* activity; and (ii) between *A's* activity and the damages. Furthermore, the effect of *A's* activity must be defined as 'environmental pollution'.

Question (f)

Defendant *A* will be liable, but contributory fault will allow a court to adjust the amount of compensation.

France

Question (a)

Except in the above-mentioned cases where strict liability applies,[51] Article 1384 § 1 CC applies. Under the Article, the custodian cannot escape liability either by proving that he or she committed no fault or by alleging that the breakdown was unforeseeable and unavoidable. The only available defences are interference by an external factor, plaintiff's contributory fault, act of a third party, or *force majeure*.[52]

Following the major accident which happened in Toulouse on 21 September 2001 (causing dozens of casualties and injuries and leaving hundreds homeless), the French Parliament adopted Law No. 2003-699

[50] See the decision of the Supreme Court 1988:140. [51] See Case 1.

[52] M.-P. Lavoillotte, 'Responsabilité environnementale: les principales causes exonératoires', *Environnement*, vol. II, 2003, No. 1, p. 23.

(also known as *Loi Bachelot*) on 30 July 2003, on the prevention of technological and natural risks and on compensation for damages.[53] The law creates a special regime for 'technological disasters' (*catastrophe technologique*) in order to compensate loss of life or property and injuries by a special fund (see below). So far, no case law has dealt with the scenario in Case 2, but it is likely that *A* would be liable to *B's* insurer.

If *A* is a public authority or a private person in charge of a public service, administrative courts apply strict liability, which could be based on 'damages caused by public works', as discussed in Case 1 (but this is rare[54]) or on 'risks exceeding the regular inconveniences of neighbourhood'[55] because the risks involved in this case infringe the principle of 'equality before public burden' (i.e. *B* suffers a damage exceeding the usual inconveniences suffered by other taxpayers).[56]

Question (b)

All forms of damage recognised under general tort law are compensable under Article 1384 § 1 CC, provided that the damage is direct, certain and personal.[57]

Given that classical civil liability procedures are not generally adapted to an accident affecting a great number of people, Law No. 2003-699 aims at providing compensation for the victims of technological disasters[58] without judicial procedures, but insurance companies will

[53] *Journal Officiel de la République française*, *édition Lois & Décrets*, 31 July 2003, p. 13021, also available at www.legifrance.gouv.fr; see 'Risques technologiques et naturels – Loi du 30 juillet 2003', special issue of *Droit de l'environnement*, No. 113, November 2003; Jean-Pierre Boivin and Steve Hercé, 'La loi du 30 juillet 2003 sur les risques technologiques et naturels majeurs', *Actualité juridique Droit administratif*, 6 October 2003, p. 1765; Xavier Larroy-Castera and Jean-Paul Ourliac, *Risques et urbanisme* (Paris, Le Moniteur, 2004), p. 237.

[54] E.g. the bursting of a dam, CE, *Département du Var* v. *Entreprise Bec frères*, 28 May 1971, JCP, 1972, No. 17133.

[55] E.g. an explosion in an ammunition dump, CE, *Regnault-Desroziers*, 28 March 1919, *Grands arrêts de la jurisprudence administratif* (14th edn, Dalloz, 2003), No. 36. The solution has been extended to 'dangerous installations' whether or not they have caused an accident: see CE, *Société du gaz de Beauvais*, 25 January 1929, *Dalloz*, 1929, III, p. 35.

[56] Christophe Geuttier, *Droit administrative* (2nd edn, Paris, Montchrestien, 2000), p. 214.

[57] See the answer to Question 1(a).

[58] When the Administration declares a 'state of technological disaster', insurance companies are obliged only to compensate their Own policyholders; uninsured persons are compensated out of a guarantee fund (Fonds de garantie, Article L.421-1 of the Code des assurances) financed by levies on insurance contracts: see Sabine Abravanel-Jolly,

certainly use the new Article L.128-3 of the *Code des assurances* to sue *A*, as surrogate claimant for the claims of those affected in the community.[59]

Injured persons also have an action in administrative liability for failure to take preventative measures (against the state or a municipality depending on whether the *préfet* or the mayor could or should have acted).[60] The state is also liable for the malfunctioning of or damage caused by rescue operations, but administrative courts consider that only a major fault (*faute lourde*) could trigger liability, given the difficulties of such operations.

Question (c)

Acts of war, hostilities, civil war, insurrection, natural disaster and also acts of terrorism[61] are usually valid defences. Generally speaking, *A* will not be liable to *B*, but *B* will instead receive compensation from the state.[62] However, operators of nuclear power plants must take preventive measures against even these situations. According to the OECD Paris Convention of 29 July 1960, only war and totally unforeseeable natural disaster are defences for damage caused by nuclear plants.

It should be noted that natural disasters are a defence only if they are unforeseeable. As an illustration, an avalanche at a place where avalanches have already occurred 'three times in a century', or a hurricane in overseas French possessions, are 'foreseeable' natural disasters.

Question (d)

Defendant *A* will be liable in this case only if the intentional act of the third party was made possible by a defect in the plant's safety measures.

'Le Fonds de garantie des accidents de circulation et de chasse rebaptisé Fonds de garantie des assurances obligatoires de dommages', *Jurisclasseur Responsabilité civile et assurances*, 2004, chroniques, p. 4.

[59] Cyril Gory, 'La loi du 30 juillet 2003 relative à la prévention des risques technologiques et naturels et à la réparation des dommages – L'assurance et les risques technologiques et naturels', *Gazette du Palais*, 3 October 2003, p. 2744.

[60] Article L.110-1-II of the Code de l'environnement obliges public authorities to implement the precautionary principle, the preventive action principle, the polluter-pays principle and the participatory principle.

[61] Laws No. 86-1020 of 9 September 1986, No. 87-588 of 30 July 1987, and No. 90-86 of 23 January 1990 establish a fund (Article L.422-1 of the Code des assurances) financed by levies on insurance contracts to compensate victims of war damage.

[62] Hervé Barrois and Philippe Casson, 'Assurance contre les actes de terrorisme', *Jurisclasseur Responsabilité civile et assurances*, vol. VII, fasc. 558, pp. 11–21.

However, in cases of strict liability, the act of a third party is not a defence.[63]

Question (e)

A would not be liable here, but *B* may take his or her case to an administrative court and obtain compensation (if provided by law) from the public authority involved if *B* can prove that there was a direct link between the damage (which should exceed the customary nuisances of the neighbourhood) and the order/compulsory measure. On the other hand, if the order/compulsory measure is adopted for a 'first-class general interest', *B* may not obtain any compensation.[64]

Question (f)

Here, *A* is not liable.[65] In the case where a fault by both *A* and *B* is proven, there will be shared liability. Plaintiff *B's* compensation alone will be reduced if *B* is merely negligent, but, if *B* committed an intentional fault, *A* will not be liable at all.[66]

Germany

Question (a)

I. Claims for property damage

1. Plaintiff *B* has no claim under § 906(2) sentence 2 BGB because no emissions originate from *A's* property. Similarly, there is no analogous claim merely because an accident having an environmental impact occurs on *A's* property, where *B* was not hindered from preventing his harm and was not subject to a duty of toleration.
2. For a claim under § 1 UmweltHG to succeed, *A's* factory would have to be an installation pursuant to Appendix 1. In Case 2, however, it cannot be assumed that the factory is such an installation, as designated installations are those which typically produce environmental effects, not just those which may, by accident, have environmental effects. Nevertheless, power stations, for example, are listed (No. 1).
3. A claim under § 22(1) sentence 1 WHG requires the intentional introduction or discharge of substances into, or interference on, a body of

[63] Starck, Rolland and Boyer, *Obligations I*, p. 469.
[64] CE, *Rouillon*, 14 December 1984, Rec. 1984, p. 423.
[65] Cass., civ. II, *Randu* v. *Croize*, 10 July 1991, *Bulletin* II, 1991, No. 222.
[66] Starck, Rolland and Boyer, *Obligations I*, p. 470.

water.[67] Liability is not incurred here, where harmful substances enter water as a result of a disturbance or accident.[68]

Section 22(2) sentence 1 WHG, on the other hand, applies to installations which pollute water. An 'installation', in this sense, is any plant which is intended to produce water-endangering substances, or to process, store, keep, transport or conduct such substances.[69] Section 22(2) sentence 2 WHG only excludes liability for damage by *force majeure*. Thus, under section 22(2), *B* has a compensatory claim against *A* for property damage, if caused by substances entering a body of water from *A's* installation.

4. A claim under § 823(1) BGB requires proof of fault by *A* in causing property damage. Evidence of fault is absent in Case 2; there is a *non liquet*. Basically, each party must establish the facts in their favour: *B's prima facie* case (*Verschuldensvorwurf*), and *A's* objections (*Einwendungen*). Under § 823(1) BGB, the burden of proof is shifted to *A* only where the activity/injury is a significant infringement in the sense of § 906 BGB, as was the case in the *Cupola Furnace* case,[70] where the BGH shifted the burden to the defendant. Unlike that case, however, in Case 2 there is no infringement, according to § 906 BGB, emanating from *A's* property.

II. Claims for personal injury or damage to health

A has a claim against *B* under § 22(2) sentence 1 WHG, subject to the same requirements as above (see section I.3 above), if the personal injury/damage to health was caused by substances entering a body of water from an installation. If an actual contamination of the water has occurred in the Case 2 circumstances, it seems evident that the damage here was actually produced by the contaminating substances. Liability is excluded for cases of *force majeure*, however (§ 22(2) sentence 2 WHG).

Question (b)

Again, the only likely claim for minor property damage is under § 22(2) sentence 1 WHG. If such harm has occurred here, then *B* has a claim for compensation against *A*. The fact that the majority of the population is affected has no effect on the liability.

As for minor health damage, the injured claimants may have a claim under § 22(2) sentence 1 WHG, if their injuries are traceable to

[67] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 7.
[68] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 8.
[69] Schimikowski, *Umwelthaftungsrecht* n. 108.
[70] BGH 18.9.1984, BGHZ 92, 143, 150 *et seq.* (the *Cupola Furnace* case).

water contamination from an installation. Also, see the discussion in Question 1(b) above.

Question (c)

The only conceivable claim under § 22(2) sentence 1 WHG is excluded for *force majeure* by § 22(2) sentence 2 WHG. *Force majeure* is 'an extraordinary, operation-external occurrence induced from outside by elementary natural forces or the acts of third parties, which is unforeseeable by human insight and experience and cannot be prevented or rendered harmless by economic means and the utmost reasonable care'.[71] Natural catastrophes invariably constitute cases of *force majeure*.[72] Wars, armed conflict, civil war and insurrection, however, also constitute cases of *force majeure* within the definition developed by the BGH.[73]

Question (d)

Although liability pursuant to § 22(2) sentence 1 WHG is avoided in cases of *force majeure*, acts of sabotage do not, as a rule, fall within the concept of *force majeure*,[74] as they are basically foreseeable, and the installation operator has a duty to take appropriate preventative measures against sabotage.

Question (e)

According the facts in Case 2, *B's* most likely claim here would be against the authorising official body under Article 34 GG (Basic Law),[75] in conjunction with § 839 BGB.

Question (f)

Under § 254(1) BGB, contributory fault on the part of the injured party reduces the defendant's liability under § 22(2) sentence 2 WHG.[76]

[71] BGH 30.05.1974, BGHZ 62, 351, 354.
[72] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 58; Staudinger/Kohler, BGB, (13th edn, 1996), §§ 903–24; Anhang zu § 906: Umwelthaftungsrecht, § 22 WHG n. 69; cf. book review Möllers, AcP 197 (1997) 430 *et seq*.
[73] There are unfortunately no conclusive BGH judgments.
[74] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 58. [75] 23.5.1949, BGBl. p. 1.
[76] BGH 11.01.1971, BGHZ 55, 180, 187; Czychowski, *Wasserhaushaltsgesetz* § 22 n. 35.

Greece

Questions (a) and (b)

These questions follow the same answer as in Case 1 above.

Questions (c) and (d)

If the damage was caused by unusual circumstances, such as an act of war, hostilities, civil war, insurrection or a natural disaster, or if the damage was caused by an act done by a third party with the intent to cause damage, *A* would not be liable to *B*, as long as *A* could prove that the damage is due to an act of God or was the result of a third party's culpable act. The third party must have acted on purpose (Article 29 of Law 1650/1986), and the burden of proof lies on *A*. If *A* is unable to satisfy his or her burden, *A* will be liable for damages, even if fault cannot otherwise be established against *A*.

Question (e)

A must take all measures of care and providence, as in the case of the producer of standardised products, imposed both by the administrative provisions and by general legal principles, in order to avoid any polluting activities. Thus, if *A* complies with specific orders or compulsory measures of a public authority, and causes damage, *A* is not *ipso facto* freed from any liability, because he must still take all measures of care and providence imposed by general legal principles. The measures of care and providence must be revised regularly, following the development of science and technology.[77]

Question (f)

If *B*, by his own fault, has contributed to the damage, one of the following situations[78] may apply:

(a) If *B's* contribution to the damage was unforeseeable and inevitable for *A*, then *B's* fault constitutes a *force majeure*, and *A* is not liable for the damage attributable to *B's* fault. Defendant *A's* act is not considered the cause of the damage, but simply the means through which the damage has been effected.

(b) If *B's* contribution to the damage is the consequence of a *force majeure* for *B*, but not for *A*, where *A* had the obligation to foresee and avoid *B's* acts, then *A* is liable to *B* for the whole damage.

[77] I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 121, 289, 290.
[78] I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 129, 130, 302, 303.

In any case, however, if *B* is contributorily at fault (by act or omission), it is in the court's discretion, according to Article 300 AK, whether to impose liability on *A* at all, or whether to share the liability between *A* and *B*. The court, exercising its discretion, will mainly evaluate the legal ground for liability, the grade of fault of each party, the contribution of each party to the damage, the abuse of right (Article 281 AK) and good faith considerations (Article 288 AK).

Ireland

Question (a)

In principle, *A* may be liable to *B* under the statutory civil liability regimes for air and water pollution mentioned in the answer to Case 1. Proving breach of emission standards and licences should not be a problem in the case of an accident. Liability is strict, so there is no need to prove fault.

A may also be liable to *B* for damage to land, or to property on the land, under nuisance and trespass regimes, which are essentially strict liability regimes. Although the essence of a nuisance claim is an ongoing interference with land, the threat of recurring accidents if *A's* plant is not properly run may well allow a nuisance action in the circumstances of Case 2.

The rule in *Rylands* v. *Fletcher* is intended to deal with accidental occurrences of this nature, and *A* will be strictly liable for the damage caused by the breakdown, assuming that the damage was caused by an emission to the environment, satisfying the required element that something escape from *A's* land.

If *A* was negligent in the running of the factory and the breakdown happened as a result of the negligence, *A* will be liable in negligence to all those who could foreseeably have suffered property damage. It may be that the mere occurrence of the breakdown will create a presumption of negligence, and *A* may attempt to rebut the presumption. If *A* can show that the breakdown was caused by someone else, or by an act of God, or was unavoidable, even with the best control systems in place and properly functioning, *A* may manage to avoid liability in negligence. (Note the similarity of the statutory defences with those in negligence.) Of course, absence of fault defeats a negligence claim.

If *B* suffered death or injury as a result of an emission after *A's* factory accident, the statutory civil liability regime applies. Again, actions in tort should lie for negligence or strict liability under the rule in

Rylands v. *Fletcher*. At first glance, the law of nuisance would not seem to apply to a death/personal injury case because nuisance is concerned with interference with the use and enjoyment of land; but it might be relevant if the pollution contaminated the land and death resulted from the contamination. Finally, a dead person cannot maintain an action, but the dependants of the dead person can sue for their consequential financial loss.

Question (b)

The legal position would be the same as above. Every person injured or affected would have a personal right of action, but there is no provision for class actions or representative actions in Irish law.

Question (c)

If the damage is caused by bombing or sabotage or some such act of a third person, or by a natural catastrophe, the exception to liability under the Air Pollution and Water Pollution Acts would probably apply. However, if *A* could have foreseen and guarded against the escape (*Rylands* v. *Fletcher*), liability may still be imposed. Defendant *A* cannot escape liability simply by claiming never to have foreseen a particular occurrence. The question is not whether *A* foresaw the event, but whether *A* could reasonably have foreseen it. The court will answer this question by asking whether a 'reasonable person', taking account of all the facts and diligently considering the possibilities, could have foreseen this occurrence. If so, the unforeseeability defence would not be available. In this analysis, then, severe weather may be predictable. Indeed, if the courts take an analogy from general tort law, it seems that only the most extreme and unpredictable acts of God will serve as a defence.[79] It is not enough that the circumstances are unusual; they, and the consequent damages, must be unavoidable for *A* to escape liability.

In relation to a claim for negligence on the same facts, *A* will not be held to have been negligent unless he failed to take adequate steps to prevent a foreseeable injury. In addition, where the act of a third party is the cause of the damage, the chain of causation appears to be broken, and *A* can (probably successfully) plead that it was not his or her act which caused the damage (*non est factum*).

[79] See *Lawlor* v. *Sir James Mackey Ltd*, (1949) 83 ILTR 139.

Because of the lack of causation (or breaking the chain of events) in this scenario, it is difficult to say that *A* has used land in such a way as to interfere with the use and enjoyment of land by *B*, and there should therefore be no liability in nuisance.

Liability may exist in trespass, since *A's* property (the polluting matter) has come to rest on *B's* property and has caused damage there. *A* will be unable to claim that the polluting matter is not his or her property, due to the operation of section 32 of the Waste Management Act. Plaintiff *B* should be entitled to require *A* to remove the offending matter and remediate the damage, regardless of the fact that *A* did not deliberately commit the trespass. However, it is likely that a court would have some degree of sympathy for *A* in a case such as this.

Similarly, liability is likely to exist under the rule in *Rylands v. Fletcher*, because *A* brought the pollutant/dangerous substance onto the land, and the pollutant has escaped causing damage. However, *vis major* and act of God are acceptable defences if they can be established, although the severity of an act of God must be quite exceptional. An earthquake would probably allow the defence to succeed, and a flood might as well, if it exceeded all records (although any flood level which had been reached before would be deemed foreseeable, and *A* should take account of it in designing the plant).

Question (d)

The third party would likely be liable to *B* under statute and in negligence, in much the same manner as *A* would have been under the previous examples.

Under the statutory liability regimes, *A* might escape liability by proving that the damage was caused solely by another person, that *A* had no control over that person, and that *A* could not have foreseen or prevented the act. In a relevant case in England, an oil tank was left unlocked and had no bund around the tank to collect any escaping oil. An intruder maliciously opened and emptied the tank, causing damage, but the occupier was held criminally liable for the pollution (*Empress Cars (Abertilly)* v. *National Rivers Authority*[80]). This holding suggests that *A* might also be responsible for failing to take adequate preventive measures, even where a third party acted intentionally, but this would be decided on a case-by-case basis.

[80] [1998] Env LR 396.

It is unlikely that *A* would be liable in tort because *A* did not cause the damage; the damage would not have occurred but for the third party's action. The only possible exception in tort is in the rule in *Rylands* v. *Fletcher*. Under the rule, the fact that the escape was caused by the act of a third party is accepted as a defence, though not absolutely, and *A* may still bear some liability for bringing the polluting matter onto the site where it was liable to cause damage if it escaped or was permitted to escape.

Question (e)

A's act cannot be tortious if it is obligatory.

If the damage resulted from *A's* compliance with an order or measure of a public authority, the situation raises an interesting point of Irish public law. In general, it may be doubted whether a public authority can order one person to do something that causes damage to the property of another. The person ordered could argue that he or she is unable to comply because he or she has no control over the affected property.

Interestingly, section 55 of the Air Pollution Act provides that, where a public authority requires an occupier of land, under the Act, to carry out works on the land of another person, and the other person unreasonably refuses to allow this, a court can deem the refuser to have consented, nonetheless. There is no corresponding provision in other environmental Acts, and, in general, a public authority cannot require one person to do something on the land of another. In *Murray* v. *Environmental Protection Agency*,[81] the Agency conceded, prior to the hearing, that it did not have power to require the grantee of a waste licence to create a buffer zone around the licensed facility because the buffer zone had to be on the lands of adjoining landowners.

If the damage in Case 2 resulted from *B's* compliance with an order or measure of a public authority, *B* may be entitled to compensation from the state. For instance, if the public authority required *B* to damage his or her own property in order to prevent further damage, this would amount to a taking of *B's* property in the interests of the common good. The courts would be likely to hold that the cost of doing so should fall on the general public rather than on *B*. The public authority might also have to pay *B* but be able to recover the costs from *A* under the Air Pollution and Water Pollution Acts.

[81] This case never came to trial.

Question (f)

The general principle in tort law is that, where two people commit a tort, liability is apportioned between them according to the extent to which each is liable (Civil Liability Act 1961, Part III). Therefore, *A* is liable to *B* for the percentage of the damage caused by *A* alone, and *B* will have to bear the remainder of the cost. The court will apportion liability according to the facts of the case.

Italy

Questions (a) and (b)

Same legal provisions apply as for Case 1.

Question (c)

There are no special provisions in the field of environmental liability concerning unusual circumstances, such as an act of war, hostilities, civil war, insurrection or a natural disaster. There is, however, a general disposition in the IVth Book of the Codice Civile, dedicated to the law of obligations, concerning the extension of liability under all the circumstances mentioned in Question 2(c), but these relate only to contract law. Article 1218 CC states: 'The debtor who does not exactly render due performance is liable for damages unless he proves that the non-performance or delay was due to impossibility of performance for a cause not imputable to him.' Acts of war, hostilities, civil war, insurrection or natural disasters are all considered 'non-imputable causes', and, therefore, under contract law, a defendant would not be liable in these circumstances.

Outside the field of contractual liability (i.e. civil liability), the Article 1218 doctrine[82] is more broadly addressed in the principles of causal linkage, with the result that no liability is imposed in these cases. For this reason, in Italy, Questions (c) and (d) of Case 2 would be treated as *fatti interruttivi*, that is, as facts that interrupt the chain of causation. (See under Question 2(d) below.)

[82] See Monateri, 'Le fonti delle obbligazioni – La responsabilità civile', in *Trattato di Diritto Civile diretto da Rodolfo Sacco*, (Turin, 1998), p. 145; Licci, *Teorie causali e rapporto di imputazione* (Naples, 1996), pp. 35 *et seq.*; Alpa, Bessone, Zeno Zencovich, '*fatti illeciti*,' in *Trattato Rescigno*, VI (Turin, 1995), pp. 61 *et seq.*

Question (d)

The act of a third party, as mentioned in Question 2(c) above, interrupts the chain of causation between *A's* activity and the damage suffered by *B*. As there is no particular rule in the field of environmental liability in Italian law,[83] reference may instead be made to general principles. The general principles concerning causal linkage are set out not in the Codice Civile, but rather in the Codice Penale and in scholarly writings.[84] Article 41 of the Codice Penale[85] provides that, to establish guilt, the act of a party must have been the *conditio sine qua non* giving rise to the damage.[86] If the act of a third party alone could cause the damage, and so interrupt the causal linkage, *A* is exonerated from liability.[87]

Question (e)

There are no special provisions in the field of environmental law, nor in the Codice Civile, for the situation in Question 2(e). However, the general principle governing torts in Italy is set out in Article 2043 CC,[88] as follows: 'A deliberate or negligent act of any sort, which causes an unjust harm to another, obligates the person who committed it to compensate for the harm.' The idea that, in cases of *factum principis*, no liability will arise, dates back to Roman times.

Thus, in the case of compliance with an order, legal provision or compulsory measure of a public authority, Italian doctrine has always excluded the existence of intent or negligence with regard to Article 2043 CC and the availability of damages.[89]

[83] Villa, 'Nesso di causalità e responsabilità civile per danni all'ambiente', in *Per una riforma della responsabilità civile per danno ambientale*, a cura di P.Trimarchi (Milan, 1994), pp. 93 *et seq*. On the problems of causal linkage, see Pozzo, *Danno ambientale e criteri di imputazione della responsabilità – Esperienze Giuridiche a confronto* (Milan, 1996), p. 315.

[84] One of the most important works is Trimarchi, *Causalità e danno* (Milan, 1967). See also Forchielli, *Il rapporto di causalità nell'illecito civile* (Padua, 1960); Gorla, 'Sulla cosiddetta causalità giuridica: fatto dannoso e conseguenze', Riv.dir.comm., 1951, I, 505 *et seq*.; Realmonte, *Il problema del rapporto di causalità nel risarcimento del danno* (Milan, 1967). We also have to recall that Italian scholars were very much influenced by the doctrine elaborated by von Buri, *Über Kausalität und Verantwortung* (Leipzig, 1873).

[85] For a comment and case law, see Stella-Zuccala', *Commentario Breve al Codice Penale* (Padua, 1990), pp. 68 *et seq*.

[86] Among criminal lawyers, Stella has devoted much attention to the problem. See Stella, *Leggi scientifiche e spiegazione causale nel diritto penale* (Milan, 1990).

[87] See Monateri, *Le fonti delle obbligazioni*, 145 ss.

[88] See *ibid*., 91.

[89] See Bianca, *Diritto civile*, V, *La responsabilità* (Milan, 1994), p. 544.

Question (f)

There are no special provisions in the field of environmental law for contributory fault. The case is governed instead by a general principle in Article 1227 CC on contributory negligence: 'If the plaintiff's negligence has contributed to cause the damage, the compensation is reduced according to the seriousness of the negligence and the extent of the consequences arising from it. Compensation is not due for damages that the plaintiff could have avoided by using ordinary diligence.'

The Netherlands

Question (a)

Under Article 6:174(1) BW, the owner of a construction that does not meet the required standards, and thereby constitutes a danger to persons or things, will be held liable if the danger materialises. However, the owner is not liable if he is exempted from liability under the general liability rule of Article 6:162 BW and nevertheless knew of the danger at the time it occurred. Article 6:174(3) BW defines the term 'construction' ('*opstal*') as buildings and works, durably and directly united with land, or through incorporation with other buildings or works. Furthermore, subsection 4 presumes the person who is the officially registered owner as the possessor of the construction or land. Therefore, in principle, the possessor of the industrial plant will be held strictly liable under Article 6:174 BW if the plant does not comply with the safety regulations reasonably expected of this type of construction. The construction will not be considered defective merely because there is an increased risk of damage, but will be considered defective if it does not meet the set standards.

In the present case, *A's* plant (construction) was used to conduct a business. Thus, the person who actually conducted the business (not the actual possessor), provided that the damage was business related, will be held liable. Of course, liability can only be established if the court determines that the construction did not meet the standards set for it. If the construction used to conduct *A's* business is defective and posed a danger to the environment should it break down, then *A* will be held liable under Article 6:181(1) BW, for damages in Case 2. Liability is not dependent on the type of harm that B suffers (see also the discussion in Case 1). However, where property has been damaged, the reduction in the value of the property or its replacement value, as

well as other types of damage and consequential loss of profit, are compensable.[90]

The general opinion in cases of damage to property had long been that the liable person had to compensate for the reasonable costs of restoration. In the *City of The Hague* v. *Van Schravendijk* case, however, the Hoge Raad ruled to the contrary.[91] The court ruled that, if the costs of restoration exceed the reduction in value of the damaged property, the restoration costs are only recoverable under certain circumstances, depending on, for example, the function of the property (personal or for investment purposes), the likelihood of acquiring a similar property,[92] location, price and other relevant characteristics, and the extent to which the costs of restoration exceed the reduced value of the property. However, in these cases, in accordance with Article 6:97 BW, the judge has the discretion to determine the actual amount recoverable.[93]

Question (b)

For the answer to this question, see the answer to Question 1(b) above.

Question (c)

In Article 6:178(a) and (b) BW, unusual circumstances such as an act of war, armed conflict, civil war, insurrection, national riots, revolt or mutiny and natural disasters provide a specific defence to liability for the use of dangerous substances (governed by Articles 6:175, 176 and 177 BW). In Question 2(a), *A* is likely to be liable pursuant to the requirements in Articles 6:174 and 6:181 BW. Thus, *A* cannot claim the defence because it only applies to liability established through Articles 6:175, 176 or 177.

However, under Article 6:174 BW, there is a defence under the so-called 'unless clause', if the possessor was aware of the danger at the time it occurred but could nevertheless not be held liable pursuant to 6:162 BW. In practise, the defence implies that the possessor can escape liability if the victim himself contributed to the damage, if causality and imputability are not established, or if there are grounds

[90] Bauw and Brans, *Milieuprivaatrecht* (2003), p. 47.

[91] HR 1 July 1993, RvdW 1993, 158 (Den Haag/Van Schravendijk) and, more recently, HR 7 May 2004, RvdW 2004, 71.

[92] 'Use values' are values to the public for recreational or other public uses of a resource as measured by the consumer surplus and any fees or other payments for use of the natural resource. Cited from: Brans, *Liability for Ecological Damage* 1994, pp. 87–8.

[93] Compare HR 26 April 2002, NJ 2004/210 and HR 7 May 2004, RvdW 2004, 71.

for justification.[94] Similarly, if the construction became defective immediately before the danger occurred, rendering effective precautionary measures impossible, the possessor may escape liability. An example of the 'unless clause' defence would be where an industrial plant breaks down as a result of terrorist action or a natural disaster and causes damage to a nearby house. The possessor of the industrial plant could argue the defence by proving that he could not possibly have prevented the damage that resulted from this *force majeure* or act of God in the particular circumstances.

Question (d)

Taking into account the fact that Article 6:174 BW is a strict liability rule, the question of intent by a third party is irrelevant as regards *A's* liability under this Article. As long as *A* is the possessor of the plant and this plant can be considered a 'construction', *A* is liable for the damage resulting from the defectiveness (i.e. the failure to comply with set standards) of the construction. However, *A* can escape liability in situations where the so-called 'unless clause' applies.

Question (e)

In general, all acts contrary to statute law constitute a breach of a statutory duty under Article 6:162 BW. In Case 2, this general rule also helps to establish liability under Article 6:174 BW. However, not all actions in compliance with the law are lawful. Under certain circumstances, even acting in compliance with a licence or a specific order or compulsory measure might constitute a breach of statutory duty.

There is no explicit legal provision that deals with the civil liability of the permit holder who causes environmental damage pursuant to the permit, but Hoge Raad case law provides the reasoning in these cases. In *Krul* v. *Joostens*,[95] the Hoge Raad ruled that a violation of property rights can be unlawful, despite an existing environmental permit (under the Nuisance Act). A licensed bakery created a nuisance by considerable shaking and vibrations that ultimately resulted in cracks in the walls of the plaintiff's home and substantially reduced its habitability. This was the first ruling of the Hoge Raad where licensed behaviour was ruled unlawful. The court based its ruling on

[94] Van Dam, *Aansprakelijkheidsrecht* (2000), p. 308.
[95] HR 30 January 1914, NJ 1914, p. 497.

breach of subjective rights and the due care provision under the general tort Article (Article 6:162 BW).[96]

In the *Vermeulen v. Lekkerkerker* case,[97] the plaintiff suffered damage to his orchard from birds attracted to the defendant's pond, which was used as a licensed refuse dump (under the Nuisance Act). The nuisance of the birds was deemed to constitute an infringement of the plaintiff's property rights, and the defendant was liable because the nuisance was above a tolerable level. The wording of the Hoge Raad in that case can be interpreted to mean that *A* will be liable to *B* even if *A* complied with a specific order, compulsory measure or a licence granted by a public authority. The Hoge Raad held: '[T]he reply to the question whether and to what extent a licence issued by the public authorities may influence the assessment of liability in tort against the person who acts in accordance with the licence, but thereby causes damage or nuisance to third parties, is dependent upon the nature of the licence and the interest pursued by the instrument on which the licence is based, in relation to the circumstances of the case.'[98]

Despite these judgments, there is no single rule regarding the effects of a licence in tort law. To decide what kind of justification a licence might provide, one has to consider the nature of the licence, the object and purpose of the Act on which the licence is based and the circumstances of the case. The same is likely to apply to compliance with a specific order or compulsory measure of a public authority.

Question (f)

Under Dutch law, an injured party is bound to mitigate his damages. If he does not even attempt to do so, he will lose compensation for his damages in proportion to his contributory negligence under Article 6:101 BW.[99] Under this 'own-fault rule', both the liability and the damages are apportioned between the victim and the person who is obliged to repair. Thus, if *B* is responsible for 90 per cent of the damage, then he will have to bear 90 per cent of the cost, and *A* will only be held liable for 10 per cent of the damage. In conclusion, *A* may still be held liable for the damage. However, the apportionment of liability and compensation

[96] Seerden and Heldeweg, *Comparative Environmental Law in Europe* (1996), p. 304.
[97] HR 10 March 1972, NJ 1972, 278 note by GJS; see also HR 30 June 1995, NJ 1995, 693.
[98] HR 10 March 1972, NJ 1972, 278 note by GJS, translation by Betlem *Civil Liability for Transfrontier Pollution* (1993), p. 431.
[99] Asser-Hartkamp 4-I 2004, Nos. 414 and 453.

may be divided by as many causes as exist, relative to their degree of gravity.

Portugal

Question (a)

Generally, *B* has a claim under Article 1346/1347 CC, as discussed under Case 1. Damage to health and property could be compensated/repaired under Article 23 LAP, if *A's* activity is objectively dangerous. The risk analysis to determine the degree of danger of the activity should consider the threat posed by a breakdown (see also the discussion in Question 1(a)).

Question (b)

The legal provisions are the same here as in Question 1(b).

Question (c)

There is no specific regulation of *force majeure* under the environmental liability regime in Portugal. Therefore, only general defences appear to be applicable. Natural catastrophes, international armed conflicts, civil war and insurrection constitute cases of *force majeure* under the Código Civil, and *A* may not be liable.

Question (d)

Again, there is no specific provision for a third party's intentional act under the regime of environmental liability. The preventive function of risk liability under Article 23 LAP may determine that sabotage is insufficient to exclude responsibility, if the operator has not adopted all the possible and reasonable measures to prevent such acts and their consequences.

Question (e)

Normally, *A* would be liable in this case. However, *B* would also have a claim against the authorizing public authority if it was not a case of *ex ante* liability.[100]

[100] J. J. Canotilho, *Actos administrativos jurídico-públicos* e responsabilidade por danos ambientais (Coimbra, 1998).

Question (f)

Under Article 587 CC, contributory fault reduces the plaintiff's claim for liability against a defendant.

Scotland

Question (a)

Again, if fault cannot be established, *A* is not liable to *B*, and the nature of the harm suffered is irrelevant. However, it is very possible that Scots law would read fault into the circumstances in Case 2. If a proprietor carries on a dangerous activity on his or her land with the knowledge that it poses an imminent threat to the surrounding area, then he or she will be deemed to be at fault for failing to implement necessary safety measures, or, if such measures cannot be implemented, for undertaking the activity in the first place.[101]

Question (b)

Again, there will be no civil liability in the absence of fault, but fault may be found as outlined under Question 2(a) above.

Question (c)

In principle, there is no liability for damage caused by an act of God (*damnum fatale*[102]) or by an extraordinary and completely unforeseeable event. Indeed, the fact that damage is caused by act of God may provide a defence in a situation where strict liability would otherwise apply.[103] However, *A* has this defence only if it is clear that the unusual circumstances, as opposed to *A's* negligence, were the actual cause of the damage.

In fact, there are various routes through which fault-based liability may reassert itself. For example, it may be argued that *A* has been

[101] See *Chalmers* v. *Dixon* (1876) 3 Rettie 461, *per* Lord Justice-Clerk Moncreiff at 464: 'A good deal has been said as to the necessity of proving culpa. I think that culpa does lie at the root of the matter. If a man puts upon his land a new combination of materials, which he knows, or ought to know, are of a dangerous nature, then either due care will prevent injury, in which case he is liable if injury occurs for not taking that due care, or else no precautions will prevent injury, in which case he is liable for his original act in placing the materials upon the ground.'

[102] I.e. 'circumstances which no human foresight can provide against, and of which human prudence is not bound to recognise the possibility': *Tennent* v. *Earl of Glasgow* (1864) 2 Macpherson (HL) 22, *per* Lord Westbury at 27.

[103] *Caledonian Railway Company* v. *Greenock Corporation*, 1917 SC (HL) 56.

negligent in failing to take reasonable precautions in respect of a natural event, which ought to have been foreseen, and that *A's* negligence is therefore the 'cause' of the damage.[104] Moreover, if a proprietor undertakes any works or construction which are particularly susceptible to the consequences of natural events (such as allowing water to accumulate), there is an increased burden upon that proprietor to make provision for such occurrences. 'If anything be done by an individual which interferes with natural occurrences . . . it is undoubtedly the duty of that individual so to construct the work as to provide in an efficient manner, not only against usual occurrences and the ordinary state of things, but also to provide against things which are unusual and extraordinary.'[105]

Question (d)

Defendant *A* is not normally liable for the actions of third parties. Moreover, while *A* must take care of his or her property in a way which causes no injury to others, there is no general duty upon *A* to take care of the property in a way that prevents third parties from entering upon it or causing damage to neighbouring proprietors. However, in certain, very restricted circumstances, *A* may be found negligent, and therefore liable, when *A* has failed to prevent foreseeable third party intervention. If the third party conduct was foreseeable, the question becomes whether *A* has acted reasonably in failing to take the required preventive measures and requires balancing risk against the costs of prevention.

The modern Scots law on this issue is stated in *Maloco* v. *Littlewoods Organisation Ltd*, a Scots case which was ultimately decided in the House of Lords.[106] The duty of a defendant property owner with regard to third parties is analysed rather differently by the individual judges in that case. Lord Mackay, one of the Scots Law Lords, took the view that a proprietor was under a duty of care to prevent third party misfeasance if it was both foreseeable and highly probable. Lord Goff, on the other hand, formulated a series of tests for closely circumscribed circumstances in which the duty would arise: (i) where 'a duty of care may arise from a relationship between the parties, which gives rise to an

[104] E.g. *Leakey* v. *National Trust* [1980] QB 485 (failing to take measures to protect against a landslide).

[105] *Tennent* v. *Earl of Glasgow* (1864) 2 Macpherson (HL) 22, *per* Lord Westbury at 26.

[106] 1987 SC (HL) 37, reported in England as *Smith* v. *Littlewoods Organisation* [1987] AC 241; for English commentary on this issue, see D. Howarth, 'My Brother's Keeper? Liability for Acts of Third Parties' (1994) 14 *Legal Studies* 88.

imposition or assumption of responsibility upon or by the defender'; (ii) 'where the defender negligently causes or permits to be created a source of danger, and it is reasonably foreseeable that third parties may interfere with it, and sparking off the danger, thereby cause damage to persons in the position of the pursuer'; or (iii) 'where [the defender] has knowledge or means of fire, or indeed has started a fire, on his premises, and then fails to take such steps as are reasonably open to him ... to prevent any such fire from damaging neighbouring property'.[107]

Question (e)

If a certain type of conduct has been authorised by statute, and harm necessarily results from it, there is no liability, assuming that *A* is a commercial organisation, not a public authority. However, if the activities so authorised could reasonably have been carried out without causing harm, then *A* may nevertheless be liable. '[N]o action will lie for doing that which the legislation has authorised, if it be done without negligence, although it does occasion damage to anyone; but an action does lie for doing that which the legislation has authorised, if it be done negligently.'[108]

Question (f)

It is possible, even when *A* has demonstrably been at fault, that *A* may avoid liability by establishing that *B's* own conduct constituted a *novus actus interveniens* which breaks the chain of causation between *A's* conduct and *B's* damages. Alternatively, it may be argued that *B's* conduct evinces consent to harm; *volenti non fit iniuria* is a complete defence. However, the courts are reluctant to accept either of these arguments, except in the most extreme of cases. Instead, they are more likely to hold *A* liable but reduce the damages award to the extent just and equitable, since *B* has contributed to his own harm.[109]

Spain

Question (a)

As discussed in Case 1 above, the fact that the victim is not able to bring any evidence of the polluter's fault is not a problem for the plaintiff, in

[107] At 77–9.

[108] *Geddis* v. *Bann Reservoir Properties* (1878) 3 App Cas 430, *per* Lord Blackburn at 455. See also *Lord Advocate* v. *North British Railway Company* (1894) 2 SLT 71.

[109] Law Reform (Contributory Negligence) Act 1945, section 1(1).

practice, because courts look more favourably on the plaintiff in this regard. Moreover, the fact that a breakdown caused the damage will usually make the proof of fault easier than in cases where damage is a result of the normal, apparently proper operation of an industrial plant. Effectively, *A* would be liable here as a general rule. Finally, any differences between loss of life or personal injury and damage to property have been addressed under Question 1(a).

Question (b)

See the answer to Question 1(b).

Question (c)

Acts of war, hostilities, civil war, insurrection or natural disasters exclude liability because they are considered external causes that interfere or break the chain of causation between the conduct of the tortfeasor and the resulting damage. Although Article 1902 CC does not include any rule on these aspects, Article 1105 CC, regarded by scholars[110] and courts[111] to apply to tort liability, addresses these exceptional circumstances. According to Article 1105, '[E]xcept in the instances expressly mentioned in the law, and those established in the obligation involved, no person shall be liable for events that could not have been foreseen or that, if foreseen, were inevitable.'[112] Several specific strict liability statutes expressly provide for *force majeure* as a defence. It is often the case that the overall *force majeure* concept, also called *caso fortuito* (*casus*), is used instead of enumerating the circumstances indicated above. Case law seems to define *caso fortuito* and *force majeure*, without distinction,[113] as an event that cannot be foreseen or, if

[110] See Francisco Rivero Hernández, in José Luis Lacruz, *Elementos de Derecho Civil. Derecho de Obligaciones*. II-2 *Contratos y cuasicontratos. Delito y cuasidelito* (Madrid, Dykinson, 1999), p. 494; Mariano Yzquierdo Tolsada, *Sistema de responsabilidad civil contractual y extracontractual* (Madrid, Dykinson, 2001), pp. 197 *et seq*.; Ricardo de Ángel Yagüez, *Tratado de Responsabilidad Civil* (Madrid/Bilbao, Civitas, 1993), p. 301.

[111] See, among others, SSTS 21.1.2000 [RJ 2000/225], 4.4.2000 [RJ 2000/2506] and 11.4.2000 [RJ 2000/1823].

[112] Fuera de los casos expresamente mencionados en la ley, y de los en que así lo declare la obligación, nadie responderá de aquellos sucesos que no hubieran podido preverse, o que, previstos, fueran inevitables.

[113] Prevailing opinion considers the two concepts to be the same. For a general overview of the different opinions, see Jacinto Gil Rodríguez, in Lluís Puig Ferriol *et al*., *Manual de Derecho Civil*, vol. II (3rd edn, Madrid, Marcial Pons, 2000), pp. 307–13; Rafael Sánchez Aristi, in Rodrigo Bercovitz (coord.), *Comentarios al Código Civil* (Elcano, Aranzadi, 2001), com. Article 1105, p. 1285.

foreseen, is inevitable when acting with the required standard of care.[114] At any rate, as noted in the answer to Question 1(a), a defendant will be liable if he has been even slightly negligent even though a *casus* occurred.

Question (d)

An act by the third party would be considered a *force majeure*, and thus free *A* from liability. However, it is necessary that the third party's conduct is free and spontaneous,[115] but it need not be done intentionally in order to break the causal link between the behaviour by *A* and the damage.[116]

On the other hand, a person who carries out a risky activity must take into account the possibility of a third party's malfeasance and prevent him or her from causing harm. For example, the operator of a nuclear plant would be liable if a third party stole radioactive materials from the plant facilities because the act of the third party falls within the sphere of interest of the operator.[117]

Question (e)

It is a matter debate whether compliance with administrative law is a defence to liability under Spanish law. However, in modern law, it seems unproblematic to refuse use of an administrative licence as a defence for a polluter. Despite courts' holding a licence holder liable for damages, the holder may also sue the licensing authority for damages, if the licence was unlawfully issued or the holder had to close the industrial plant and move to another region.[118] Compliance with an order or compulsory measure of a public authority could probably also be considered a legitimate exercise of a right (*ejercicio legítimo de un derecho*).

[114] See STS 20.7.2000 [RJ 2000/6754], with regard to *force majeure*, and STS 4.4.2000 [RJ 2000/2506] and STS 11.4.2000 [RJ 2000/1823], with regard to fortuitous events.

[115] Taking this view is, for instance, Gema Díez-Picazo Giménez, 'Responsabilidad civil ambiental', in A. Vercher, G. Díez-Picazo and M. Castañón, *Responsabilidad ambiental penal, civil y administrativa* (Madrid, Ecoiuris, 2003), p. 147.

[116] See, misleadingly, Juan José Arbues Salazar and Jesús Labrador Bernad, *El seguro de responsabilidad civil por daños al medio ambiente: el pool español de riesgos medioambientales* (Madrid, Dykinson, 1998), p. 16.

[117] See Encarna Cordero Lobato, 'Derecho de daños y medio ambiente', in Luis Ortega Álvarez, *Lecciones de Derecho del medio ambiente* (2nd edn, Valladolid, Lex Nova, 2000), p. 449.

[118] Such was the case in STS, Sala 3ª, Sección 5ª, 19.6.1991 [RJ 1991/5192]. In legal doctrine, see Egea, *Acción negatòria*, p. 176.

According to Article 20.7 of the Penal Code, liability is excluded if the defendant caused the damage while fulfilling his or her duties or in the exercise of a legitimate right, job or office. This rule, however, based on the Roman rule known as *qui suo iure utitur neminem laedit*, is restricted by the doctrine of the abuse of right (*abuso de derecho*). According to Article 7 CC, if a person exercises a legitimate right in an abusive manner and thereby causes harm to a third person, the exercise of the right is nevertheless unlawful, and tort liability rules grant compensation for the damage.

Question (f)

A specific reference to contributory negligence in Spanish law can be found in Article 114 of the Penal Code, which, in connection with tort liability deriving from a crime or a misdemeanour, states that: '[I]f the victim had contributed by his conduct to the occurrence of the damage sustained, the judge or the courts will be able to moderate the amount awarded for its reparation or compensation.'[119] Some provisions in specific strict liability statutes also refer expressly to contributory negligence, such as Article 45.II of the Nuclear Energy Act[120] concerning nuclear accidents; Article 9 of the Products Liability Act (LRPD)[121] regarding damage caused by defective products; and Article 33.5 of the Hunting Act.[122] However, although the Código Civil does not contain any provision dealing specifically with the conditions and effects of contributory negligence, courts regularly use contributory negligence to reduce awards in all areas of tort liability,[123] when the damage has been caused in part by the victim's carelessness. It is likely that contributory negligence would apply to general environmental liability as well.[124]

[119] 'Si la víctima hubiere contribuido con su conducta a la producción del daño o perjuicio sufrido, los Jueces o Tribunales podrán moderar el importe de su reparación o indemnización.'

[120] Ley 25/1964, de 29 de abril, reguladora de la energía nuclear [LEN]. BOE No. 107, 4 May 1964.

[121] BOE No. 161, 7 July 1994.

[122] Ley 1/1970, de 4 de abril, de Caza [LC]. BOE No. 82, 6 April 1970.

[123] Among many others, see e.g. SSTS 11.2.1993 [RJ 1993/1457] and 1.7.1995 [RJ 1995/5423]. See also Josep Solé Feliu, 'La concurrencia de culpa de la víctima en la jurisprudencia reciente del Tribunal Supremo', ADC 1997, p. 867, with further bibliographical indications.

[124] See, *interalia*, Díez-Picazo, in Vercher, Díez-Picazo and Castañón, *Responsabilidad ambiental*, p. 147; and Eulalia Moreno Trujillo, 'La responsabilidad civil por deterioro del medio ambiente', in Germán Gómez Orfanel, *Derecho del medio ambiente* (Madrid, Ministerio de Justicia e Interior, 1995), p. 59.

Spanish law also acknowledges contributory fault where a plaintiff fails to mitigate his or her damage by adopting reasonable measures to reduce the harm. The duty to mitigate damage is, according to legal scholars and courts,[125] based on the general principle of good faith (Article 7 CC.)

As a general rule, contributory negligence reduces compensation in proportion to the plaintiff's extent of participation in causing the damage.[126] In some cases, contributory fault may even eliminate compensation completely, something which happens whenever the conduct of the victim is 'the exclusive ground of the result' or 'has so marked an importance or an intensity as to absorb any other fault that contributes to the result'.[127] The court has discretion regarding the reduction of damages, and it will take all circumstances of the case into account in making its decision.[128]

Sweden

Questions (a) and (b)

This situation has the same legal status as under Questions 1(a)[129] and (b), respectively.

Questions (c) and (d)

The strict civil liability scheme in Sweden most likely does not provide for defences based on *force majeure*, such as natural disasters or sabotage. But the issue is neither clear nor settled by case law.[130]

[125] Luis Díez-Picazo y Ponce De León, *Derecho de daños* (Madrid, Civitas, 1999), p. 322; and Clara Isabel Asúa González, in Puig Ferriol *et al.*, *Manual de Derecho Civil*, p. 488. See STS 29.11.1995 [RJ 1995/8361].

[126] See e.g. SSTS 11.2.1993 [RJ 1993/1457] and STS 15.12.1999 [RJ 1999/9200].

[127] E.g. SSTS 25.9.1996 [RJ 1996/6655] and 13.5.1998 [RJ 1998/2390].

[128] SSTS 9.3.1995 [RJ 1995/1847]; 17.9.1998 [RJ 1998/6544]; 15.3.1999 [RJ 1999/2147]; 2.11.1999 [RJ 1999/7998]; 15.12.1999 [RJ 1999/9200] and 21.3.2000 [RJ 2000/2023]. This last decision states expressly that 'the principle that applies in this subject is the principle of equity, which will become apparent depending on the circumstances of the case'.

[129] For general comments on legal standing, see P. H. Lindblom, *Miljöprocess Del I* (2001), pp. 157 *et seq*.

[130] Hellner, (*Skadeståndsrått* 2000), p. 346; and Larsson, *The Law of Environmental Damage* (1999), pp. 296–7.

Question (e)

The defence of compliance with public law or order is not generally provided for in Swedish general tort law or environmental liability law.[131]

Question (f)

Liability *per se* on *A* will not be reduced for *B's* contributory fault, but the award might be reduced under application of the general Tort Law Act.[132]

[131] Cf. Hellner, *Skadeståndsrått* (2000), pp. 113–21 and 334.
[132] See the Tort Law Act, Ch. 6 § 1.

Case 3 Dangerous substances

A is a producer of dangerous substances. After several years of site operation, neighbouring land has become contaminated. Being a neighbour of the site, *B* suffers a loss.

a) Is *A* liable to *B*? Is it of any importance that *B* owns the contaminated land?
b) Would it make any difference if *B* had suffered personal injury or property damage?
c) What would the extent of liability be if the pollutants cause minor health damage (e.g. chronic bronchitis) and/or property damage to the majority of people living in the community affected by the contamination?

Comparative remarks

1. Comparison

No European country, except for the Netherlands, provides for a specific liability regime with regard to dangerous substances. Operators of activities producing or dealing with dangerous substances, therefore, are subject to the liability regimes outlined in Case 1. In the Netherlands, Article 6:175 Burgerlijk Wetboek imposes a special strict liability regime on the use of dangerous substances. Liability is placed upon the operator of the activity, who can be held liable many years later, even after closure of the plant. With regard to waste diposal sites, Article 6:176(3) Burgerlijk Wetboek makes clear that, if a waste disposal site was transferred to another operator, the successor cannot be burdened with damages caused by his or her predecessor.

Most countries also ensure the clean-up of contaminated land pursuant to administrative law (Austria, Belgium, England, Finland,

France, Germany, Italy, the Netherlands, Scotland, Spain and Sweden). The person primarily responsible for such an obligation is the operator of the activity that has caused the damage. If the operator cannot be held liable, the obligation falls upon the owner of the contaminated land. Under English law, if the public authority fails to act, a person who is injured because of the land contamination can bring an action in tort for breach of statutory duty against the public authority. The injured person must show that the duty breached by the public authority contemplated the damage, that the duty was not only in the public interest, but also for the personal benefit of individual persons, and that the claimant belonged to such a protected group.

2. Conclusions

Cases 3–8 explore the existence of special liability rules for certain activities dangerous to the environment. With regard to dangerous substances, the common core is a negative one, established by the fact that, with the exception of the Netherlands, no country provides for specific legislation. Hence, damage caused by dangerous substances is governed by the liability rules explained in Case 1.

Discussions

Austria

Question (a)

Plaintiff *B* might be able to invoke § 364a ABGB, provided that *A's* activity is covered by a licence. For further details on these issues, see the answer to Question 1(a).

Question (b)

If *B* had suffered personal injury, he or she would not be able to invoke § 364a ABGB. A personal injury claim can only be based on fault liability or, if applicable, on a specific strict liability regime.

Question (c)

Under Austrian law there are no special provisions covering this type of damage. The answer is the same as under Question 1(a) and (b).

Belgium

Question (a)

If fault cannot be established, the case may be dealt with under the law of nuisance or the liability for defective things, described in the answers to Cases 1 and 2.

If fault is established, the principles of general tort law, laid down in Articles 1382 and 1383 BW are applicable. Two main subcategories of fault are to be distinguished:[1] (1) the violation of a (generally statutory or regulatory) rule imposing a specific conduct or a duty to abstain therefrom, and (2) negligence. The application by the courts of the concept of fault, especially in pollution cases, has become more stringent over the last few decades. In many instances, the difference between fault and strict liability may be a theoretical one.

The violation of a rule of law prescribing a specific conduct or a duty of abstention constitutes a fault.[2] The type of rule violated is irrelevant, be it a statutory or a regulatory provision, individual administrative decisions, rules of international law with direct effect or even general principles of law. Similarly, the branch of law to which the rule belongs is irrelevant, and the rule need not be intended to protect the victim against a certain category of harm. If a written rule does not prescribe a specific conduct or abstention, it will refer to the general duty of care. One should specifically note a number of statutory provisions, which impose the obligation to take *all necessary measures* in order to prevent a specific kind of danger or damage. A decision of the Cour de Cassation (Hof van cassatie) of 6 December 1965[3] held a provision of this nature to be an obligation to guarantee the absence of nuisance, rather than merely to take reasonable efforts to reach this result. In the Flemish environmental legislation, a number of provisions of this type can be found. Article 22 of the Decree on environmental permits of 28 June 1985, for example, requires the permit holder to take *the necessary measures* to prevent damage, nuisances and major incidents and to limit the consequences of accidents as far as possible at all times.[4]

[1] Cass. 8 December 1994, RW 1995–6, 183.

[2] For further references, see L. Cornelis, *Beginselen*, pp. 60 *et seq.*

[3] Pas. 1966, I, 450.

[4] See also Vlarem I, Articles 43 § 2. Cf. the Flemish waste decree of 2 July 1981, Article 15, where *all reasonable* measures are required to prevent damages, and the Flemish decree on general principles of environmental management, Articles 3.7.1, which requires the necessary measures to limit, *as much as possible*, the consequences of accidental emissions.

Whether such a provision merely confirms the general duty of care or imposes a more stringent obligation is disputed, though the latter opinion seems more accurate.[5]

Negligence is the violation of the general duty of care. Here, the defendant's conduct is compared to the behaviour of the hypothetical, normally prudent, careful and reasonable person, placed in the same external circumstances.[6] Although the comparison with the reasonable man, in principle, is made *in abstracto*, courts will generally take into account the professional capacity and experience of the individual defendant. In applying the rules of negligence on polluting activities, case law seems to attach particular importance to the elements discussed below.[7]

a) A prudent professional must conform to the state of the art and good practice in his profession.[8] A failure to maintain technical installations is a fault, as is the use of outdated technology.
b) Further, a professional using dangerous technology must take reasonable measures to prevent foreseeable damage. If he is aware of a special risk, he is under a duty to warn the potential victims, even if he has not created the risk himself. If he engages in new activities, he must investigate any potential special dangers involved.
c) In a few cases, whether a professional has a serious justification for creating or tolerating risks to essential interests such as public health and safety, determines his fault.[9]

[5] Bocken and De Saegher, TMR, 1993, 82; H. Bocken and S. Deloddere, 'Vergoeding van milieuschade', in *Recht voor de onderneming*, X (Milieu en stedenbouw, Kluwer Rechtswetenschappen, 1998), pp. 50–5 and references; I. Larmuseau, 'De milieuzorgplichtbepaling van artikel 22 Milieuvergunningsdecreet', in Vlaamse Conferentie der balie gent (ed.), *Strafrecht – Strafrecht* (Maklu, 2001), p. 180 and references.

[6] Cass. 22 March 1957, Pas. I, 885.

[7] With respect to the application of the general duty of care to pollution cases, see H. Bocken, *Het aansprakelijkheidsrecht als sanctie tegen de verstoring van het leefmilieu* (Brussels, Bruylant, 1979), pp. 43–65; H. Bocken, 'La réparation des dommages causés par la pollution en droit belge. La situation en 1992', TBBR, 1992, 302; A. Van Oevelen, *Cirielrechtelijke aansprakelijkheid voor milieuschade* (CBR, Antwerp, Kluwer Rechtswetenschappen, 1991), p. 129–188; H. Bocken, *Het aansprakelijkheidsrecht als sanctie tegen de verstoring van het leefmilieu* (Brussels, Bruylant, 1979), pp. 43–65.

[8] Although case law does not provide a precise definition of what exactly is to be understood by the state of the art and to what extent economic considerations are to be taken into account. An answer is given by statutory definitions of BAT and BATNEEC in various environmental laws. See Deketelaere, 'Milieu en burgerlijk aansprakelijkheidsrecht', p. 1163, note 17 and references.

[9] See Bocken, 'La réparation des dommages', TBBR, 1992.

Again, there would only be a violation of the duty of care if the defendant had the reasonable possibility of foreseeing that his act could cause damage to others, and he failed to take precautions.[10] However, as with the statutory duty of care, the exact nature of the damage and the identity of the victim need not be foreseeable. Causation[11] between the damage and the fault is established in accordance with the doctrine of 'equivalence of conditions'. The defendant cannot escape liability by showing that the damage was not foreseeable or would not have occurred in the normal course of events.

The defendant will escape tort liability only by showing that his act has a justification. The strongest justification is *force majeure*, that is, an event which the defendant has not caused, which he could not reasonably have foreseen or avoided, and which made it impossible for him to meet the prevailing standard of conduct.[12] A subcategory of *force majeure* is the 'state of necessity' justification, where the violation of a less important duty is justified by the necessity to observe a more important one. Moreover, self-defence, inevitable mistake, and compliance with a valid legal order of the authorities are also justifications. Abiding by the rules of an administrative permit is no justification for damages caused in the course of activities for which the permit has been granted, however, as a permit does not limit private rights to compensation[13] (Article 8 of the Flemish decree on environmental permits).

Question (b)

See the answer to Question 1(a).

Question (c)

See the discussion under Question 1(b).

[10] Cass. 12 November 1951, Pas., 1952, I, 128; Cass. 5 May 1971, JT, 1971, 662.

[11] See generally H. *De Page, Traité éléméntaire de droit civil belge* (1960), II, 960; R. O. Dalcq, *Traité II*, No. 2426; M. Van Quickenborne, *De oorzakelijkheid in het recht van de burgerlijke aansprakelijkheid* (Gent, 1972); H. Bocken,'Actuele problemen inzake het oorzakelijk verband', in M. Storme (ed.), *Recht halen uit aansprakelijkheid* (Gent, Breech, uitgevers, 1993), pp. 81–121.

[12] Cass. 15 May 1930, Pas. 1930, I, 223.

[13] Van Oevelen, *Civielrechtelijke aansprakelijkheid voor milieuschade*, 139 and references.

England

Question (a)

I. Common law

There may be liability in the tort of negligence in this situation. In order to succeed in negligence, *B* will have to show that *A* owed him a legal duty to exercise care in carrying out *A's* activities; that *A* failed to fulfil this duty (the standard of care expected of a reasonable factory owner with *A's* skill and experience); that the damage *B* suffered was caused by *A's* activities; and that *A* could foresee that this type of damage was likely to result if *A* failed to exercise care.[14] In determining whether *A* has discharged his duty of care, the court will consider any precautions which *A* could reasonably have been expected to take.[15] Compliance with government regulations, central government guidance documents and codes of practice relevant to the industry will generally be regarded as non-negligent behaviour.[16]

There may be liability in negligence if the requirements explained above are met. Liability may be imposed in negligence for personal injury, death or property damage, provided the damage is of a foreseeable kind. In negligence, there is no liability for pure economic loss, although economic loss which flows from property damage is recoverable.[17] However, there is insufficient detail in the facts of Case 3 to give a definitive answer. Plaintiff *B* need not be the owner of the contaminated land, but he must be a 'foreseeable claimant', i.e. within the range of persons whom *A* might reasonably expect to be injured by a failure to exercise care.[18]

With regard to liability in *Rylands v. Fletcher* and nuisance liability, the answer to Question 3(a) is generally the same as that given to Question 1(a). Liability depends upon the reasonableness of *A's* use of his premises and the foreseeability of the damage. For the action under *Rylands* v. *Fletcher*, *B* may not need to be the owner, but he must be the occupier,[19]

[14] See *Donoghue* v. *Stevenson* [1932] AC 562; *Blyth* v. *Birmingham Waterworks Co.* (1856) 11 Exch 781; *Bolam* v. *Friern Hospital Management Committee* [1957] 2 All ER 118.

[15] *Latimer* v. *AEC* [1953] AC 643; *Overseas Tankship (UK) Ltd* v. *The Miller Steamship Co. Pty and Another (The Wagon Mound (No. 2))* [1967] 1 AC 617.

[16] *Budden* v. *BP Oil* [1980] *Journal of Planning Law* 586.

[17] See *Spartan Steel Alloys* v. *Martin* [1973] 1 QB 27.

[18] See *Donoghue* v. *Stevenson* [1932] AC 562; *Margereson* v. *Hancock* [1996] PIQR P358.

[19] It is still unclear whether the plaintiff needs to have an interest in the land to be able to bring an action under the rule in *Rylands* v. *Fletcher*; however, given the House of Lords decision in *Cambridge Water* that *Rylands* v. *Fletcher* is merely a species of nuisance, it

of the contaminated land. In nuisance, according to the decision in *Hunter* v. *Canary Wharf*, *B* does not need to be the owner of the contaminated land, but he must have an interest therein.[20]

II. Statute law

The principal English legal provisions for securing the remediation of contaminated land are found in Part IIA of the Environmental Protection Act 1990 (this was inserted by the Environment Act 1995).[21] The statutory provisions must be read together with the Contaminated Land (England) Regulations 2000,[22] and the Statutory Guidance laid down in Department of Environment, Transport and the Regions (DETR)[23] Circular 2/2000. There is no provision for the payment of compensation for personal injury under Part IIA of the EPA 1990. 'Contaminated land' is defined in section 78A as land to which significant harm is being caused, or which is threatened by a significant possibility of significant harm, or whose controlled waters are being, or are likely to be, polluted. 'Significant harm' and 'significant possibility' are to be interpreted in accordance with the guidance laid down in the Statutory Guidance in Circular 2/2000. Once land has been designated as contaminated, the local authority or the Environment Agency (in the case of the more seriously contaminated sites) is under a duty to serve a remediation notice on the 'appropriate person'. Under section 78F, there is a hierarchy of appropriate persons: (a) the person whose activities caused or knowingly permitted the substances which caused the contamination to be present on the land; then (b) the current owner or occupier of the land (if the polluter cannot be identified 'after reasonable enquiry', or no longer exists, for example a company which has gone into liquidation).[24]

The remediation notice will specify the works to be undertaken to bring the land back to a condition suitable for its current use or for any officially consented use (such as under a planning permission). Only

would seem likely that, in future, the plaintiff will be required to have a legal interest in land.

[20] See Questions 1(a), 3(f) above.

[21] See also the description by O. McIntyre, 'Statutory Liability for Contaminated Land', in J. Lowry and R. Edmunds (eds.), *Environmental Protection and the Common Law* (Hart Publishing, 2000), p. 115 (123 *et seq.*).

[22] S.I. 2000/227.

[23] Now the Department of Food, Environment and Rural Affairs (DEFRA). Copies of this Circular are available on the departmental website (www.defra.gov.uk).

[24] Certain persons in each category are excluded from liability by the Statutory Guidance.

works which are 'reasonable' may be required, and section 78E(4)–(6) provides that reasonableness is to be determined by weighing the costs likely to be involved, the seriousness of the harm or pollution of controlled waters, and the remediation standards laid down by the Secretary of State in the regulations or Statutory Guidance.

Remediation notices are served by either the local authority or the Environment Agency, and no individual landowner (or other person with an interest in the land), such as *B*, can serve such a notice. If the authority failed to act, however, *B* might be able to challenge this omission by way of judicial review. It might also be possible to bring a civil action in tort for breach of statutory duty. There is a general rule that, if a statute creates a duty but imposes no civil or criminal remedies for its breach (as is the case with the provisions of Part IIA of the EPA 1990), the person injured by the breach will have a right of action for breach of statutory duty. Such an action can only be sustained if the owner or occupier of the contaminated land can show that the contaminated land provisions in the EPA 1990 impose a duty which is for his personal benefit (or for the benefit of a particular class of individuals) rather than the benefit of society generally.[25] The claimant must also show that the damage suffered was within the scope of the damage envisaged by the provisions of Part IIA of the EPA 1990. It should be noted, however, that, for public policy reasons, English courts have traditionally been very reluctant to impose tortious liability on public authorities, particularly for breach of statutory duty.[26]

Questions (b) and (c)

For these questions, see immediately above in 3(a) and the discussion under Questions 1(a) and (b).

Finland

Question (a)

The polluter, *A*, is liable for damage caused by soil contamination. Financial loss, which is not related to personal injuries or property damage, will, however, not be compensated, unless it is extensive. Ownership of the polluted area has importance when liability for cleaning up the area is based on public environmental law. If the polluter

[25] *Monk* v. *Warbey* [1935] KB 75.

[26] See, for example, *Bowden* v. *South West Water Services Ltd*, *Secretary of State for the Environment and Director General of Water Services* [1998] 3 CMLR 330.

cannot be required to clean up the area, the owner of the area may have secondary liability.[27]

In the context of Case 3, the old legislation applies if the activity in question ended before 1995. Post-1995, civil liability presupposes fault, with the exception of new groundwater pollution, which has been based on strict liability since 1962. The only exception to strict liability is exceptional external conditions, such as *force majeure*.[28]

Question (b)

Personal injuries are always compensable, and property damage is compensable if it is not merely 'minor'. The property damage must be deemed considerable by the court.[29]

Question (c)

Health injuries shall always be compensated (in relation to pollution), in principle. General health risks should be evaluated objectively, but if someone can prove that he individually suffers health problems due to the defendant's activities, regardless of the effect on the public, the losses should be covered. In a case of minor property damage, the injured party may be obliged to tolerate the pollution up to a 'reasonable' level (provided that is the consequence of common or normal polluting effects).

France

Question (a)

Defendant *A* is liable as the custodian of the dangerous substances which have contaminated *B's* land, whether *A* is at fault[30] or not.[31]

If *A* has committed a fault, Article 1382 CC will apply. The fault could be a violation of the law (*latto sensu*, i.e. statutory or regulatory provisions, individual decisions of administrative authority, rules of international or EC law with direct effect, general principles of law)[32] or a misuse of right.[33] In the first case, as in the case of negligence

[27] See decision of the Supreme Administrative Court 31.5.1995 No. 2348.
[28] Water Act; see decisions of the Supreme Administrative Court 1992 A 98 and 1996 A 29.
[29] See decision of the Supreme Court 1999: 24.
[30] Cass., civ. III, *Société Metaleurop*, 25 May 1993 in Deharbe, *Droit de l'environnement*, p. 339.
[31] Cass., civ. I, 9 June 1993, JCP, 1993, II, No. 22202; see also Pascale Steichen, *Les sites contaminés et le droit* (LGDJ, 1996), p. 134.
[32] Cass., crim., 23 March 1999, in Deharbe, *Droit de l'environnement*, p. 336.
[33] Cass., civ. III, 24 October 1990, *Bulletin* III, 1990, No. 205, p. 118.

(Article 1383 CC), *B* may act before civil or criminal courts (regardless of land ownership, as long as he or she suffers from a loss). Also, 'registered' environmental protection associations (*associations agrées*) may sue *A* before civil or criminal courts because Article L.142-2 of the Code de l' environnement grants such associations a standing as a *partie civile* when the interests they defend are damaged. Finally, the procuracy (*ministère public*) may also sue *A* before the criminal courts.

If *A* is not at fault, *B* has standing to sue *A* only if he or she owns the land (in whole or in part) or if he or she holds a personal or real right of use.

If *B* is a public authority owning or using public property (e.g. a port authority using beaches and marine waters), it may sue *A* before the administrative courts, which will impose penal sanctions according to a special procedure (*contravention de grande voirie*).[34]

Question (b)

If *B* has suffered personal injury, he or she will have legal standing, regardless of land ownership, even if *A* was not at fault. As noted above, however, if *B* has suffered property damage, he or she must be the owner of the contaminated land, a tenant, or otherwise have a real or personal right over the land, in order to sue *A*.

Question (c)

See the answer to Question 1(b). As far as public authorities are concerned, the only action available is state liability for failure of the *préfet* to act.

Germany

Question (a)

I. A claim under § 906(2) sentence 2 BGB initially requires that *B* is the authorised occupier of the adjoining/affected property. Note, again, that, under § 906(2) sentence 1 BGB, *B* has a duty to tolerate the emissions emanating from *A's* property, if *A* uses his property in a manner consistent with customary use[35] in the locality and if he cannot reasonably (i.e. commercially) be expected to take preventative measures

[34] See Agathe Van Lang, *Droit de l'environnement* (Presses universitaires de France, 2002), p. 464.

[35] In essence, the conditions in the entire area are taken into account in the determination of the representive locality; see Staudinger/Roth, BGB § 906 n. 184; see also BGH 20.11.1992, BGHZ 120, 239, 260 (frog noises).

to the extent necessary to prevent the emissions. Notwithstanding a duty of toleration, customary use is subject to a normative limitation, in that the enjoyment of an adjoining property should never be made impossible simply because a nuisance is 'within the tolerated level'. Three exceptions to a duty to tolerate may be distinguished: (a) direct threats to health or life from emissions need never be accepted (BImSchG);[36] (b) the local customary standard is negated if the neighbour renders the use of property impossible;[37] and (c) no local customary use exists for an illegal action or an action contrary to law.[38]

In Case 3, the contamination is attributable to health-endangering emissions, such that *B* is not under a duty of toleration, based on the first 'exception'. Thus, there is an infringement which is significant and beyond reasonably acceptable limits. Although, ultimately, a compensatory claim pursuant to § 906(2) sentence 2 BGB fails, there is an alternative claim if *B* was actually prevented from taking mitigating or avoidance action because of a lack of knowledge of the emissions. Since *B* is not subject to a duty of toleration, he can demand a cessation of its effects on his property pursuant to § 1004(1) sentence 1 BGB, even if compensation fails under § 906(2) sentence 2.

II. It may be presumed that *A* operates an installation in the sense of Appendix 1, § 1, UmweltHG because *A* produces dangerous substances. To sue under this provision, *B's* damages (whether to person, health or property) must be attributable to the environmental impacts from *A's* activities.

III. Plaintiff *B* may have a compensatory claim against *A* under § 22(1) sentence 1 WHG, if *B's* losses were due to an alteration of the physical, chemical or biological properties of water by the introduction or discharge of substances or an interference with the water. However, the facts in Case 3 are unclear as to these elements. For a claim under § 22(2) sentence 1 WHG, *B's* damage must not be caused by *force majeure* (§ 22(2) sentence 2 WHG), but rather due to *A's* operation of an installation which is intended for the production, processing, storage, keeping, transport and conduction of dangerous/polluting substances. Again, damages would have to result from the substances entering water from *A's* installation in order for *B* to claim under this provision.

IV. Finally, if *A* has, by his fault, violated a strictly protected legal interest of *B*, causing damage to *B*, *B* has a claim for compensation under § 823(1) BGB. If *B* is the owner of the affected property, then there is a *prima facie* violation of *B's* legal interests. The general view also holds that an authorised occupation is likewise a strictly protected right pursuant to § 823(1) BGB.[39]

[36] Staudinger/Roth, BGB § 906 n. 202.
[37] Staudinger/Roth, BGB § 906 n. 202.
[38] Staudinger/Roth, BGB § 906 n. 202.
[39] For example Palandt/Thomas, BGB § 823 n. 13.

Question (b)

Plaintiff *B* may sue for all claims listed under Question 3(a).

Question (c)

The fact that the majority of the population is affected does not alter *A's* compensatory duty. For further discussion, see the answer to Question 1(b).

Greece

These questions are answered by the discussion under Case 1. It is irrelevant whether *B* owns the contaminated land, as long as he suffers a loss.

Ireland

Question (a)

The land has presumably become contaminated because a dangerous substance has leaked from *A's* land onto *B's*. If the contamination occurred through an emission to air or water, statutory civil liability under the Air and Water Pollution Acts may arise. (See the answer to Case 1 above.)

Otherwise, again, the principles of negligence, nuisance, trespass and the rule in *Rylands* v. *Fletcher* apply. If *A* failed to exercise reasonable care in managing the production of the dangerous substance, *A* may be liable in negligence. If, on the other hand, *A* is using land in such a way as to cause an unreasonable interference with *B's* enjoyment of his land (e.g. by handling dangerous substances in such a way that they contaminate *B's* land), *A* may be liable for nuisance. Finally, if *A* has brought dangerous substances onto the land, and they have escaped, causing damage, liability attaches under the rule in *Rylands* v. *Fletcher*. For all these reasons, *A* is likely to be liable to *B*.

Potential liability in trespass may exist if the courts agree with the view that section 32 of the Waste Management Act 1996 considers polluting matter to remain *A's* property once it is discarded, if it is improperly abandoned (the holder of waste cannot abandon or transfer it to anyone but a person authorised to receive it under section 32). The moment the waste enters *B's* land, there is arguably a new continuing trespass for which *B* may sue.

It is significant that *B* owns or occupies the contaminated land, since that is the basis for standing (legal interest) and liability in trespass, nuisance and under the rule in *Rylands* v. *Fletcher*. There is no suggestion of any liability other than the liability for contamination of the land in this case.

Question (b)

If *B* suffered personal injury due to the contamination, *B* would be entitled to compensation to the same extent that he would be entitled to recover for any other damage suffered. As for damage to property, contamination of land is treated as property damage, since it interferes with the ownership interest in land (enjoyment thereof). Any damage to movable property present on the land would form part of the overall damage suffered.

Question (c)

Liability to each person affected would exist on the same basis as liability to an individual, *B*. Minor health damage and long-term health damage give as much of a right to compensation as other forms of damage. In general, all provable damage is recoverable. As before, there are no class actions or representative actions in Ireland.

Italy

Question (a)

Generally speaking, *A* is liable to *B* according to Articles 844 CC and 2050 CC (see above). In practice, however, many problems remain unresolved. Primary among these issues is the problem of establishing causation. Another problem is determining which kind of dangerous substances *A* has produced and how he has stored them. On this point, one should look to special legislation concerning waste disposal sites and specific kinds of substances, such as chemicals.

Question (b)

In both kinds of damages, *A* is liable, if it is possible to establish the causal link between the dangerous activity of *A* and the damage suffered by *B*, pursuant to Article 2050 CC.

Question (c)

This question is answered in the discussion under Question 1(b).

The Netherlands

Question (a)

As discussed above in the answer to Case 1, under Article 6:175 BW, a person who uses a substance professionally can be held strictly liable for the damage caused by this substance. Therefore, in this case, if *A* had

been aware or should have been aware that the substance could endanger persons or goods, he can be held liable. Claimant *B* has to prove that *A* was using this substance in the course of his business. This is likely here because *A* produced the substance causing the damage. Liability may also attach where substances are produced and stored in containers before they are dispatched.[40]

The person responsible for the contamination by substances (used professionally) when emitted into the air, water or soil, is liable (Article 6:175(4) BW). Therefore, even if the professional user of dangerous substances retires and permanently leaves the contaminated premises, he can still be held liable under this rule. Again, *A* is likely to be liable under the rule in this case.

Whether *B* is the owner of the contaminated property is not important for holding *A* liable for *B's* personal damage, but, to recover property damages, *B* must prove his ownership of the land damaged by the dangerous substances of *A*. This is because of the requirement of unlawfulness under the general tort Article.

Question (b)

Again, under Article 6:175 BW, there is no difference if *B* suffers personal harm or damage to property. However, it must be noted that pure economic loss is not be recoverable under this provision.

Question (c)

In general, the possessor will be held liable under Article 6:175 BW because the substance that constitutes a danger to persons or property has actually caused damage, regardless of the level of the damage. Because Article 6:175 BW provides for strict liability, a plaintiff need not fulfil the requirements of Article 6:98 BW, which requires showing direct causation between *A's* activities and the damage. Since only minor damage to health and property occurred, *A* may argue that other causes contributed to the damage, but strict liability under Articles 6:175 BW invalidates this argument.

Portugal

Question (a)

Plaintiff *B* may have a claim under Article 1346 CC, if *B* is the owner or authorised occupant of the affected land (see Case 1). Contamination of

[40] Spier and Sterk, *Aansprakelijkheid voor gevaarlijke stoffen* (Kluwer, 1995), p. 51.

property normally constitutes a significant and unreasonable infringement on *B*. If *A's* activities are *objectively dangerous*, *B* may also have an Article 23 LAP claim. On the other hand, if *A's* activities are not *objectively dangerous* and *B* can establish fault, *A* may be liable under Artile 22 LAP.[41]

Question (b)

The land contamination is considered property damage. Personal injury can be compensated only under Articles 22 and 23 LAP, not under Articles 1346 and 1347 CC.

Question (c)

The answer to Question 1(b) applies to this issue.

Scotland

Question (a)

It is assumed here that 'loss' concerns the physical damage caused by contamination of the land. ('Pure economic' loss, such as loss of future profits due to the contamination, is more difficult to recover.)

Civil liability, again, may be based either upon the law of nuisance or upon the law of delict in general terms. In either case, contamination is actionable in the same way as other damage to property, but not without a determination of fault. Thus, in Case 3, if the contamination occurred in an unforeseeable way, then *A* may escape liability. However, *A* may have been under a heightened duty of care to ensure that the dangerous substances are appropriately handled. Moreover, if it was not possible to manage the substances so as to avoid harm to neighbours, *A* would be at fault for introducing the substances to his land in the first place.[42] Of course, there is a presumption that, if *A* has complied with current regulatory standards, he has not been negligent.[43]

As owner of the contaminated land, *B* clearly has standing to sue, whether or not *B* is in actual possession.[44] It is possible that a tenant may also have standing if contamination significantly interferes with his or her enjoyment of the land under the lease. It is extremely doubtful

[41] See the answer to Question 1(a). [42] *Chalmers* v. *Dixon* (1876) 3 Rettie 461.
[43] S. Bell and D. McGillivray, *Bell and Ball on Environmental Law* (5th edn, 2000), p. 268.
[44] *The Laws of Scotland: Stair Memorial Encyclopaedia* (henceforth SME), vol. 14, para. 2133; *Adam* v. *Alloa Police Commissioners* (1874) 2 Rettie 143.

that any other category of person, such as a member of the owner or tenant's household, has standing.[45]

Question (b)

Assuming that fault is established, and a causal link can be established between the contamination of the land and the personal injury or property damage, *A* will be liable to *B* in negligence. It will be irrelevant in this case that *B* was not the owner or tenant of the affected land, but it is thought that damages for personal injury are not recoverable under the law of nuisance, in any event.[46]

Question (c)

See the answer to Question 1(b) above.

Spain

Question (a)

Pollution of *B's* land would be considered damage to property, and *A* would be liable to *B* according to general tort rules (see Question 1(a) above). As owner of the land, *B* would clearly have standing to sue *A*. As a matter of fact, ownership of the damaged good/property is often considered the determinant criterion in order to confer legal standing.[47] However, any other injured person could also bring a claim against *A* despite not being the owner of the polluted land. Since Spanish law lacks a specific tort of nuisance, and general rules are thus applied, the broad scope of Articles 1902 CC allows everyone, such as a usufructuary or a sharecropper (as in STS 7.4.1997 (RJ 1997/2743)) or mere visitor, to bring a claim for his or her damages. Catalan law clearly adopts a more restrictive approach, only allowing an owner to sue (Article 1 LANISRV). Legal doctrine has interpreted the rule broadly to include other persons with a legal interest in the land.[48] The law of the Region of Navarra allows any 'owner and user' of affected land to sue in nuisance (Ley 367

[45] SME, vol. 14, para. 2134; and see also the English case of *Hunter* v. *Canary Wharf* [1997] AC 655, in which it was held that relatives and friends of tenants had no standing to sue in respect of nuisance.

[46] SME, vol. 14, para. 2080.

[47] See Andrés Betancor Rodriguez, *Instituciones de Derecho ambiental* (Madrid, La Ley, 2001), p. 1259.

[48] Egea, in Esteve, *Derecho del medio ambiente*, p. 45.

Compilación Foral de Navarra).[49] The wording of the rule gives the impression that any neighbour could sue regardless of the interest he has in the affected land.[50] In any case, the law indicates that it is not necessary that nuisance affect an adjoining plot of land in order to establish liability or grant an injunction.

This discourse should be read in the context of the developments taking place in case law using the protection of privacy to broaden legal protection against nuisance (see Question 1(a) above). For further details in connection with pure ecological harm, see the answer to Question 4(c) below.

Question (b)

There is no difference in the legal position. See also the discussion in Question 1(a) above.

Question (c)

See the answer to Question 1(b) above.

Sweden

Question (a)

Generally, this question is addressed by the Question 1(a) discussion above.

Furthermore, it is not a requirement that *B* be the owner of the contaminated land. The liability relates to the 'surroundings' to the activity, although *B* probably must establish a 'qualified right' as a tenant or other type of 'qualified user' of the affected land for standing, pursuant to the Swedish doctrine of the right to common access to private land. The doctrine is based in common law, and is mentioned, although not clearly articulated, in statutory law.[51] It is stated in the legislative history, however, that such a right is not enough *per se* to permit an action for liability. The use of natural resources must be specifically granted or otherwise 'qualified' as well.[52]

[49] *Ley 1/1973*, de 1 de marzo, por la que se aprueba la Compilación del Derecho Civil Foral de Navarra (BOE No. 57, 7.3.1973). See Francisco J. Díaz Brito, *El límite de tolerancia en las inmisiones y relaciones de vecindad* (Elcano, Aranzadi, 1999), p. 45.

[50] See Díaz Brito, *El límite de tolerancia en las inmisiones y relaciones de vecindad*, p. 45.

[51] Constitution, Ch. 2 § 18, para. 3; and the Environmental Code, Ch. 7 § 1. For an old but still valid survey, see S. Ljungman, *Om skada och olägenhet från grannfastighet* (1943).

[52] See the Governmental Bill, 1985/86:83, pp. 19–21; commented by B. Bengtsson, *Miljöskadelagen och oskrivna skadeståndsgrundsatser, Festskrift till Sveriges Advokatsamfund 1887–1987*, p. 79.

Nevertheless, if *B* owned a neighbouring site, the doctrine of 'good neigbours' could apply, imposing a general duty on all neighbours to use their own or others' land with reasonable consideration for their surroundings. The liability under that doctrine is based on strict liability.[53]

Question (b)

There is no difference in legal position. See also Question 1(a) discussion.

Question (c)

See the answer to Question 1(b).

[53] See the Land Law Code, Ch. 3 § 1.

Case 4 Genetically modified organisms

A is a producer of genetically modified organisms (GMOs). As a result of an intentional and legal or an unintentional release of these organisms, *B* suffers damage.

a) Is *A* liable to *B*? Would it be of importance that *B* is a neighbour to *A's* site where the release took place?
b) Who would be liable if the release was carried out by the farmer *C* who had bought a genetically modified organism from *A*?
c) What kind of damage may *B* claim?
d) What is the extent of liability if several persons living in the community where the release took place develop minor health damage (e.g. a harmless, but very tiresome allergy) and/or property damage?

Comparative remarks

1. Comparison

Liability for the risks imposed by genetically modified organisms must cover the scientific development and production of genetically modified organisms, their distribution on the market, and use by farmers and consumers. The *distribution* of genetically modified organisms on the market is covered under product liability law, which is, due to the harmonising effects of the EC Products Liability Directive,[1] quite similar in all European countries. It provides no-fault liability on the producer for the use and consumption of products placed on the market. Thus, when a consumer is injured by the consumption of a

[1] Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, OJ L 210, 07.08.1985, p. 29.

foodstuff or a drug produced by methods of genetic engineering, he or she will be entitled to claim property or personal injury damage from the producer. Damage to the environment, however, is only covered if it constitutes property damage. However, according to Article 7e of the Products Liability Directive, the producer can avoid liability by proving that the state of scientific and technical knowledge at the time when he or she put the product into circulation was not such as to enable the existence of the defect to be discovered.[2] In Greece, the producer of genetically modified organisms can also be held liable under Article 29 of the Law of the Protection of the Environment 1650/1986, if the product causes degradation of the environment.

In many countries, the intentional or unintentional *release* of genetically modified organisms into the environment during the production process is covered by no-fault liability. In general, the laws of the neighbourhood, or of nuisance in common law countries, will relate to harm to neighbouring land caused by contamination with genetically modified organisms. In order to claim compensation, the plaintiff must show that the interference was unusual for the area and that it had led to a substantial impairment of the enjoyment of his or her land; in the common law countries, one must show that the use of the land was unreasonable. In Scotland, an action under nuisance would additionally require fault to be established. The Irish reporter pointed out that compensation for economic loss will need proof of contamination of the plaintiff's land by genetically modified organisms and actual damage. The mere withdrawal of the organic status of a farmer will not be sufficient. In England and Ireland, the strict liability rule in *Rylands* v. *Fletcher* will also apply. The plaintiff must show that the genetically modified organisms were inherently dangerous and, in England, that the use of the genetically modified organisms was not a natural use of the land by the defendant. In Austria, the 2004 amendment to the Gene Technology Act inserted specific liability provisions (§§ 79k–79m) governing the contamination of farm land by products consisting of, or containing, genetically modified organisms from neighbouring land. The plaintiff is entitled to claim an injunction or damages from the person who cultivated the products that caused the contamination. The law covers damage to persons, property and the environment, and contains a rebuttable presumption of causality. In

[2] For further information on the state-of-the-art defence and the implementation of Article 7e of the Products Liability Directive, see Part A III.2.

order to claim damages, it is sufficient to show economic loss due to a disturbance in the marketing of the farming products. As under the neighbourhood law (§§ 364 and 364a ABGB), the plaintiff must show that the interference was unusual for the region and that it led to a substantial impairment of the enjoyment of his or her land.

Under French and Italian law, the general strict liability regime of the Civil Codes will also include damage arising from genetically modified organisms (France: Article 1384 § 1 Code Civil; Italy: Article 2050 Codice Civile). In Spain, this result may be achieved by extensive interpretation of strict liability on the basis of Article 1908 § 2 Código Civil. For a genetically modified organism that can be regarded as an animal, Article 1905 Código Civil, which provides for strict liability for the possessor of an animal, may also be applicable. Such an interpretation was also suggested by the Belgian reporter with regard to Article 1385 Burgerlijk Wetboek, which provides for strict liability for the owner or the guardian of an animal. If the release results from a defective installation, strict liability according to Article 1384 § 1 of the Belgian Burgerlijk Wetboek will also be applicable. In Flanders, Article 22 of the Decree on environmental permits, which imposes the duty to take all measures necessary to prevent a nuisance, damage or major accident, is also applicable to genetically modified organisms. In Dutch law, damage caused by the professional use of genetically modified organisms is covered by strict liability according to Article 6:175 Burgerlijk Wetboek, as it is generally held that genetically modified organisms qualify as a dangerous substance in the sense of Article 6:175 Burgerlijk Wetboek. In Greece, harm caused by the legal release of genetically modified organisms could be compensated under equitable principles. If the release occurred by accident, compensation can be awarded according to Article 29 of the Law of the Protection of the Environment 1650/1986. In Finland and Sweden, strict liability provided by the laws on environmental damage is also applicable to genetically modified organisms (Finland: Environmental Damages Act 1994; Sweden: Environmental Code 1999, Chapter 32). In Portugal, strict liability will only apply if the activity can be regarded as being objectively dangerous; otherwise only fault liability applies.

Several European countries provide specific strict liability statutes with regard to genetically modified organisms. Under Austrian law, liability applies to the production, use, increase, storage, destruction or disposal of genetically modified organisms, as well as their release into the environment (§§ 79a–79j GTG). It covers damage to persons,

property and the environment. The law also contains a rebuttable presumption of causality and obliges the operator to provide information in order to enable the plaintiff to establish causation. In Finland, strict liability according to the Act on Gene Technology (Geenitekniikkalaki, 377/1995) applies. This Act, with regard to damage to the environment, applies the Environmental Damages Act 1994, and the Products Liability Act of 1990, if a product containing genetically modified organisms causes damage to property or persons. With regard to emissions, the Environmental Damages Act also applies. German law establishes a comprehensive strict liability regime for the operation of a gene technology installation (§§ 32–34 GenTG). It covers damage to property and personal injury damage and contains a rebuttable presumption that any damage caused by genetically modified organisms is due to the gene technology process. Liability, however, is restricted in amount to €85 million.

Harm caused by the *farmer's use* of genetically modified organisms is covered by fault-based liability and the laws of the neighbourhood. In Austria, the specific neighbourhood liability according to §§ 79k–79m GTG applies. In England and Ireland, the rule in *Rylands* v. *Fletcher* also applies, and, in the Netherlands, Article 6:175 Burgerlijk Wetboek will be applicable. In France, the farmer will be liable as the custodian according to Article 1384 § 1 Code Civil, and, in Spain, the general liability rule of Article 1902 Código Civil is applicable. Under German law, the farmer is regarded as an 'operator' under the Gene Technology Act and is, therefore, strictly liable in addition to being liable according to the law of the neighbourhood. In Finland, strict liability according to the Environmental Damages Act and the Product Liability Act may apply.

Along with civil liability for harm caused by genetically modified organisms, clean-up obligations may be imposed by administrative law upon a defendant.[3]

2. *Conclusions*

Only a few countries, namely, Austria, Germany and Finland, enacted specific legislation governing harm caused by genetically modified organisms. With respect to these statutes, a common core lies in the fact that

[3] E.g. England: Part VI EPA 1990. In Spain, the Ley 9/2003, de régimen jurídico de la utilizacíon confinada, liberación voluntaria y comercializacíon de organismos modificados genéticamente (BOE No. 100, 26 April 2003, pp. 16214 *et seq.*) requires restoration and compensation by the tortfeasor, which is enforcable by the public administration.

they all provide for no-fault liability. Austria seems to have the most comprehensive legislation covering harm caused during the development process as well as neighbourhood conflicts between conventional farmers and farmers using genetically modified organisms. The liability provisions also contain a presumption of causality and special rules for the compensation of damage to the environment. In all the other countries, harm caused by genetically modified organisms is governed by the various no-fault liability regimes described under Case 1. The answers to Case 4 show that scholars are ready to interpret these liability regimes in a very extensive way in order to cover the risks of genetically modified organisms. The most illustrative example is given by the Belgian and Spanish reporters who suggest extending the rules providing for strict liability of the guardian of an animal to the holder of genetically modified organisms.

Discussions

Austria

Question (a)

Sections 79a–79j GTG provide for a specific strict liability regime covering the risks of the production, use, increase, storage, destruction or disposal of genetically modified organisms, as well as their intentional or unintentional release.[4] If the GMO is not put lawfully into circulation, the operator of the activity is liable for damages to persons, property and the environment. The cause of the damage must lie in the specific properties of the organism, derived from the genetic modification, or in the combination of these properties with other dangerous properties of the organism.[5]

Liability is unlimited in amount. To ease the burden of proof for the injured party, § 79d GTG establishes a presumption of causality. If an injured person can submit reasonable evidence that the damage might have been caused by a certain genetically modified organism, it will be presumed that the injury was caused by the genetically modified properties of the organism. The defendant may rebut the presumption by proving that it is probable that the damage was not at all, or only partly, caused by the genetically modified properties of the organism. For the rebuttal, it is sufficient to show that the damage

[4] See § 4(4) and § 20 GTG. [5] § 79a GTG.

probably derived from another cause. Section 79f GTG furnishes the injured person with an express right of access to information with regard to potentially liable persons.

The release of genetically modified organisms is also covered by § 364a ABGB, provided that the conditions for a direct or analogous application thereof are met. Under this section, the person who carried out the release, or the owner of the land where the release took place, are liable, but only as to real estate damage.

Question (b)

In this instance, the producer of the genetically modified organism (*A*) and the farmer (*C*) may be liable. Liability for the producer is regulated by fault liability and the Product Liability Act. In both cases, the liability of the producer does not include a development risk. Liability according to §§ 79a *et seq*. GTG is only applicable as long as the genetically modified organisms are not put lawfully into circulation,[6] and, since Question 3(b) contemplates circulation, the sections do not play an important role here.

According to a recent revision of the Gene-Technology Act (GTG), farmer *C* is subject to no-fault liability. The newly inserted §§ 79k–79m GTG entitle the owner of farmland to an injunction and to a damages claim against a neighbour who plants produce that consists of, or contains, genetically modified organisms, if this leads to interference that exceeds the level customary under local conditions and causes a substantial impairment of the enjoyment of farmer *C's* land. In order to sue, it is sufficient that the interference impairs the marketing of *C's* products. Liability covers damage to persons and property, including the costs of measures of reinstatement, if the damage to property presents a significant impairment to the environment (§ 79k(2) GTG). Section 79k(4) provides for a presumption of causation. As under § 364a ABGB, which served as a model for this new legislation, *C* must be the owner of the land or the holder of a property right in order to have legal standing. Before *C* is allowed to sue in court, he is obliged to undergo a mediation process, as further specified by § 79m GTG.

Question (c)

According to §§ 79a *et seq*. GTG, *B* may claim damages for loss of life, personal injury and property damage, as well as economic losses arising from these damages. Entitlement to these types of damages is regulated

[6] § 79a(1) GTG.

by general provisions of tort law, which include the principle that damage for personal injury covers compensation for pain and suffering, even in strict liability.

If the damage to property presents a significant impairment to the environment, *B*, according to § 79b GTG, is entitled to remediation costs, even if these costs exceed the market value of the impaired good. The plaintiff may also ask for advance payment. Nevertheless, if *B* does not perform the remediation within a reasonable amount of time, the amount exceeding the market value of the impaired good must be refunded. Impairment of the environment that cannot be qualified as damage to *B's* property does not entitle *B* to damages. This regulation also applies to the restoration of nuclear damage, as § 11(2) AtomHG and § 79b GTG[7] are identical.

Question (d)

Under Austrian law, there are no special provisions covering this type of damage. The answer is the same as under Question 3(c).

Belgium

Question (a)

There is no specific strict liability rule for genetically modified organisms in Belgium. Liability without fault will have to be based on the law of nuisance or, if the release results from a defect in an installation, on Article 1384(1) BW. If the GMO is an animal, Article 1385 BW may apply, which imposes liability on the owner or guardian of the animal.[8]

If the release is illegal or negligent, Articles 1382 and 1383 BW apply. A variety of activities with GMOs are also regulated by permits and regional decrees[9] implementing the EU directives on the matter.[10] A violation of the conditions of a permit constitutes a fault, if there is no proper justification. Moreover, in Flanders, Article 22 of the decree on environmental permits is applicable (imposing the duty to take all measures necessary to prevent nuisance, damage and major accidents).

[7] See Case 8.

[8] L. Bergkamp, 'Allocating unknown risk: liability for environmental damages caused by deliberately released genetically modified organisms', TMA, 2000/3 and 2000/4.

[9] In Flanders: Decrees of the Flemish government of 6 February 1991 and 1 June 1995 and Royal Decree of 18 December 1998.

[10] See S. Oschinsky and Y. Oschinsky, 'Les organismes génétiquement modifiés et le droit', JT, 2000, 781 *et seq.*

Question (b)

Under the law of nuisance, Article 1384(1) BW (liability for defective things) and Article 1385 BW (liability for animals), the liable party is the person making use of the premises, the custodian of the thing or the owner or custodian of the animal. The fact that the liable person, in this case, *C*, has bought the GMO from a third party will not affect his liability towards the injured party. He may, however, have a right of recourse against the seller under the law of sales if it can be proven that the object did not correspond to the contract nor presented hidden defects (Article 1641 BW).

Under product liability law, *B* may also sue the seller or producer of the GMOs. Under the law of 25 February 1991, implementing the European directive on product liability, the producer is liable for damages caused by defective products (Article 1). A product is defective if it does not meet the safety standards that one is entitled to expect (Article 5). Any victim suffering the damages, for which compensation is provided, may bring the action, regardless of whether or not there exists a contractual relationship with the defendant. Under the general Belgian sales law (Article 1641 BW), however, only the buyer can invoke the contractual liability of the seller of a product presenting a hidden defect; third parties would have to establish negligence (Articles 1382 and 1383 BW).

Question (c)

As indicated above under the previous questions, in principle, all losses which are certain, personal and not illegal can be compensated under general Belgian tort law, notably, death and personal injury, damage to property, economic losses and moral damages. Some special statutory strict liability rules exclude certain types of losses or limit the amount of compensation. However, this is not the case for the law of nuisance or for any of the liabilities based on the provisions of the Civil Code, including Articles 1384(1) and 1385 BW.

The nature and amount of damages for which compensation can be obtained from the producer under the product liability law of 25 February 1991 are limited. Only losses resulting from personal injury and death and from damage to goods used in a private capacity are compensable. There is a franchise of about €550 (Article 11).

Question (d)

See the answer to Case 1.

England

Question (a)

See the answer to Question 1(a), generally. Also, if the unintentional release of the GMO had been caused by some negligent act by *A*, liability in negligence attaches, as discussed under Case 3, for personal injury or property damage, provided it was of a type foreseeable as a result of the release of the GMO. To be able to sue in negligence, *B* must be able to show that he is a 'foreseeable claimant' (see also Question 3(a)). The defence of statutory authority might apply if the particular release was explicitly permitted by Parliament.

Under the rule in *Rylands* v. *Fletcher*, the claimant does not need to be the immediate neighbour of the defendant.[11]

Question (b)

Farmer *C* could be liable in negligence, nuisance and/or under the rule in *Rylands* v. *Fletcher* as the owner or lawful occupier of the land on which the release was carried out.

Defendant *A* might also be liable in negligence or nuisance, as the creator of the nuisance. He need not necessarily be the owner or occupier of the land under nuisance. The rule in *Rylands* v. *Fletcher* will not apply because *A* does not fulfil the 'accumulation' requirement.

Question (c)

The answer is the same here as the answer to Question 1(a).

Question (d)

Under common law principles, see generally the discussion under Case 1.

Regarding statutory liability, Part VI of the Environmental Protection Act 1990 deals with genetically modified organisms. For the purposes of Part VI, 'damage to the environment' is defined in section 107 as the presence of GMOs in the environment, which have been either deliberately released from, or escaped from, a person's control and which are capable of causing harm (individually or col-

[11] *Charing Cross Electricity Supply Co.* v. *Hydraulic Power Co.* [1914] 3 KB 772 (779).

lectively) to living organisms supported by the environment. Section 109(3) requires any person handling a GMO to use the best practicable means not entailing excessive cost (BATNEEC) to keep the organisms under control, and to prevent damage to the environment from the release or escape of the organism. If a person has been convicted of an offence under section 118 of the 1990 Act, section 120 gives the court the power (where it considers remediation possible) to order compulsory steps to remedy the damage. Alternatively, section 121 enables the Secretary of State to arrange for remedial measures to be undertaken and to recover the reasonable costs from the convicted person.

Finland

Question (a)

As a rule, activities governed by the Act on Gene Technology[12] are subject to strict liability. Depending on the situation, various rules on compensation may apply. In case of 'emission' into the environment, the Environmental Damages Act applies, if damage is caused by genetically modified products, the rules of the Product Liability Act apply.[13] With some differences, both are based on strict liability of the producer, though neither require injured parties to be owners of affected land. In other cases, fault is required, and general tort law applies.

Question (b)

Farmer *C* is liable here both as operator and as polluter. Defendant *A* may also be liable according to the rules on product liability. This legislation has implemented the European Community rules on product liability.

Question (c)

Personal injuries, property damages and financial loss are compensable according to the Environmental Damages Act and, theoretically, according to the Product Liability Act. However, *B* cannot usually claim financial compensation, for remediation of polluted property, as pure economic loss seems to be compensable only for 'direct' losses.

[12] Geenitekniikkalaki, 377/1995. [13] Tuotevastuulaki, 694/1990.

Question (d)

Personal injuries (including allergies) and significant damage to property are always compensable. Genetically modified emissions have no special status in the legislation on damages.

France

Question (a)

According to Law No. 92-654 of 13 July 1992, transposing Directive 90/220/EEC of 23 April 1990 (incorporated in Articles L.531-1 *et seq*. of the Code de l'Environnement), intentional release, as well as market distribution, of GMOs in the environment requires an administrative authorisation.[14] Directive 2001/18/EC of 12 March 2001 is not yet transposed. However, these texts are silent on liability. Therefore classical rules should apply (see the answer to Question 1(a)).

Question (b)

Farmer *C* will be liable as the custodian of the GMO. However, *A* also could be liable for failing to provide sufficient information on the risks of the GMO, or any hidden defects of the GMO (Article 1641 CC). In the latter case, *C*, as a professional buyer, may be considered as knowing the inherent risks of the thing bought,[15] but *A* would be liable if the defect was impossible to detect even for a professional buyer.[16]

If it is proved that the GMO was a defective product, *A* and *C* would likely both be liable: 'In case of a damage caused by the defect of a product incorporated into another one, the producer of the component part and the one who made the incorporation are jointly liable' (Article 1386-8 CC).

Question (c)

Any direct, certain and personal damage can be compensated (see the discussion in Question 1(a)).

[14] *Dictionnaire permanent Bioéthique et Biothechnologies*, Bulletins No. 57, p. 8631 and No. 68, p. 8319.

[15] Cass., com., 14 January 1969, JCP, 1970, II, No. 16167; M.-L. Izorche, 'Le vendeur professionnel entre vices cachés et jurisprudence hermétique', *Dalloz*, 2000, chronique, p. 407.

[16] Cass., civ. III, 7 February 1973, JCP 1975, II, No. 17918; Cass., com., 15 November 1983, *Bulletin* IV, 1983, No. 311, p. 269; Cass., civ. I, 20 June 1995, *Bulletin* I, 1995, No. 275, p. 190.

Question (d)

See the answer to Question 1(b).

Germany

Question (a)

I. A claim under § 906(2) sentence 2 BGB requires that *B* is the owner or authorised occupier of an adjoining property affected by the defendant's activity.[17] There is no duty of toleration, in this case, if health impairment or physical injury exists to suffice as significant and unacceptable infringement against *B*.[18] If *B* is prevented from averting the infringement, he can claim financial compensation from *A* under an analogous claim pursuant to § 906(2) sentence 2 BGB. Plaintiff *B* may also demand the removal of the infringement pursuant to § 1004(1) sentence 1 BGB, assuming no duty to tolerate exists.

II. Pursuant to § 32(1) of the Genetic Engineering Act (GenTG),[19] an operator is bound to compensate damage in cases of death, personal injury, health impairment or property damage resulting from the properties of an organism processed by genetic engineering. Section 3(1) GenTG defines an 'organism' as any biological entity which is capable of reproduction or of transferring genetic material. 'Genetic engineering processes' are defined in § 3(2) GenTG as the production of GMOs, as defined by § 3(3) GenTG. An 'operator' under § 3(7) GenTG is a legal or natural person, or an association without legal capacity, which establishes or operates an installation for genetic engineering in its own name, carrying out genetic processes or release, or initially circulating products containing or consisting of GMOs (except breeding or reproductive material, deemed permitted by § 16(2) GenTG under § 14(1) sentence 2 GenTG). Pursuant to § 34(1) GenTG, damage caused by GMOs is presumed to be a result of processes of genetic engineering, though the presumption may be rebutted. The maximum liability level under the GenTG is €85 million (§ 33 sentence 1 GenTG).

Finally, § 37(3) GenTG provides that the GenTG does not exclude other bases of claims. Thus, *B* may have an additional claim under § 22(1) sentence 1 or (2) sentence 2 WHG or a claim under § 823(1) BGB for an infringement of a fundamentally protected legal interest based on *A's* fault.

[17] Staudinger/Roth, BGB § 906 n. 231. [18] See Question 1(a) above.
[19] 20.6.1990, BGBl. I p. 1080.

Question (b)

Under § 32(1) GenTG, the farmer *C* is liable as an operator (§ 3(7) GenTG).[20]

Question (c)

Pursuant to § 32(1) GenTG, *B* may claim all property damage where liability results from death, personal injury or health impairment. Plaintiff *B* may also seek compensation under § 253(2) BGB, which is no longer subject to a fault requirement.

Question d

The severity of damage is irrelevant to liability under § 32(1) GenTG.

Greece

Question (a)

According to Article 17 of the Ministerial Decision 11642/1943/2002[21] (which replaced and repealed the Ministerial Decision 95267/18093/1995[22] implementing Council Directive 90/219/EEC on terms and conditions for the contained use of genetically modified micro-organisms) and Article 33 of the Ministerial Decision 38639/2017/2005[23] on terms and conditions for the deliberate release into the environment of genetically modified organisms (which implements Council Directive 2001/18/EEC[24]) penal, civil and administrative sanctions provided by Articles 28 and 29 of Law 1650/1986[25] are imposed on any person who, by acting or failing to act, violates the provisions of the above Ministerial Decisions.

1. Intentional and legal release If *A* has acted in conformity with the above-mentioned Ministerial Decisions, then he is not liable to *B* because he has not acted illegally, provided that he has also taken all measures of providence and care. Illegality is a distinct element according to Article 914 AK for granting damages.

[20] Cf. the definition of an operator in Question 4(a) above.
[21] FEK Issue 831B/2002. [22] FEK Issue 1030B/1995. [23] FEK Issue 1334B/2005.
[24] Council Directive 2001/18/EEC repealed Council Directive 90/220/EEC on the deliberate release into the environment of genetically modified organisms.
[25] For the various Cabinet Acts and Ministerial Decisions that have been issued in implementation of the provisions of the Environmental Protection Act 1986 and of relevant European Council Directives see I. Karakostas and I. Vassilopoulos, *Environmental Law*.

Nevertheless, *B* suffers damage from the intentional and legal release of the GMO. In scholarly opinion,[26] equity requires compensation of this damage also through other analogous provisions (Articles 387, 675(2), 918 etc.) of the AK, which will permit the award of reasonable damages at the discretion of the court in accordance with principles of good faith and equity, regardless of the lawfulness of the defendant's conduct.

2. Unintentional release An 'unintentional release', is one in which the GMO was not intended to come into contact with the environment or human beings, but contact does occur by accident. According to Article 2(f) of Ministerial Decision 95267/1893/1995, an 'accident is any event that entails an important and unintentional release of GMO during their contained use and puts health or the environment in an immediate or a long-term danger'. The damage caused by unintentional release can give rise to an action for damages (Article 29 of Law 1650/1986 or Articles 914 AK *et seq*.).

If *B* is a neighbour to *A's* site (where the release took place), the question of customary emissions arises. If the release of the GMO falls under Article 1003 AK, and the emissions significantly disturb *B's* use of his land, *B* is not obliged to bear the emissions. He may file an action for an injunction and seek damages (Article 1108 AK).

Question (b)

If the release was carried out by farmer *C*, then *C* is liable to *B* under the above provisions. In order to determine that *A*, as producer and seller, is also liable, the release must be due to the defectiveness of the GMO. In this case, Law 2251/94 for the protection of the consumer applies, which states that the producer is also liable for any damage caused by a defective product he has produced (Article 6(1)).

If the GMO causes damage when released, then *A*, the producer, is deemed to be acting (i.e. producing the GMO) in a way that results in degradation[27] to the environment. He will be liable for any damage caused thereby, according to Article 29 of Law 1650/86, which establishes a strict liability scheme, unless he proves that the damage was

[26] See E. Dacoronia, PerDik1/1997, pp. 22, 23.

[27] Law 1650/86, Article 2, provides a definition of degradation: the pollution or any other alteration in the environment, caused by human activities, which might have negative consequences for the ecological balance, for the quality of life and for the health of the inhabitants, for the historical and cultural heritage and for the aesthetical values.

due to an act of God or was the result of a third party's intentionally culpable act.

Question (c)

Plaintiff *B* may claim only traditional damage (harm to health and property).

Question (d)

If the release caused minor health damage and/or property damage to several persons living in the community, the answer would be the same as under Case 1. The case will depend on proof of causation between the damage (e.g. the allergy) and the release. There is no possibility for a class action under Greek law.

Ireland

Question (a)

An intentional release cannot lawfully be made without a permit from the Environmental Protection Agency under the Genetically Modified Organisms Regulations 1994.[28] If *A* had a permit for the release, this may serve as a defence to any tort action against him or her. Similarly, a contained use of a GMO can only take place with a permit from the Agency. Thus, if *A* has allowed the GMO to escape in breach of the permit, or if *A* has used the GMO without a permit and it has escaped, these actions are likely to strengthen any tort action against *A*. There is, however, no provision in the Regulations that directly concerns liability for damage caused by the release of GMOs.

Defendant *A* is not entitled to use his or her land in such a way as to cause injury to *B*, so *A* should be liable to *B* in nuisance. Defendant *A* may also be liable for trespass to *B's* land by the GMO. It may be difficult for *B* to establish that the GMO was inherently dangerous, but, if *B* can do so, *A* may also be liable under the rule in *Rylands* v. *Fletcher*. In this case, *B* would have to satisfy the court that the use of the GMO was not a natural use of *A's* land. Of course, the GMO itself is not natural, but a court might hold, for instance, that the planting of a seed (even a GM seed) was a 'normal use' of agricultural land. This area, however, is undecided in the law. Liability in negligence will be more difficult to prove because it will be difficult to establish that *A* should have foreseen the consequences of the release.

[28] SI 345/1994.

The proximity of *B* and *A* makes it easier for *B* to show that *A* is the source of the damage, but, in law, any person is a neighbour who is a reasonably foreseeable victim/injured party. Therefore, in relation to negligence, *B* will be a neighbour on the basis of foreseeability of harm, not physical proximity. In relation to other torts, and to statutory liability, there is no requirement that the parties be neighbours in any sense.

Question (b)

Again, *A* can only sell the GMO if he or she has a permit from the Agency or from the competent authority of another EU Member State to place the GMO on the market. If there is a permit for placing the GMO on the market, it will be difficult for *B* to establish that *A* or farmer *C* did anything improper in these circumstances. Certainly, it is highly unlikely that it would be possible to establish negligence.

It might be possible to establish that *C* is liable in nuisance, trespass or the rule in *Rylands* v. *Fletcher*. This may be rather hard on *C*, who had no means of knowing that the GMO would or could cause damage, so the courts might be reluctant to hold *C* liable, even though liability is only nominally strict.

Question (c)

It has been presumed above that *B* is seeking damages as an owner or legal occupier of land. Plaintiff *B*, of course, does not need to prove damage in order to have a case. Trespass, for example, is actionable without proof of damage, and *B* might obtain an injunction.

In nuisance, damage is not essential, though interference with the use and enjoyment of land is, which may be considered damage. In nuisance, it is no defence to say that the plaintiff has come to the nuisance, such as where *B* has chosen to use his or her land in a way which is more sensitive to *A's* activity. Nonetheless, the court might be reluctant to hold that the interference was unreasonable unless there was actual damage, and, if *B* wishes to carry on a sensitive activity which requires shielding from external elements, *B* should provide that protection. Essentially, the nuisance issue boils down to one of preference: will the law prefer to protect an organic farmer or a GM farmer? The outcome in each case will depend on the specific facts and the seriousness of the damage, if any.

If *A* is liable under statute, damages are recoverable for personal injury, damage to moveable property and damage to land under section 28B of the Air Pollution Act and section 20 of the Water Pollution Act. If *A* is liable in negligence, damages are recoverable for personal injury and damage to property. Finally, if *A* is liable in nuisance, *B* is entitled to recover damages for the injury to land, to property on the land, and for personal injury suffered since the injury is an interference with the use and enjoyment of land.

Under the rule in *Rylands* v. *Fletcher*, there must be damage, but there is no right to recover for damage to abnormally sensitive uses of land. In this case, it is not likely that organic farming, for example, is an abnormally sensitive use, but a court might entertain such an argument. All damage suffered under *Rylands* v. *Fletcher* is, in principle, recoverable.

If *B* can show damage to his or her crops, *B* can recover for all losses, including resulting economic loss. Thus, if *B* were an organic farmer who lost his or her organic certification as a result of contamination of crops by GMOs, he or she could recover the resulting loss of having to sell the crops without their organic status. Actual contamination would be crucial to recover economic losses. If, as apparently has happened in England, organic status could be withdrawn due to the proximity of the GMO crops elsewhere, there would be no actual damage to property, and thus potentially no anchor on which to base economic losses in Irish law. *B* would also have to satisfy the court that the contamination by GMOs amounted to 'damage' as a matter of law. If the GMO contamination increased *B's* yield, or did not otherwise damage *B's* crops except to deprive them of GMO-free status, courts may not find that this amounted to damage or interference with property at all. Claimant *B* might have to show that contamination by GMOs reduced the monetary sale value of his or her crops.

Question (d)

If several people develop an allergy or suffer property damage, each one can sue for the damage suffered, or they can all sue together.

Liability in nuisance only exists for the legal occupier of the land. It may not allow other members of the occupier's family to recover. For instance, there are English cases to the effect that the family of the owner or occupier cannot sue for nuisance.[29] In Ireland, in *Hanrahan* v.

[29] *Malone* v. *Lasky* [1907] 2 KB 144; *Cunard* v. *Antifyre Ltd* [1933] 1 KB 551; *Oldham* v. *Lawson* [1976] VR 654; *Cambridge Water* v. *Eastern Counties Leather* [1994] 2 AC 264.

Merck Sharpe and Dohme (above), Henchy J suggested that a non-occupier's right to damages might have to be determined under *Rylands* v. *Fletcher* – or, presumably, in negligence. On the other hand, in *Patterson* v. *Murphy*,[30] the High Court took account of the fact that both the plaintiff landowner and his wife had suffered damage – though the remedy provided was an injunction rather than damages.

Some prominent Irish scholars[31] question whether the Irish courts would apply a restrictive interpretation to the question of who is entitled to sue for nuisance. They argue that the courts should not restrict the right of family members to recover for injuries suffered as a result of a nuisance arising where they live. If, in Irish courts, every member of the occupier's family were considered occupiers in the ordinary physical sense that they occupy the property, rather than in the legal sense of being the person entitled to occupy, they might be able to recover.

If *A* is liable for trespass, the existing cases only seem to deal with actions by the owner or occupier. It does not seem to be contemplated that anyone else might sue. However, there seems to be no reason in principle why the right to sue in trespass should not be the same as the right to sue in nuisance.

If *A* is liable under the rule in *Rylands* v. *Fletcher*, liability appears to extend to all damage caused to all persons (see the *dictum* of Henchy J in *Hanrahan* v. *Merck Sharpe and Dohme* mentioned above).

It is not possible to sue for damage to another person, or to the environment in general, though in the case of public nuisance, an individual who suffers particular damage can sue. In general, however, only the state can bring an action for public nuisance.[32]

Italy

Italy does not have a special law on genetically modified organisms. Therefore, courts must apply the same principles applicable to Case 3 dealing with the production of dangerous substances.

[30] [1978] ILRM 85. [31] McMahon and Binchy, *Irish Law of Torts* (2nd edn), p. 467.
[32] *Ibid*., p. 447, where the authors speculate that the courts may use the law of public nuisance to create a general right of action to protect the environment, but there has been no development in that direction to date.

The Netherlands

Question (a)

In the event of an unintentional release of genetically modified organisms, it must be determined whether these organisms qualify as 'dangerous substances' for which the professional possessor can be held liable under Article 6:175 BW where danger to persons or property is caused, where the possessor knew that the danger existed.

In the event of an intentional or legal release, we must again consider the question whether liability exists in situations where a person is acting legally (i.e. in compliance with a licence). As concluded under Question 2(e), under specific circumstances, acting in conformity with a licence (and, in that sense, in conformity with legal obligations) may nevertheless constitute a breach of a statutory duty. As shown in Question 2(e), the Hoge Raad has determined that implied duties of care may be stricter than written norms and that an action in nuisance is permissible even when a licence has been granted.

We can conclude from the literature that the term 'substance' has to be interpreted broadly.[33] Article 6:175 BW concerns substances that constitute a special danger to persons or things because of their specific nature. According to Parliamentary History, the term 'substance' means 'solid' substances, liquids and gases, but also living micro-organisms such as bacteria or viruses, as long as they do not fall under the concept of 'animal' as set out in Article 6:179 BW.[34]

It can therefore be stated that a genetically modified organism qualifies as a substance in the sense of Article 6:175 BW. If *A* was using the organism in conducting a business, and if *A* was aware of the potential danger of the organism, he can be held strictly liable under Article 6:175 BW. In order to have legal standing, *B* need not be a neighbour of *A's* site.

Question (b)

In general, a person who uses a dangerous substance in conducting his business can be held liable under Article 6:175(1) BW. If farmer *C* had bought the organisms from *A* and later used them for his farming

[33] Spier (ed.), *Verbintenissen uit de Wet en Schade vergoeding* (2000), p. 103; Bauw & Brans, *Milieuprivaatrecht* (2003), p. 160.

[34] See the Final Report, 21202, No. 9, p. 2; Explanatory Memorandum, p. 13, referring to Parliamentary History, Book 6, pp. 749 and 763.

activities, he can be held liable under Article 6:175 BW if he was aware of this potential danger to persons or things. Even if the substance was only put at *C's* disposal for him to use when carrying out his farming (business) activities, *C* would still be held liable under Article 6:175(1) BW and under Article 6:181(3) BW.

Question (c)

See the answer to Question 3(b).

Question (d)

See the answer to Question 3(c). Under Article 6:178(f) BW, the defendant may, however, escape liability, as the plaintiff must accept a certain level of inconvenience, a so-called 'acceptable inconvenience' level.[35]

Portugal

Question (a)

The release of genetically modified organisms could be considered an emission in the sense of Article 1346 CC. Generally, therefore, the discussion in Question 3(a) applies.

Questions (b) and (c)

The legal position here is the same as discussed in Case 1.

Question (d)

The answer to Question 1(b) applies here.

Scotland

Question (a)

I. Common law

As detailed above, *A* may be liable under the general law of negligence or under nuisance, but only insofar as *A* is found to be at fault. If the release is unintentional, *B* will have to establish *A's* fault in the form of recklessness, negligence or conduct which gives rise to a special risk of abnormal damage, in allowing the escape. Similarly, if the release is intentional, *B* will have to prove that *A* was at least negligent in releasing the organisms in such a way that harm was caused.

[35] See HR 28 April 1995, NJ 1995, 531 and HR 29 October 1993, NJ 1994, 107.

The law of nuisance is generally invoked only where the affected property is reasonably close to the source of nuisance, although there is no authority as to exactly how close this must be. Whether an action is filed in negligence or in nuisance, the fact that *B* is a neighbour is relevant, given that the physical proximity is an important factor in determining negligence both for the purposes of fault-based nuisance and negligence more generally.

Question (b)

I. Common law

With respect to any delictual claim made by *B*, liability in negligence and/or in nuisance would rest with whoever culpably caused harm. Thus, if the release was carried out by *C*, and fault on his part could be established, he would be liable in damages to *B*.

II. Statute

A duty to exercise reasonable care is imposed in terms of section 109 of the Environmental Protection Act 1990 upon those who release or market genetically modified organisms. However, this provision has not yet been brought into force.

Question (c)

Plaintiff *B* could claim property damage and personal injury damages (if any).

Question (d)

Again, property damage is a head of claim if liability is found at common law, and the issue of statutory remedial measures is noted under Question 4(b).

Health damage which was minimal (*de minimis non curat lex*) may not be recoverable at common law (although it would be more likely to be so if the harm had been caused intentionally). In terms of section 107 of the Environmental Protection Act 1990, the definition of harm extends to harm to the health of humans, although, again, the *de minimis* principle would presumably apply.

Spain

Question (a)

A could be held liable under general rules of tort liability (see the answer to Question 1(a)). If the genetically modified organism could be regarded

as an animal, the possessor could even be held strictly liable according to Article 1905 Código Civil. The same would happen if the specific strict liability provision of Article 1908.2 Código Civil could be interpreted extensively, as already explained under Question 1(a). Being a 'neighbour' is not required since *anyone* can be a victim under general tort rules. Defendant *A* could also be held liable on the basis of strict product liability (under the Products Liability Act (LRPD)), if the GMO could be considered a 'product' under the Act (Article 2), and the release equated with 'put[ing] it into circulation' (Articles 3.1 and 6.1(a) LRPD). However, an unintentional release, for example, while the GMO still was in an experimental stage, would probably not be deemed as 'put into circulation' yet.[36] The legal requirement under the Act is only met if the entry into circulation is voluntary, and not the act of a third party, such as a burglar. In addition, the LRPD will only be applicable if the producer put the product into circulation in order to commercialise it.[37]

The Act 'on the confined utilisation, voluntary release and commercialisation of genetically modified organisms, in order to prevent the risks to human health and to the environment'[38] was the first law to require violators to restore the damage caused and to pay appropriate compensation. In the context of the Case 4 scenario, the damages award would be established by the Public Administration (Article 28.1 I). Where damage is 'difficult to assess', the Administration applies the criteria in the Act to calculate the compensation, namely, theoretical restoration or restoration costs, the value of the damaged goods, the cost of the project or activity which caused the harm, and the profits obtained from this activity (Article 28.1 II). Some scholars have suggested that these provisions should only govern damage caused to goods owned by the Administration, since otherwise the relations *inter privatos* would be somehow 'publicised',[39] though the Act does not

[36] See, although in a different context (medicines used for clinical trials), Miquel Martín Casals, Josep Solé Feliu and Joan C. Seuba Torreblanca, 'Spain', in Jos Dute, Michael G. Faure and Helmut Koziol (eds.), *Liability for and Insurability of Biomedical Research with Human Subjects in a Comparative Perspective* (Vienna and New York, Springer 2004), p. 272.

[37] See, for example see Josep Solé Feliu, *El concepto de defecto del producto en la responsabilidad civil del fabricante* (Valencia, Tirant, 1997), pp. 266 and 279 with further references.

[38] Ley 15/1994, de 3 de junio, de régimen jurídico de la utilización confinada, liberación voluntaria y comercialización de organismos modificados genéticamente, a fin de prevenir los riesgos para la salud humana y para el medio ambiente (BOE No. 133, 4 June 1994, pp. 17781 *et seq.*).

[39] See José L. Requero Ibáñez, 'El Derecho administrativo y la responsabilidad por daños medioambientales', in Requero, *Protección administrativa del medio ambiente*, p. 203.

establish such a restriction.[40] This Act has been repealed by Act 9/2003 'on the confined utilisation, voluntary release and commercialisation of genetically modified organisms',[41] but, interestingly, the latter contains identical provisions (Articles 38.1 I and II) to the former. The Administration is also authorised by the latter Act to restore damaged goods and proceed through litigation against the offender (Article 38.3).[42]

Finally, the Draft Bill referred to under Case 1 included provisions on harm caused by the utilisation, release or commercialisation of GMOs within its scope (Annex to the Draft Bill, No. 6.9). However, it also provided for a development risks defence which some scholars have severely criticised on the basis that almost any damage caused by GMOs would fall within the scope of this defence.[43]

Question (b)

If the farmer worked as a dependant of *A*, Article 1903.I CC would apply. Thus, '[T]he obligation imposed by the preceding articles [i.e. for damage caused to another by fault or negligence] is imposed not only for personal acts or omissions, but also for those of persons for whom others must answer.'[44] Essentially, where *A* is 'responsible' for *C's* acts, *A* would be held liable for them, and a rebuttable presumption (Article 1903 VI CC) of *A's* negligence also arises (*in eligendo* or *in vigilando*). Of course, *A* must be the owner or director of an establishment or enterprise, and *C* must have caused damage 'in the service of the branches in which [he or she is] employed or on account of [his or her] duties' (Article 1903 IV CC) for liability to attach.[45] There must,

[40] See Encarna Cordero Lobato, 'La liquidación de daños entre particulares en el procedimiento administrativo', *InDret* 2/2003, p. 5; Cordero, in Ortega, *Lecciones de Derecho del medio ambiente*, p. 450.

[41] Ley 9/2003, de 25 abril, de régimen jurídico de la utilización confinada, liberación voluntaria y comercialización de organismos modificados genéticamente (BOE No. 100, 26 April 2003, pp. 16214 *et seq.*).

[42] Focusing on the administrative aspects of this Act, see Lorenzo Mellado Ruiz, 'Aspectos jurídico-administrativos de la Biotecnología', *Documentación Administrativa* (2003), pp. 267–317, at pp. 282 *et seq.*

[43] See Jesús Jordano Fraga, 'Responsabilidad civil por daños al medio ambiente ex delito ecológico: última jurisprudencia y algunas reflexiones', in Asociación de Derecho Ambiental Español, *III Congreso Nacional de Derecho Ambiental* (Madrid, Fundación Biodiversidad, MMA, 2000), pp. 23–45, at p. 37.

[44] La obligación que impone el artículo anterior es exigible, no sólo por los actos u omisiones propios, sino por los de aquellas personas de quienes se debe responder.

[45] See Javier Barceló Doménech, *Responsabilidad extracontractual del empresario por actividades de sus dependientes* (Madrid, McGraw Hill, 1995).

therefore, be a relationship between *A* and *C*, such that *A* (the authority) has the power to instruct or give orders to *C* (the subordinate) and exert some sort of control or supervision on his or her behaviour.

If there is no such hierarchical or subordinate situation between *A* and *C*, *C* may nevertheless be held liable as the author of the act causing the damage (Article 1902 CC). Moreover, *B* could sue *A* directly, if the GMO could be considered a 'defective product' according to Articles 2 and 3 LRPD, which would likely be the case if the organism did not offer the level of safety which a person was entitled to expect.[46]

Question (c)

Legal scholars usually distinguish between two kinds of environmental damage.[47] First, damage can be caused to the private interests of the victim, such as his or her life, health or property. Where this is the case, general rules apply, as has been explained under Question 1(a). There is also the individual's protected interest that has been infringed (i.e. enjoyment of property, etc.).

In these private damages, the general provision on tort liability (Article 1902 CC) does not draw any distinction between pecuniary and non-pecuniary losses, and both scholars and courts understand that all losses are recoverable.[48] Moreover, the general damages provision, Article 1106 CC, requires the courts to consider both harm actually sustained (*damnum emergens*) and any loss of earnings (*lucrum cessans*) for pecuniary compensation, and it is held that these provisions also apply to tort law. Damage actually sustained by the plaintiff includes the expenses which he or she has incurred in order to reduce or mitigate the damage, as well as the cost of replacement, or mitigation expenses, as long as all expenses claimed result from the damaging event and are attributable to the tortfeasor's conduct. Loss of earnings is generally the net patrimonial increase that the victim did not obtain because of the

[46] Article 3 states that: 'Se entenderá por producto defectuoso aquél que no ofrezca la seguridad que cabría legítimamente esperar . . .'

[47] Among others, Mª José Santos Morón, 'Acerca de la tutela civil del medio ambiente: algunas reflexiones críticas', in Cabanillas *et al.*, *Estudios jurídicos* II, pp. 3015–37, at p. 3017; Díez-Picazo, in Vercher, Díez-Picazo and Castañón, *Responsabilidad ambiental*, p. 92; Arbues and Labrador, *El seguro de responsabilidad civil*, p. 12; Natalia Álvarez Lata, 'La responsabilidad civil por daños al medio ambiente', in L. Fernando Reglero Campos (coord.), *Tratado de responsabilidad civil* (3rd edn, Cizur menor, Aranzadi, 2006), p. 1903.

[48] See Asúa, in Puig Ferriol *et al.*, *Manual de Derecho Civil*, p. 480.

damaging event. The position of the Tribunal Supremo on loss of earnings is quite restrictive, however. The court often refuses to award damages for loss of earnings, arguing that the damage was too speculative or that the earnings were 'contingent and doubtful'.[49] If, on the other hand, the loss of earnings is granted, full compensation of pecuniary losses following personal injury or death would consist of: (a) the reimbursement of the expenses already incurred (and foreseeable future expenses) as a result of temporary or continuing disability; and (b) compensation for the loss of earnings due to the temporary or continuing lack of earning capacity.[50]

As courts have pointed out, non-pecuniary loss resulting from personal injury is generally the physical and mental pain and suffering that the victim has sustained. This pain and suffering must be broadly construed and it is not confined to those situations in which they amount to a physical or mental disease. Courts tend to consider feelings such as anxiety, restlessness, grief, uncertainty[51] or sorrow.[52] The non-pecuniary loss awarded is the amount of loss of utility that cannot be directly evaluated in monetary terms.[53]

The second main type of environmental damage is pure ecological harm. In this case, the environment itself is the victim, not individuals (and their private interests). Examples of this type of damage would be a *res nullius* or a *res communis omnium* (e.g. free air or a wild bird) being damaged as a result of pollution. Some scholars have suggested that liability in tort should cover this type of damage, especially after the *Prestige* oil spill off the coast of Galicia in 2002.[54] Nevertheless, many questions still remain partially unresolved regarding pure ecological damage. One such issue is standing to sue. While victims of damage to health or to property can usually prove quite easily that they have a

[49] See Yzquierdo, *Sistema de responsabilidad civil*, p. 151; and Díez-Picazo, *Derecho de daños*, p. 687.

[50] See Martín, Ribot and Solé, in Koch and Koziol, *Compensation*, p. 267 with further details.

[51] See STS 27.1.1998 [RJ 1998/551].

[52] See STS 31.5.2000 [RJ 2000/5089], which deals with the worry produced by a delay in travel by plane, and sums up the current state of opinion of the courts with regard to non-pecuniary loss.

[53] See Miquel Martín Casals, Jordi Ribot and Josep Solé Feliu, 'Non-Pecuniary Loss Under Spanish Law', in W. V. H. Rogers (ed.), *Damages for Non-Pecuniary Loss in a Comparative Perspective* (Vienna and New York, Springer, 2001), pp. 192–243, at p. 193, with further indications.

[54] See María Paz García Rubio, 'El caso *Prestige* un año después de la tragedia. Algunos apuntes en torno al Real Decreto Ley 4/2003, de 20 de junio', La Ley núm. 5893, 14.11.2003.

personal interest in the case, no individual could prove a similar interest in the case of pure ecological damage. In other words, ownership is usually seen as a *conditio sine qua non* of standing to sue, so no one could claim for harm to the environment, as such, without a corresponding harm to private interests.[55] An *actio popularis* is permitted under several public law Acts, as well as by criminal law, so anyone could request the adoption of measures to restore the impaired ecological balance (Article 339 Código Penal). Nevertheless, the prevailing legal opinion is that there is no corresponding right to recover damages.[56] Instead, an *actio popularis* before the Public Administration would trigger an administrative procedure to determine liability for damage to public goods, and this would rarely lead to liability for damage to private goods.[57] As a result, Spanish private law does not yet provide for a civil action to protect the environment,[58] although some legal scholars have expressed their support for legal reform to make an *actio popularis* possible.[59] One alternative would be to vest the Public Administration with the powers of a public trustee who could act as a custodian of *res communes omnium*.[60]

The Draft Bill attempted to enlarge the scope of liability, and distinguished between 'damage', understood as a traditional, private damage, and 'environmental damage', not necessarily amounting to sudden injury but merely to a worsening of the condition of the natural or

[55] See, for example, Moreno, in Gómez, *Derecho del medio ambiente*, p. 62; and Díez-Picazo, in Vercher, Díez-Picazo and Castañón, *Responsabilidad ambiental*, pp. 93 and 109 n. 11. According to the latter, no Spanish court decision has dealt with damage to natural resources understood as *res communis omnium*.

[56] See, for example, María Paz García Rubio, 'A indemnización dos danos causados polo *Prestige*', in E. J. Torres Feijó (ed.), *Prestige: a catástrofe que despertou a Galiza?* (Santiago de Compostela, Candeia, 2003), pp. 113–39, at p. 138. However, cf. Santos, *La responsabilidad civil*, pp. 107 and 109, according to whom anyone could bring a claim for pure ecological damage. See also, on this oil spill, José Manuel Busto Lago, 'Pago de 'indemnizaciones' por el Estado español a los afectados por el siniestro del Prestige y renuncia de acciones', *Revista Práctica Derecho de daños* 2004, No. 18, 6–14; and Jordi Ribot and Albert Ruda, 'Spain', in Helmut Koziol and Barbara S. Steininger (eds.), *European Tort Law 2003* (Vienna and New York, Springer 2004), pp. 383–409, Nos. 11–14, pp. 385–6, with further references.

[57] As Cordero, in Ortega, *Lecciones de Derecho del medio ambiente*, p. 453, points out.

[58] See M[a] Ángeles Parra Lucán, *La protección al medio ambiente* (Madrid, Tecnos, 1992), p. 18; see also Katia Fach Gómez, *La contaminación transfronteriza en Derecho internacional privado. Estudio de Derecho aplicable* (Barcelona, Bosch, 2002), p. 303; Betancor, *Instituciones de Derecho ambiental*, p. 1296.

[59] Jaime Gil-Robles Gil-Delgado, 'La acción judicial popular y la audiencia de los interesados en el área del Derecho ambiental', *Poder Judicial* 1988 Especial IV, pp. 167–77, at p. 167.

[60] See, *de lege ferenda*,de Ángel, BIMJ 1991, 2782.

social environment (clause 1.2(c)). This last-notion element was inspired by the Directive Proposal on liability for environmental damage caused by waste (Article 2.1(d)) and is intended to complement the usual categories of damages.[61] The Draft Bill would confer standing on the Public Administration to sue for damage caused to the environmental components owned by it, as well as for other environmental impairment which occurred within its territorial range. In addition, environmental organisations would also have legal standing to sue under certain conditions (Article 5.2).

Question (d)

As already indicated, personal injury consisting of damage to health would allow victims to recover the expenses resulting from disability as well as compensation for loss of earnings.

Expenses arising from the accident will be compensated in full, as long as each victim proves the existence and amount of those expenses. However, it must be noted that, if social security provides healthcare assistance on a non-payment basis, the plaintiff cannot claim these expenses regardless of the agency's right to recover such costs. Courts do not use any fixed method to assess the expenses that the victim will incur in the future, nor for assessing expenses for necessary medical treatment as a result of the accident. Usually, courts award an estimated lump sum with a maximum equal to the amount claimed by the plaintiff.

Again, the second type of damages would potentially include temporary loss of earnings due to personal injury and a continuing or permanent lack of earning capacity caused thereby. In cases of temporary disability, compensation is assessed according to a daily rate which is multiplied by the number of days that the victim has not been able to perform his or her employment activity. To date, however, no uniform method of calculating permanent disability damages has been developed. In practice, courts usually assess a lump sum *ex bono et aequo*, without taking into account actuarial methods of prediction and calculation that are common in areas such as life insurance or accident insurance.[62]

[61] As Fernando Gómez Pomar, 'La responsabilidad civil como instrumento de protección del medio ambiente', *Iuris* 1999, No. 30, 40–4, p. 42 stresses.

[62] See Martín, Ribot and Solé, in Koch and Koziol, *Compensation*, p. 268.

Sweden

Question (a)

See, generally, the answer to Question 1(a).

Furthermore, if *B* can establish that producer *A* is responsible for the release as a part of his activities on the site, *A* could be held strictly liable for damages. The release of GMOs would fall under the 'similar disturbance' provision.[63]

Although *B* need not be adjacent to *A's* site, there must be sufficient proximity to be considered the 'surroundings'. For example, in case law, air pollution spreading over a distance of five kilometres was considered to be sufficiently linked to the polluting activity.[64]

See also Case 3 regarding the 'good neighbours' doctrine. Moreover, under the general Tort Law Act, negligence would also apply here. Clearly, *B* has multiple choices for causes of action against *A*.

Question (b)

Again, the answer to Question 1(a) is applicable to this situation. Note also that farmer *C* would be held liable as the 'user' of a site where activities cause disturbance to the 'surroundings'. In a second round of litigation, *C* could seek a recourse action against *A* based on contractual principles.

Question (c)

The general discussion in the answer to Question 1(a) applies here.

Question (d)

See the answer to Question 1(b).

[63] The Environmental Code, Ch. 32 § 3, bullet point 8.
[64] Malmö Fastighetsdomstol, case DT 128, 1989-09-29.

Case 5 Micro-organisms

The operator of a scientific laboratory, *A*, is dealing with dangerous micro-organisms. As a result of the unintentional release of these micro-organisms, *B* suffers damage.

a) Is *A* liable to *B*? Would it make any difference if *B* was a neighbour to *A's* site where the release took place? What kind of damage may *B* claim?
b) Would it make any difference if the operator of the laboratory was a private person or a company, or if the laboratory was run by the state?

Comparative remarks

1. Comparison

a) Dangerous micro-organisms

No European country provides for specific liability provisions with regard to dangerous micro-organisms. Therefore, liability as outlined under Case 1 will apply to the operator of such an activity. It is interesting to note that Belgian scholars are ready to apply Article 1385 Civil Code, which holds the owner or keeper of an animal strictly liable for the damage caused by the animal, to animal-like micro-organisms as well. Micro-organisms that are rather of a vegetal nature can be considered to be 'things' according to Article 1384 § 1 Civil Code. In Finland and Sweden, the specific environmental damages regime (Finland: Environmental Damages Act 1994; Sweden: Environmental Code 1999, Chapter 32) would be applicable if the damage stems from the polluting interference by micro-organisms. Harm caused by the direct consumption of dangerous micro-organisms or by bodily contact would not

be covered by the Acts. In the Netherlands, Article 6:175 Burgerlijk Wetboek is applicable, since dangerous micro-organisms qualify as dangerous substances according to this provision.

b) Public service undertakings

The fact that an activity is performed by the state does not make any difference in most European countries. State-run laboratories, waste disposal sites or power plants are under the same liability obligations as are those that are run by private persons or companies (Austria, Germany, Finland, Italy, the Netherlands, Portugal, Scotland and Sweden). In such countries, public bodies can be sued under the same conditions as private persons, according to the grounds of liability outlined above.

France and Spain are quite different. In these countries, claims for damage caused by a public authority, or a private person who is in charge of a public service, must be brought before administrative courts. In France, these courts will impose a special strict liability scheme for 'damage caused by public works' that provides only monetary compensation. With regard to polluting effects or dangers that stem from public undertakings, a doctrine of compensation for 'risks exceeding regular inconveniences of the neighbourhood' can also be applied according to the case law of the Conseil d'Etat. If the institution is owned by the state, but engages in economic activities, then jurisdiction will be with the civil courts. In Spain, damages claims against the public administration are subject to a specific liability Act that provides for no-fault liability for the normal or abnormal operation of the public service. The prerequisites for liability are proof of damage, causation and unlawfulness. *Force majeure* and the state-of-the-art defence apply. This category of liability does not preclude the responsibility of the individual official under the general rules of tort law.

The Greek reporter also pointed out that, in Greece, state-run undertakings would not fall under the general rules of tort law, but under Articles 104 *et seq*. of the Introductory Law of the Astikos Kodikas. In practice, however, the liability obligations of state-run facilities do not differ from those applying to private ones.

In England and Ireland, it is possible to exclude the liability of public authorities by statute. For instance, according to section 67 of the Irish Waste Management Act, no action lies against a local authority for failure to exercise any of its powers under the Act, including a failure

to ensure the collection and disposal of domestic waste, although an action would lie for the negligent exercise of the power. In Ireland, these statutes tend to be interpreted restrictively by the courts. Whether a charitable organisation runs the business will usually affect the legal position of the organisation.

2. Conclusions

With regard to Question (a), the common core is a negative one, in that no jurisdiction provides for specific strict liability rules for dangerous micro-organisms. Thus harm caused by dangerous micro-organisms is governed by the liability systems described in the answers to Case 1.

Question (b) tries to explore whether there are any differences between the liability obligations of private and those of state-run facilities. The answers show a very high degree of convergence, in that all the reporters stress that the fact that the laboratory was run by the state would not itself reduce the liability obligations of the operator. Differences exist, however, with regard to how this result is achieved. While most jurisdictions subject state-run and privately run operations to the same rules, this is not the case in France and Spain, which provide for specific strict liability rules for public service facilities and for the jurisdiction of the administrative courts. In England and Ireland, operations performed by state authorities may be restricted by the defence of statutory authority.

Discussions

Austria

Question (a)

As there is no special no-fault liability regime covering dangerous micro-organisms, *B* can only claim damages according to the general provisions of the ABGB. As explained under Question 1(a), *B* can base his or her claim on fault liability and on a direct (if *A's* activity is covered by a licence) or analogous claim under § 364a ABGB. If *A's* activity is ultra-hazardous (e.g. the production or storage of viruses or bacteria that cause fatal diseases to humans or animals), strict liability may also apply (by analogy). Both strict liability and fault liability allow all forms of damages, but § 364a ABGB will only remedy real estate damage.

Question (b)

Although damage caused by a state act is subject to a special liability Act, the AHG,[1] which provides for a special fault-based government liability with respect to third parties, it is common legal opinion that § 364(2) does not allow a remedy against an act of State. The unintentional or intentional release of dangerous micro-organisms by a laboratory, however, cannot be regarded as an act of State.[2] Consequently, with regard to liability in tort, there is no difference between private and state-run facilities in this situation.

Belgium

Question (a)

There are no specific strict liability rules in Belgium for the operation of scientific laboratories or for the handling of micro-organisms. Both types of activity may be subject to environmental permit and, in the Flemish region, to the increased duty of care of the operator of an activity that is subject to environmental permit.

Identification of the liable party and of compensable damage (i.e. the criteria for liability) should thus be determined on the basis of the more general liability rules mentioned in the answers to the previous questions.

In legal literature, Article 1385 BW, which holds the owner or keeper of an animal strictly liable for damages caused by the animal, is also considered to be applicable to micro-organisms.[3] Here, some make the distinction between micro-organisms of an animal nature, to which Article 1385 BW applies, and micro-organisms of a vegetal nature, which are to be considered 'things' in the sense of Article 1384(1) BW.[4]

Question (b)

The state and state-owned companies do not enjoy immunity under Belgian liability law, which applies to them on the same basis as it does to private parties.

[1] Amtshaftungsgesetz (Official Liability Act, AHG), BGBl 1949/20 as amended by BGBl I 1999/194.

[2] See Spielbüchler, in Rummel, ABGB I[3] § 364 n. 6; [Gimpel-]Hinteregger, *Grundfragen* 303 *et seq*.

[3] R. O. Dalcq, *Traité de la responsabilité civile*, I (2nd edn, Brussels, Larcier, 1967), No. 2043.

[4] Cornelis, *Beginselen*, 591.

There are, nevertheless, differences in the application of fault liability, especially where the state enjoys discretion in its decision-making and judicial and legislative functions.[5] The operation of a laboratory is not one of these special situations.

England

Question (a)

The first part of the answer to Question 5(a) is the same as the answer to Question 1(a), as far as nuisance and the rule in *Rylands* v. *Fletcher* are concerned. If the unintentional release constituted negligence, liability would be as explained in Case 3. There may be liability for property damage and/or personal injury, provided the damages were foreseeable, as explained above.

Question (b)

In the tort of nuisance, a public authority that exercises any of its functions so as to cause a nuisance to any person is liable as a private person or company.[6] For *Rylands* v. *Fletcher* liability, this issue was discussed in *Smeaton* v. *Ilford Corporation*. Upjohn J held, in assessing the 'for his own purposes' element under *Rylands* v. *Fletcher*, that it was difficult to draw a line between private companies and state authorities, unless the latter be confined to charitable operations.[7] However, the defence of statutory authority may apply to operations performed by state authorities.[8]

Finland

Question (a)

Assuming that *B* is not involved in the laboratory works and is not a visitor, *A* would be liable according to the Environmental Damages Act, if pollution is proved. Personal injuries, property damages and financial loss are compensable.

It should be noted that Case 5 may vary depending on the legislation (product liability, technical safety) or conditions (accident, normal, unforeseen impacts etc.) applicable to the micro-organism.

[5] See, generally, W. van Gerven and S. Covemakers, *Verbintenissenrecht*, 220–35.
[6] *Pride of Derby and Derbyshire Angling Association Ltd and Another* v. *British Celanese Ltd and Others* [1953] Ch 149 (163). See also the summary of case law by Denning LJ, *ibid*., at 188 *et seq*.
[7] *Smeaton* v. *Ilford Corporation* [1954] Ch 450 (469). [8] See Questions 1(a) and 3(g) above.

Again, financial compensation claims can be based on the Damage Act or the Environmental Damages Act, depending on the details of the case. If there is no pollution, but, for instance, a direct infection, the situation is different and may find its solution in the general legislation on damages or product liability.

Question (b)

In principle, there is no distinction. But, of course, if a private person is involved where only a corporate person may obtain a permit, the private person's illegal activity may enlarge the scope of liability.

France

Question (a)

There is no special provision in French law on liability for micro-organisms. Thus, the classical rules apply (see the answer to Question 1(a)).

There is no difference if *B* is a neighbour to *A's* site or not, as long as *B* can prove that he or she suffers from a certain, direct and personal damage and that he or she can establish a causal link between the damage and *A's* activities.

Question (b)

In the case of a private laboratory, *B* has an action in civil court under Articles 1382, 1383 or 1384 CC, or in criminal court, if it is argued that the unintentional release was due to an infringement of relevant laws and regulations (Article 1382 CC) or to negligence (Article 1383 CC).

In the case of a state-owned laboratory, if the laboratory is considered purely 'administrative' (*établissement public administratif*), such as a fundamental research centre (run by a university, a *grande école* or a special body), *B* may only sue in administrative courts. If the laboratory is considered to be carrying out industrial and commercial activities (*établissement public industriel et commercial*), *B* may sue in civil or criminal courts.

Germany

Question (a)

Here, the answer to Case 1 applies. There is no particular law in Germany applicable to damage caused by micro-organisms.

Question (b)

The distinction is immaterial in German law.

Greece

Question (a)

Operator *A* is liable to *B*, and, even though he has not acted intentionally, he has not met the requirements of objective good faith dictated by Articles 281 and 288 AK. His behaviour is also deemed illegal according to Article 914 AK.

If *B* is a neighbour, he would also have the protection of the neighbour law (Articles 1003 etc. AK in combination with Article 1108 AK). Finally, *B* may claim only traditional damage (harm to health and property).

Question (b)

Whether the operator is a private person or a company makes no difference. Their liability is governed by Article 914 AK and/or Article 29 of Law 1650/1986. If the laboratory is run by the state, then Article 105 of the Introductory Law of the AK on the civil liability of the state and its employees applies.

Ireland

Question (a)

Operator *A* is liable. If *B* is the occupier of land, *B* can recover for damage to the land and for consequential loss. The most obvious source of liability is the rule in *Rylands* v. *Fletcher*. The micro-organisms are dangerous organisms; thus, *A* is strictly liable if they escape and cause damage. Plaintiff *B* may also claim negligence; either he/she had no adequate safeguards to prevent escape, or the safeguards did not work correctly; and the principle of *res ipsa loquitur* may apply to allow the courts to infer negligence. Liability may also exist in nuisance and trespass where *A* has used land so as to interfere with the use and enjoyment of land by *B*, and *A's* micro-organism has been placed on *B's* land where it has caused damage.

If *B* is not an occupier of land, damages may be recovered for personal injury or damage to other property, but *B* must establish liability in negligence or under statute. Again, section 28B of the Air Pollution Act looks like the most promising route here. *B* could also recover under the civil liability regime in section 20 of the Water Pollution Act 1990 if, for example, *B* drank from a well contaminated by the micro-organisms.

As with the reply to Case 4, the proximity of *B* and *A* makes it easier for *B* to show that *A* is the source of the damage, but, at law, any person is one's neighbour if it is reasonably foreseeable that they may be injured by one's actions.

Question (b)

It does not matter who owns or runs the laboratory; liability is the same. There may be one exception, however, if the owner is the state and thus has a statutory immunity. Nevertheless, such statutes tend to be interpreted restrictively.

Italy

Question (a)

Operator *A* is liable to *B* on the basis of Article 2050 CC (see above, Case 3, and Introduction). If *B* is a neighbour of *A*, he may also sue on the grounds of Article 844 CC, but the practical effect would not be that different, as both provisions are based on a no-fault principle. *B* may claim damages related to the violation of the right of property and of health.

Question (b)

It would make no difference if the operator of the laboratory is a private person, a company or the state. There is neither a specific exception nor case law on the issue.

The Netherlands

Question (a)

As already concluded in the answer to Question 4(a), under Article 6:175 BW, a strict liability regime applies to dangerous substances. Parliamentary History (see Question 4(a)) indicates that micro-organisms qualify as a dangerous substance under Article 6:175 BW, being by their nature inherently dangerous.[9]

The second part of subsection 1 refers to substances which are always considered dangerous (e.g. substances that are explosive, oxidisable, inflammable, toxic etc.) as set out in Article 34(3) of the Dangerous

[9] Asser-Hartkamp 4-III 2002, Nos. 170 and 192b and Parliamentary History, Book 6, p. 749, Explanatory Memorandum Proposal 21 202, 1990–1, p. 13.

Substances Act (Wet milieugevaarlijke stoffen).[10] Moreover, Article 6:175(6) BW refers to a Legislative Decree containing a list of substances that are *per se* considered to be dangerous. Since this list is not exhaustive, strict liability may also apply to other substances, including micro-organisms. Thus, *A* will be held liable to *B*.

When establishing liability under this Article, it is irrelevant whether or not *B* was the neighbour to *A's* site. With respect to the kind of damage that can be claimed by *B*, the answer to Question 3(b) applies.

Question (b)

Article 6:175 BW imposes strict liability on the person, who, in conducting his or her business, uses a dangerous substance. Subsection 1 also focuses on the person who conducts a business, or any corporate body or legal entity that uses the substance in conducting its business or keeps it in its possession.

It is irrelevant whether the corporate body has a profit motive. Non-profit institutions such as hospitals,[11] universities[12] and other publicly run bodies can be sued under this Article. Therefore, even if the laboratory was run by the state, liability could be established in certain circumstances.

Portugal

Question (a)

The answer to Case 1 applies. There is no particular law applicable to damage caused by micro-organisms.

Question (b)

This distinction is immaterial.

Scotland

Question (a)

The same principles governing common law liability will apply in this context, as outlined in Question 4(a) above. There are no specific statutory provisions governing civil liability for the release of micro-organisms.

[10] Stb 2000, 217.
[11] Parliamentary History, Book 6, p. 730; and Asser-Hartkamp 4-III 2002, No. 184.
[12] Some scholars, however, do not agree on this part: Spier and Sterk *Ansprakelijkheid voor gevaarlijke stoffen*, p. 52.

Question (b)

Liability for physical harm caused directly by private individuals and corporate bodies is governed by the same delictual principles. Similarly, these principles also determine the liability of public bodies, and therefore, in this instance, the liability is probably the same no matter who operates the laboratory. (Special considerations apply when it is alleged that a public body has breached one of its statutory duties or has caused harm by a failure to exercise a statutory power. However, these are obviously not relevant here where the state has caused direct physical damage in its operations.)

Spain

Question (a)

There is no special tort regime applicable to damage caused by micro-organisms under Spanish law. As to the general rules, see the answer to Question 4(a), and for 5(a) see also Question 4(c).

Question (b)

Damage caused by public officials and the Public Administration is subject to the legal regime of public administration and the general administrative procedure Act (LRJAP).[13] Article 139.1 of this Act provides that public bodies are strictly liable for the damage that 'flows from the normal or abnormal operation of the public services' (see also Article 106.2 CE). This means that the Public Administration has to bear the costs of damage caused by the activities that it carries out, including administrative entities regulated by public law (such as water supply companies). In Spanish jurisprudence, it is considered that the damage must result from the typical risk created by the public service to be actionable; otherwise, liability would only arise if operation of the public service was abnormal.[14] For liability to exist, it is not necessary to identify the specific official who caused the damage (nor even that he or she behaved carelessly), although the official will be also liable in tort if he or she is identified (cf. Article 146.1 LRJAP).

According to Article 139.2 LRJAP, the damage must also be objective ('*efectivo*'); it must be possible to evaluate it in monetary terms and also

[13] Ley 30/1992, de 26 de noviembre, de Régimen Jurídico de las Administraciones Públicas y del Procedimiento Administrativo Común (BOE No. 285, 27 November 1992, p. 40300).
[14] Cordero, in Ortega, *Lecciones de Derecho del medio ambiente*, pp. 457–8.

to individualise it with regard to a person or to a certain group of persons.[15] It is necessary that a causal link between the act or omission of the public body and the damage sustained be established,[16] and that 'the individual does not have the duty to endure according to the Law' (Article 141 LRJAP). Legal doctrine has identified this requirement with the idea that the harm must be unlawful.

Force majeure is a complete defence (Article 139.1 LRJAP), as well as development risks (Article 141.1 LRJAP). Nonetheless, this latter defence is said to discourage research on the risks of new products and technologies (promoting and protecting ignorance), whereby the costs of progress and of knowledge are distributed in a socially unfair way.[17]

Finally, claims of damage caused by public bodies or their personnel will only be adjudicated by administrative courts. In practice, the widespread use of insurance policies by public bodies has raised some complex issues,[18] particularly the contradiction between the legal possibility of using 'direct action' against a private insurer of a public body and the exclusive jurisdiction of administrative courts[19] in actions against the public body.

Sweden

Question (a)

See the discussion under Questions 1(a) and 3(a).

Question (b)

No, there is no distinction. Both private physical and legal entities/officials, as well as public persons, are targets for liability under both environmental liability law[20] and general tort law principles.[21]

[15] STS 2.1.1990 [RJ 1990/147]; 2.3.1994 [RJ 1994/1722].
[16] SSTS 19.1.1987 [RJ 1987/426]; 3.3.1999 [RJ 1999/3018].
[17] As José Esteve Pardo, 'La protección de la ignorancia. Exclusión de responsabilidad por los riesgos desconocidos', RAP 2003, No. 161, 53–82, puts it.
[18] See Oriol Mir Puigpelat, 'La jurisdicción competente en materia de responsabilidad patrimonial de la Administración: una polémica que no cesa', *InDret* 2002/3, p. 19 (www.indret.com).
[19] For further details, see Ribot and Ruda, in Koziol and Steininger, *European Tort Law* (2003), Nos. 4 *et seq*., pp. 383–5.
[20] Environmental Code, Ch. 32 § 6. [21] See Hellner, *Skadeståndsratt* (2000), Ch. 26.2.

Case 6 Waste disposal site

A is the operator of a site for the permanent deposit of waste. Polluting effects therefrom cause damage to neighbour *B*. Fault cannot be established.

a) Is *A* liable to *B*? What kind of damage may *B* claim? Is it of any importance that *B* is the owner of the land affected by the negative effects?
b) What would the extent of liability be if the majority of people living in the community suffer minor property and/or health damage?
c) What is the extent of liability if *A* is the operator of an installation, or site, for the incineration, treatment, handling, or recycling of waste?
d) Would it make any difference if the operator of the waste disposal site was a private person, or a company, or if the dump-site was run by the state?

Comparative remarks

1. Comparison

The *operation* of waste disposal sites, as well as sites of incineration, treatment, handling or the recycling of waste, is covered by the liability regimes outlined under Case 1. In Finland, Germany, Greece and Sweden, such activities are also covered by their comprehensive environmental liability regimes. In Portugal, the application of strict liability according to Article 23 LAP, however, depends on whether the activity can be regarded as objectively dangerous. In Austria, strict liability according to §§ 163 *et seq*. MinroG plays an important role with regard to waste disposal sites situated in mines. The special no-fault liability regime for water usage facilities provided by § 26(2) WRG, however, is not applicable, since waste disposal sites are not regarded as water usage facilities.

The English reporters and the Irish reporter stress that the deposit of waste can be regarded as a non-natural use of land in terms of the rule in *Rylands* v. *Fletcher* and that the deposit and incineration of waste may also constitute a nuisance. For the deposit of waste, English and Scots law provide a specific strict liability regime under section 73 (6) of the Environmental Protection Act 1990. Liability is directed against any person who deposited or knowingly caused the deposit of waste in circumstances where that deposit constitutes a criminal offence. It covers both personal injury and property damage. A damages claim is only excluded if the damage results wholly from the fault of the injured person, or if he or she voluntarily accepted the risk of damage. There is no requirement, however, that the claimant be the owner of land. The English reporters pointed out that, although case law under this section is not yet available, it is to be expected that the courts will apply the common law rules, such as the prerequisite of foreseeability or the exclusion of economic loss, to civil claims under section 73(6). This specific liability regime relates only to the permanent or temporary deposit of waste and not to other forms of waste treatment or disposal, such as incineration or recycling. In both England and Ireland, a damage claim under trespass would also be available. According to section 32 of the Irish Waste Management Act, a person can only lose ownership of waste when it is deposited in a legal way. Therefore, the owner of the waste commits trespass if, and as long as, waste that belongs to him or her is on the land of another person.

In the Netherlands, Article 6:176 Burgerlijk Wetboek provides strict liability against the operation of a dump-site that causes pollution to air, water or soil. Liability is imposed upon the operator. Although the operation of such an activity will usually require a licence under administrative laws, this is not a prerequisite for liability under Article 6:176 Burgerlijk Wetboek. The operator is liable for property damage, personal injury and even pure economic loss caused by the polluting effects of the site. Article 6:176 Burgerlijk Wetboek does not apply to the incineration, treatment, handling or recycling of waste.

If waste is deposited in an illegal way, many countries impose clean-up obligations by administrative law (e.g. Austria; Belgium; England and Scotland: § 59 EPA 1990; France: Articles L.541-6, 541-3 § 6 and 514-16 Code de l'Environnement; Germany; Italy: Decreto Ronchi 1997; Sweden: 1999 Environmental Code, Chapter 10). In Spain, Law 10/1998 requires the regions to set up an inventory of soils polluted by waste and to oblige the polluter to carry out clean-up and restorative

measures. This obligation may subsidiarily also be addressed (i) to the possessor or secondarily (ii) to the owner of the polluted soil. If the liable person does not obey the order, the public administration may carry out the measures and recover the costs incurred. The law also provides that the public administration may require the polluter to pay damages to private persons. In this case, Spanish scholars suggest that an action in tort should only be granted, insofar as the award of damages by the public administration is insufficient according to the standard provided by tort law.

2. *Conclusions*

Questions 6(a) and (c) explore the existence of special liability regimes for the operation of waste disposal sites or waste processing plants. The survey shows that only the Netherlands provides for a special civil liability remedy in Article 6:176 Burgerlijk Wetboek, which, however, only covers harm caused by waste disposal sites. In all the other countries, liability claims against the operator of a waste disposal site would be determined on the basis of the liability regimes described in the answers to Case 1. The English and Scots reporters also refer to liability according to the section 73(6) of the Environmental Protection Act 1990 covering personal injury and property damage by the illegal deposit of waste. Many reporters indicate that, in case of the illegal deposit of waste, administrative law would impose clean-up obligations.

The answers to Case 6 confirm the results already described in Case 1(b). The answers to Question 6(d) are the same as under Case 5(b).

Discussions

Austria

Question (a)

As explained under Question 1(a), *B* may claim damages according to the general provisions of fault liability and § 364a ABGB. Waste disposal sites situated in mines are also subject to strict liability as provided by §§ 163 *et seq*. MinroG. The special no-fault liability regime for water usage facilities provided by § 26(2) WRG, however, is not applicable, as waste disposal sites are no longer considered water usage facilities.[1]

[1] See [Gimpel-]Hinteregger, 'Deliktische Haftung bei Deponien', in Kerschner (ed.), *Haftung bei Deponien* (1996), pp. 64–93 (p. 84).

Question (b)

Under Austrian law, there are no special provisions covering this type of damage. The answer is thus the same as under Question 3(c).

Question (c)

The answer here would be the same as under (a) above, as there are no special liability provisions with regard to these specific facilities.

Question (d)

The operation of a waste disposal site cannot be regarded as an act of State. Consequently, with regard to liability in torts, there is no difference between private- or state-run facilities.

Belgium

Question (a)

There are no specific strict liability rules applying to waste other than toxic waste. (The latter will be dealt with under Case 7.) Damage caused by waste disposal sites has, however, given rise to liability under nuisance, negligence or Article 1384(1) (defective things), in accordance with the rules described in the answers to the previous Questions.[2]

Question (b)

See the discussion under Questions 1(b) and 2(b).

Question (c)

See the answer to Question 5(a).

Question (d)

Again, this issue is discussed under Question 5(b).

[2] See H. Bocken, *Het aansprakelijkheidsrecht*, pp. 200–6; H. Bocken, 'Milieuwetgeving en onroerende goederen. Aansprakelijkheid voor de kosten van bodemsanering', TPR, 1992, 31 *et seq.*; P. Coenraets, 'La responsabilité de l' entreprise du fait des déchets. Aspects pénaux et civils', in *L' entreprise et la gestion des déchets* (Brussels, Bruylant, 1993), pp. 275–92.

England

Question (a)

I. Common law

The first part of the answer to Question 6(a) is the same as the answer to Question 1(a), as far as nuisance and the rule in *Rylands* v. *Fletcher* are concerned. For liability in the latter, the deposit of waste might be regarded as a non-natural use.[3] Plaintiff *B* does not need to be the owner, but must be the occupier, of the land. Concerning the defence of statutory authority, it should be mentioned that a waste disposal licence, like a planning permission, does not exclude the defendant's liability.[4]

II. Statute law

Under section 73(6) of the Environmental Protection Act 1990, where any damage occurs because of a waste deposit in violation of criminal law, the person who deposited, or knowingly caused the deposit of, the waste, is liable to pay compensation, except where the damage results wholly from contributory fault, or where the claimant voluntarily accepted the risk.[5] 'Damage' is defined in section 73(8) to include death or personal injury (including disease or physical or mental impairment). There is no requirement that the claimant be the owner of land. Interestingly, there is no reported case law under this section. However, in light of the way the courts have responded to other statutes imposing civil liability for environmental damage, it is possible that the courts would hold that the normal (i.e. common law) rules relating to damages should apply to statutory civil claims under section 73(6). This might mean that pure economic loss is excluded and that liability is limited to foreseeable damage resulting from the unauthorised deposit of waste on land.

In addition, if waste is deposited on land without a licence or in breach of the conditions of a licence, the Environment Agency or the local authority may, under section 59 of that Act, serve a notice requiring the person who deposited (or knowingly caused the deposit of) the waste to take the necessary steps to eliminate or reduce the consequences of the illegal deposit of the waste.

[3] See, for example, *Ballard* v. *Tomlinson* (1885) LR 29 ChD 115 (124).
[4] *Blackburn* v. *ARC Ltd* [1998] Env LR 469 (525).
[5] It is not necessary that a criminal prosecution be brought prior to a civil claim for damages, simply that the circumstances of the deposit *could* constitute an offence.

Question (b)

The answer here is the same as the answer to Question 1(b).

Question (c)

I. Common law

At common law, there is no distinction in legal position between this case and that in (a). In the recent case of *Graham and Graham* v. *Re-Chem International*, it was held that waste incineration is not a reasonable use and can therefore constitute a nuisance.[6]

II. Statutory law

Waste treatment and recycling sites require waste management licences under Part II of the Environmental Protection Act 1990 and are treated the same way as other waste disposal sites, with the exception of incinerators and large landfills. Incinerators (other than very small incinerators) and large landfill sites are subject to the PPC regime under the Pollution Prevention and Control Act 1999. There is no provision for civil liability under the PPC regime, so there would be no statutory civil liability if the damage was caused by the *operation* of the incinerator.

Civil liability under section 73(6) of the Environmental Protection Act 1990 applies only where the damage is caused by the deposit of waste on land. In *R* v. *Metropolitan Stipendiary Magistrate*, it was held that 'deposit' includes a temporary deposit on land pending final disposal elsewhere.[7] Liability might therefore arise if the damage resulted from the way the waste was deposited on the premises, pending incineration, recycling or other treatment.

Question (d)

No, there is no exclusion of liability for operations run by state authorities.[8]

Finland

Question (a)

Yes, *A* will be liable, and *B* may claim financial compensation. Personal injuries, property damages and financial loss are compensable. Also,

[6] *Graham and Graham* v. *Re-Chem International Ltd* [1996] Env LR 158.

[7] *R* v. *Metropolitan Stipendiary Magistrate, ex parte London Waste Regulation Authority* [1993] 3 All ER 113.

[8] See Question 5(b) above.

the costs of restoration of contaminated surroundings are sometimes compensable.

Waste liability is, in the field of civil liability, based on the same rules as environmental pollution because waste usually satisfies the criteria of pollution. In other cases, general legislation may apply. In the field of public law, however, waste activities may cause soil pollution and are therefore subject to a different legal approach.

Generally, this is not an important distinction. Of course, the losses will depend on the value of the right concerned.

Question (b)

Personal injuries and significant damage to property are always compensable.

Question (c)

Liability is generally not affected by the existence of any permit. The operator will nevertheless be liable.

Question (d)

The operator's liability is not dependent on whether he is a private person, a company or a state-owned organisation.

France

Question (a)

Basically, the legal analysis discussed in Question 1(a) applies here, and case law is abundant.[9] Deposits of waste are 'classified installations for the protection of the environment'. Operators of these installations have a duty to repair the sites after cessation of their activities,[10] but, at any time, the *préfet* could also order specific preventative measures and restoration, if there is a risk to the environment. A special agency, the Agence de l'environnement et de la maîtrise de l'énergie (ADEME), or a local authority, could also intervene to repair the site, and seek compensation from *A* before civil or criminal courts (Articles L.541-6 and 514-16 of the Code de l'environnement).

[9] See Claude Lambrechts, 'Montchanin côté cour', *Revue juridique de l'environnement*, 1991, p. 5; C. Giraudel, 'Sites contaminés et responsabilités civiles', in Michel Prieur (ed.), *Sites contaminés en droit comparé de l'environnement* (PULIM, 1995), p. 143.

[10] CE, *Société la Quinoléine*, 24 March 1978, Rec., 1978, p. 155.

If *A* has disappeared or is insolvent, ADEME may intervene, and the state and the local authorities will pay for the repair of the site (Article L.541-3 § 6 of the Code de l'environnement).

Finally, it should be noted that, under Law No. 92-646 of 13 July 1992 (waste elimination), 'open air' deposits should no longer be possible after 2002. However, a lot of these sites still remain, and local authorities could be liable if they fail to close them down.

Question (b)

See the answer to Question 1(b). Permanent deposits of waste are classified installations. Therefore, it is the duty of the *préfet* to prevent excessive nuisance.

Question (c)

Given that open-air waste deposits are now illegal, *A's* activities are illegal. Therefore, *A* could not only be prosecuted before criminal courts and before the civil and criminal courts by *B* or by the registered associations. The *préfet* may also impose administrative sanctions (financial penalties, temporary or permanent closure, obligations to restore the site). These sanctions could be challenged before administrative courts, and the court may modify the sanctions imposed.[11]

Question (d)

See the answer to Question 5(b).

Germany

Questions (a) and (b)

The answer to Case 1 corresponds to these Questions as well. Waste deposits are installations according to § 4 AbfG (Disposal Act) and are listed as number 75 in Appendix 1 of UmweltHG.

Question (c)

There is no distinction here from (a) above.

[11] See Van Lang, *Droit de l' environnement*, p. 466. These administrative sanctions are independent of penal sanctions, and consequently the former could be cumulated with the latter: see Dominique Guihal, *Droit répressif de l'environnement* (2nd edn, Economica, 2000), p. 145.

Greece

Question (a)

Generally, see the answers to Case 1.

If *B* is the owner of the land affected by the negative effects, he may be protected specifically by Article 1003 AK, together with Articles 1108 and 989 AK, on the basis that ownership of property entails a right of enjoyment of the land as part of a healthy environment.[12] Article 1003 AK states that: 'The owner of an immovable shall be bound to tolerate the emission of smoke, soot, exhalations, heat, vibrations or other similar side effects originating from another immovable to the extent that such effects do not substantially prejudice the use of the owner's immovable property or result from a use which is common for immovables in the area in which the offending immovable is situated.' This Article must be interpreted in light of Article 24 of the Constitution: 'Emissions, even [when they are] usual for the area, are only to be considered legal when they do not injure elements of the living environment.'[13] Therefore, if the emissions severely impair *B's* use of the land and are uncommon to the area's economic characterisation, B, as a land owner, has a right of injunctive action against *A* (Article 1108 AK). As a possessor, *B* has a similar right of action under Article 989 AK. A parallel action for damages and compensation for moral harm may also be available under the general tort provisions of the AK.[14]

According to Greek jurisprudence,[15] Articles 682 *et seq.* (on adjudicating provisional measures) of the Greek Code of Civil Procedure are also applicable to cases of pollution of the environment because continuing pollution may radically impair environmental goods. Therefore, apart from an ordinary action, *B* may also have recourse to the provisional measures procedure in order to obtain a summary decision.

Finally, *A* is also liable under Article 29 of Law 1650/1986 'for the protection of the environment'.

[12] See I. Karakostas, *Perivallon kai Astiko Dikaio*, p. 83, 241. [13] See *ibid.*, p. 84, 242.
[14] See I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 95, 96, 257.
[15] Decisions 1097/229/1989 of the Court of First Instance of Volos, NoV 38, 308; 163/1991 of the Court of First Instance of Nafplio, NoV 39, 786; 336/1992 of the Court of First Instance of Chalkida EllDni 33, 1513; 12/1994 of the Court of First Instance of Serres, NoV 42, 1032; 471/1996 of the Court of First Instance of Ioannina, PerDik 1/1997, 84.

Question (b)

If the majority of the people living in the community suffer a minor health damage and/or property damage, the legal position is the same as discussed in Question 1(b).

Question (c)

Liability is the same in this case, even if *A* is the operator of an installation for the incineration, treatment, handling or recycling of waste.

Question (d)

See the answer to Question 5(b).

Ireland

Question (a)

There is no provision for civil liability in the Waste Management Act. Liability, if it exists, will be found in tort law and statutory law on the pollution of air and water. For example, if the installation causes leachate to pollute the groundwater under *A's* site, which seeps to *B's* site and causes damage, *B* has a civil liability cause of action under the Water Pollution Acts (see the discussion under Case 1).

In general tort law, the rule in *Rylands* v. *Fletcher* applies. Depositing waste on land is a 'non-natural use' of land. Polluting waste is a dangerous thing to bring onto land, and one for which the holder should be strictly liable if it escapes and causes damage to the occupier of neighbouring land.

The operation of a waste facility such that it interferes with a neighbour's land is a *prima facie*, actionable nuisance. The Waste Management Act requires that such facilities must have a licence, and failure to obtain a licence, or operation in violation of a licence, is an offence. Section 40 (11) further provides that the grant of a licence does not, of itself, authorise any emissions. Thus, the polluter must comply with his or her licence and with all other applicable legal requirements to avoid liability, although any compliance with, or breach of, the licensing requirement will be relevant to whether the interference was unreasonable.

In a claim for negligence, it is possible that 'fault' need not be established, if a logical inference determines that *A* must have been negligent based on the facts (the *res ipsa loquitur* rule). Whether a licence has been obtained is also relevant here because, if *B* can establish that the facility

has been operated in breach of a licence, it will be difficult for *A* to argue that the operation was nevertheless not negligent. However, if *A* does produce evidence to explain how the discharge occurred without any negligence, *B* may, in fact, lose.

If the waste itself is deposited on *B's* land, there may be a trespass. It is arguable that leachate from waste is also a part of the waste, which is legally still *A's* property (section 32 of the Waste Management Act). Therefore, as long as the waste is on the site and causing damage to *B's* property, there may be an actionable, ongoing trespass, and *B* may sue, unless the court holds that the injury is not direct. As suggested previously, the effect of section 32 may be to convert what would otherwise be an indirect injury into a direct injury.

In all of the above cases, *B* may recover damages for personal injury and damage to property arising out of the operation of the facility. For instance, if *B* operated a guest house on the land, and flies and smells and litter from the facility damaged *B's* business, *B* might recover in nuisance and in negligence for damage to property in the form of a loss of business. The loss here would not be pure economic loss (which is not usually recoverable in negligence) because it is a loss arising out of damage to property. Another example might be where contamination spread and poisoned *B's* well, infecting *B* and/or *B's* livestock or crops. Plaintiff *B* might recover in nuisance, possibly also trespass (assuming *B* can prove direct damage), and probably under *Rylands* v. *Fletcher* strict liability.

It is significant here that *B* is the owner or occupier of the land. A family member might not be able to sue in nuisance or trespass (as discussed in Case 1 and Question 3(a)). A person with no connection to land in the area would only be able to sue for personal injury or damage to property in negligence or under the statutory liability rules or *Rylands* v. *Fletcher*.

Question (b)

If the majority of people in the community suffer minor damage, each one can sue for the extent of his or her injury.

Question (c)

There is no special or distinct rule of liability in this case.

Question (d)

Theoretically, it makes no difference who the operator is. In practice, however, a company may not be a good target in a claim for damages, depending on its solvency. The state may normally be sued in the civil

courts in the same way as any other person or entity, but occasionally a specific Act may grant immunity. Under section 67 of the Waste Management Act, for example, no action lies against a local authority for failure to exercise any of its powers under the Act, though an action might lie if it acted negligently or in breach of its obligations.[16]

Italy

Question (a)

Generally speaking, permanent deposits of waste are regulated in Italy by a specific Decree, namely, the Decreto Ronchi of 1997, named after the Minister of the Environment at the time.[17] This legislation, however, does not govern civil actions between private party, but rather litigation between the operator/potential polluter and the state. Thus the controversy arising between *A* and *B* in this question is subject to the general principles of Article 844 CC and Article 2050 CC (see Question 3(a) above).

Question (b)

This is the same situation as Question 2(b) and follows the discussion thereunder.

Question (c)

There would be no distinction in this case.

Question (d)

See the answer to Question 5(b).

The Netherlands

Question (a)

Under Article 6:176(1) BW, *A* may be liable to *B* because the operator of a dump-site is strictly liable for damage which occurs (before or after the dump-site is closed) as a result of air, water or soil pollution from

[16] Under the Act, it is the local authority which is required to collect domestic waste and provide places for its disposal. It is possible that the common law distinction between misfeasance and non-feasance would apply here: at common law, and under the Civil Liability Act 1961, a public authority can be sued for the negligent exercise of a public power, but not for a failure to exercise a power.

[17] Decreto legislativo 5 febbraio 1997, n. 22, Attuazione delle direttive 91/156/CEE sui rifiuti, 91/689/CEE sui rifiuti pericolosi e 94/62/CE sugli imballaggi e sui rifiuti di imballaggio (hereinafter Decreto-Ronchi).

substances dumped on the site, before the site is closed. The term 'operator' includes both a licensee and also the person who operates a dump-site without a proper licence (Article 6:176(2) BW).

Because there are no special provisions concerning damages, *B* may claim personal damage, damage to property and even pure economic loss. The proposal for Articles 6:175–178 BW indicated that 'not only damage to property or to persons can be recovered by the actual victim of the loss, but also the damage that occurs when someone's property is damaged, and someone else suffers thereby'.[18]

Question (b)

Minor damage to property or health can be recovered under Article 6:176 BW, provided that the damage is a result of the pollution to air, water or soil and lies beyond the level of 'acceptable inconvenience' (discussed under Questions 1(b), 2(b) and 4(d)).

Question (c)

In accordance with Article 6:176(6) BW, a 'dump-site' is any site that is used by the 'operator' for the dumping of packaged or unpackaged substances originally owned by the dumper or third parties, with the intention of leaving the dumped substances on or in the site. Where *A* is an operator of an installation or a site for the incineration, treatment, handling or recycling of waste, operator *A* does not intend to leave the waste on the site where he performs his above-mentioned activities. Therefore, Article 6:176 will not be applicable.

Should the damage result from the installation or the site itself, liability might be established on the grounds of Article 6:173 or 174 BW (strict liability regimes for a possessor of a dangerous moveable thing or a possessor of a construction: see Question 2(a)), if all the conditions of these Articles are fulfilled. Furthermore, liability can be established on the grounds of the general tort Article 6:162 BW.

Question (d)

Again, the 'operator' in Article 6:176 BW is the person who has a valid licence[19] to set up or to run a dump-site and/or the person who operates

[18] Proposal 21202 to Supplement Books 3, 6 and 8 of the New Civil Code with Rules Regarding Liability for Dangerous Substances and for Air, Water and Soil Pollution, The Dutch Lower House, 1988–1989, 21202, No. 3, pp. 17–19.

[19] Chapter 8 of the Environmental Management Act (*Wet milieubeheer*).

a dump-site without such a licence. From the text of Article 6:176 BW, it is unclear if corporate entities, whether or not run by the state, also qualify as 'operator'. In Article 6:175 BW, however, corporate entities are explicitly included.

Portugal

The answer to Case 1 applies in this case. It is not clear if a deposit of waste is necessarily a 'dangerous activity', in the sense of Article 23 LAP, but it may be so, depending on the type and amount of waste treated at the deposit.

Scotland

Question (a)

Again, if *A's* fault cannot be established, there is no common law delictual liability. (The same caveats as under Question 2(a) apply regarding the possibility of a heightened duty of care being imposed.)

Statutory liability may arise, however. Section 73(6) of the Environmental Protection Act 1990 imposes strict civil liability on any person who deposits waste, or knowingly causes or permits waste to be deposited, so as to commit an offence under sections 33(1) or 63(2).[20] However, *A* will not be liable if he or she can show that the damage to *B* was either 'due wholly to the fault of the person who suffered it', or 'suffered by a person who voluntarily accepted the risk of damage being caused'.[21]

Question (b)

If the harm is sufficiently grave to be actionable, each individual who has suffered damage to property or health will be able to bring a claim under section 73(6).

Question (c)

Section 73(6) of the 1990 Act imposes liability only on 'any person who deposited [waste], or knowingly caused or knowingly permitted it to be

[20] The sections deal with controlled and uncontrolled waste, respectively, and render it a criminal offence for any person to treat, keep or dispose of such waste in a manner likely to cause pollution of the environment or harm to human health. Controlled waste is defined in section 75(4) as 'household, industrial or commercial waste or any such waste'.

[21] Section 73(6).

deposited', and does not refer specifically to the incineration, treatment, handling or recycling of waste. Unless *B* could show that his damages fell within this section, he would not likely prevail, as only common law actions remain, and these require establishment of fault on the part of *A*. However, the improper handling of waste is prohibited and criminally sanctioned under sections 33(1) and 63(2) of the 1990 Act, which, if *A* were convicted thereunder, would carry evidential value in a common law civil case.

Question (d)

See the discussion under Question 5(d) above.

Spain

Question (a)

Liability for damage caused by waste is regulated by the Waste Act (Ley 10/1998, de residuos (LR)),[22] which incorporates the European Directive 91/156/EEC of 18 March 1991[23] into Spanish law. According to this Act, the Autonomous Regions (Comunidades Autónomas) must establish and maintain an inventory of polluted soils (due to the presence of hazardous components not naturally occurring there) within their territory (Article 27.1 LR). When a site is entered in the inventory, the Region must adopt measures for remediation and restoration, but the polluter(s) will be jointly and severally liable (under strict liability) to take the required measures.[24] Mere possessors of the polluted soils and owners who are not possessors will be subsidiarily liable, in that order (Article 27.2 LR). Therefore, it seems that *A*, as operator and primary liable person, will be liable before the Public Administration, if *A's* site was included in the administrative inventory.

Article 33.1 LR clearly states that waste is the responsibility of its producer, possessor or manager (*gestor*), and it is often deemed an absolute liability rule. Fault on the part of the possessor or the owner is not required, as they are liable owing to their position with regard to the polluted soil. However, if the liable person does not restore the soil,

[22] BOE No. 96, 22 April 1998, pp. 13372 *et seq*. See the summary by Carmen Plaza, 'Spain', in Hans Somsen (ed.), *The Yearbook of European Environmental Law*, I (Oxford, Oxford University Press, 2000), p. 522.

[23] Amending Directive 75/442/EEC on waste, OJ L 78, 26 March 1991, pp. 32–7.

[24] See Íñigo Sanz Rubiales, 'Régimen jurídico administrativo de la restauración de suelos contaminados en el ordenamiento español', RDU y MA 2003, 1498–535, p. 1527.

the Public Administration will be entitled to do so and to recover its costs by litigation (Article 36.3 LR). The absolute nature of the provision raises doubts as to its constitutionality,[25] and other legal opinion holds that the owners and possessors should only be liable insofar as they derive benefit from their position with regard to the polluted soil.[26] However, such a liability restriction lacks a legal basis and infringes the rule of awarding full compensation to victims.

Owing to the independence of the administrative and private liability systems,[27] it could happen that administrative liability and tort liability hold *A* doubly liable. For instance, Article 40.2 LR provides that provisory measures adopted by the Public Administration are independent from those adopted by a civil court on the basis of a tort action. Accordingly, *B* could bring a claim in tort against *A*, even after an administrative action. This conclusion is bolstered by legal doctrine that considers the LR provision relevant to liability in tort. The distinctive or determining factors here, again, are production and management of waste,[28] and whether the Administration forced the polluter to pay compensation to an affected owner, along with other administrative penalties.[29] Generally, a victim should not obtain double recovery for the same damage, and, therefore, *B* will likely be able to bring a private claim against the polluter only if the damages award established by the Public Administration was insufficient.[30] In any case, the victim should be able to rely on the 'objectivisation' of liability as explained in Question 1(a).[31]

See also Questions 3(a) and 4(c) on the relevance of *B's* land ownership.

Question (b)

See the answer to Question 1(b).

[25] See de Miguel in SEAIDA, *Estudios sobe la responsabilidad civil*, p. 238.
[26] See Sanz, RDU y MA 2003, p. 1529.
[27] See Avelino Blasco Esteve, 'Medio ambiente y responsabilidad', in Esteve, *Derecho del medio ambiente*, pp. 629–47, pp. 643 and 644; also Álvarez, in Reglero, *Tratado de responsabilidad civil*, p. 1704.
[28] See Huerta and Huerta, *Tratado de Derecho ambiental*, p. 1163.
[29] As José Esteve Pardo, *Realidad y perspectivas de la ordenación jurídica de los montes* (Madrid, Civitas, 1995), p. 303, points out.
[30] See, for instance, Requero, in Requero, *Protección administrativa del medio ambiente*, p. 199.
[31] Similarly, see Mar Campins Eritja, *La gestión de los residuos peligrosos en la Comunidad Europea* (Barcelona, 1994), p. 247.

Question (c)

General rules apply here, and see also the discussion under Question 4(c).

Question (d)

See the answer to Question 5(d).

Sweden

Question (a)

See the answers to Questions 1(a) and 3(a).

Question (b)

The legal position of claimants is discussed under Question 1(b).

Question (c)

See, generally, the discussion in Question 1(a).

Question (d)

See the answer to Question 5(b).

Case 7 Producer of waste

A is the operator of a waste disposal site. Hazardous waste produced and handed over to *A* by *C* causes polluting effects. *B* suffers a loss.

Who is liable? If *C* had not properly informed *A* of the dangerous properties of the waste, who will be liable?

Comparative remarks

1. Comparison

The *producer* of the waste is primarily subject to fault liability. With regard to hazardous waste, the producer must comply with a series of special duties regulating the management and disposal of waste under administrative law. The failure to perform these duties can give rise to liability for breach of a statutory duty according to fault liability. Under certain conditions, the laws of the neighbourhood – or an action in nuisance in the common law countries – can also be applicable.

In several countries, the producer of waste is under a strict liability obligation. Since 1974, Belgian law provides for a strict liability regime for toxic waste, which applies to industrial, commercial and research activities. Liability covers the production, transportation and disposal of toxic waste, even if these activities are not performed by the responsible party itself. Due to a rather restrictive definition of toxic waste (in a Royal Decree from 1976), there is still no case law available on this liability regime. In English and Scots law, the producer of waste can be held liable under section 73(6) EPA 1990, if he failed to inform the operator of the deposit site of the hazardous nature of the waste. In Finland, strict liability according to the Environmental Damages Act also applies to the producer of the waste. In Greece, Article 3 § 2 of the Common Ministerial Decision 113.944/1997 sets out specific waste

management obligations, and Article 29 of Law 1650/1986 provides for strict liability with regard to waste management, which also applies to the producer of waste. Under Italian law, Article 2050 Codice Civile is also applicable to the producer of waste, as is Article 1902 of the Spanish Código Civil. According to Article 6:176 § 6 of the Dutch Burgerlijk Wetboek, the handing over of waste to the operator of a dump-site is also regarded as 'dumping' and, thus, leads to liability. In Portugal, strict liability according to Article 23 LAP includes the production of waste, if this can be regarded as an objectively dangerous activity.

When harm occurs, the producer of the waste and the operator of the waste disposal site are jointly and severally liable for damage. Failure to inform the operator of the hazardous properties of the waste may entitle the operator to bring an action action against the producer.

2. Conclusions

Regarding the liability of the producer of waste, a general common core can be found in the fact that, in all countries, fault-based liability will apply if the producer of waste fails to properly inform the waste disposer of the dangerous properties of the waste. But it can also be observed that several countries submit the producer of waste, especially of toxic waste, to a strict liability obligation. It seems that a new common core is evolving here.

Discussions

Austria

Claimant *B* may claim damages from *A* or *C*. Operator *A's* liability is outlined in the answer to Question 6(a). Whether *C* properly informed *A* about the dangerous properties of the waste may affect *A's* fault-based liability. If *A*, because of a lack of information, was not in a position to assess the risks of the waste, it might well be that fault on his or her part cannot be established. *A's* lack of information does not, however, have an effect on *A's* no-fault liability under § 364a ABGB.

Defendant *C* is only subject to fault liability here. As a producer of dangerous waste, he or she must comply with special rules of conduct and with the notification and documentation requirements set out in legislation dealing with the management and disposal of waste.[1]

[1] Abfallwirtschaftsgesetz 2002, BGBl I 2002/102, as amended by BGBl I 2007/16.

The failure to perform these duties is unlawful, and can also give rise to a liability for breach of a protective law (Haftung wegen Schutzgesetzverletzung).

Belgium

The liability of the operator of the disposal site will be governed by the general rules of tort law, especially the law of nuisance, liability for defective things and negligence. Operator *A* will be liable, as well, if he or she is in violation of any statutory provision on the disposal of waste.

If toxic waste is involved, the injured party may also sue the producer of that waste on the basis of the Act of 22 July 1974 (on toxic waste).[2] Article 7 thereof provides that, if industrial, commercial or scientific activities produce toxic wastes, the person carrying out the activities is liable for any damage, of whatever nature, caused by the waste, including during the transportation, destruction and elimination of the waste, regardless of who carries out these activities. Liability ends with the final elimination of the waste, or when it is rendered inoffensive. Waste is determined to be toxic or not on the basis of the Royal Decree of 9 February 1976. The strict nature of producer liability notwithstanding, there seems to be no published case law on the liability of the producer of toxic waste, probably because the definition of toxic waste is quite restrictive.

Whether *C* has properly informed *A* of the dangerous properties of the waste will not influence the claimant's rights against the operator or producer of the waste, but that fact may give rise to a right of recourse by the liable party against *C*. The chances of recovery on the basis of fault liability, however, are affected by *C's* failure to inform to the extent that the lack of information can be invoked by *A* as an unavoidable mistake (grounds for justification),[3] so long as *A* has not otherwise been negligent. The mistake will not be considered unavoidable if the operator should, as a professional, nevertheless have known the nature of the waste or should have been able to discover it pursuant to a normal process of verification.

England

I. A's liability

The first part of the answer to Case 7 is the same as the answer to Question 1(a), as far as nuisance and the rule in *Rylands* v. *Fletcher* are

[2] See Bocken, 'La réparation des dommages', TBBR, 1992, 315–17.
[3] See Cornelis, *Beginselen*, p. 32.

concerned. A waste disposal site is not a reasonable use of land and can therefore constitute a nuisance.[4] Where hazardous waste is accumulated, this can be regarded as a substance 'likely to do mischief if it escapes', for *Rylands* v. *Fletcher* purposes.

Under statutory liability, if *A* has a waste management licence under Part III of the Environmental Protection Act 1990 or a PPC permit under the Pollution Prevention and Control Act 1999 (authorising him to accept *C's* waste), he nevertheless does not have a defence of statutory authority for the common law torts.

II. C's liability

If *C* does not give relevant information to *A*, for the proper handling of the waste, and foreseeable damage occurs, *C* could be liable in negligence. Plaintiff *B* must be in the range of foreseeable claimants, however, and the type of damage suffered must also be of a foreseeable type. In negligence, there can be liability for property damage or personal injury, but there are limits on claims for economic loss (see the answer to Case 3). Defendant *C* would not be liable in *Rylands* v. *Fletcher* because he has not accumulated anything for his own purposes. Finally, *C* may be liable in nuisance, if he is regarded as the person who caused the nuisance.

There would be no statutory civil liability in this situation, unless the loss resulted from a deposit of the waste on land (see the answer to Case 6). If so, liability would lie under section 73(6) with the person who deposited the waste or knowingly caused or permitted the deposit. Defendant *A* would clearly be liable for 'depositing' the waste, presumably under strict liability. Under the section, *C* might be regarded as having 'knowingly permitted' the damage because he failed to inform *A* of the hazardous nature of the waste, with knowledge that *A* would then deposit it.

Finland

Damages caused by a combination of several individual activities are also governed by the Environmental Damages Act. Here, all the respective actors (*A* and *C*) are jointly and severally liable to *B*, although *A's* liability may be adjusted due to *C's* negligence, as between *A* and *C*.[5]

[4] *Blackburn* v. *ARC Ltd* [1998] Env LR 469 (527).

[5] Defendant *C* is liable to *A* on fault and contractual basis. Contracts on damages usually exclude the application of the rules of the Environmental Damages Act, unless perhaps where the contract has a limited and clear content.

France

As a general rule, *A* is liable. However, if the hazardous waste has particular properties that *A* can be presumed not to know of, *C* will be liable because *C* should have properly informed *A*.[6] By analogy, Article L.514-20 of the Code de l'environnement (regarding property sale) obliges *C* to inform *A* in writing of the dangers of the land sold (notably, if radioactive or chemical substances were handled or disposed of thereon), provided that *C* knew of these dangers. If *C* fails to inform *A*, *A* could ask for a cancellation of the sale,[7] partial restitution of the price or even remediation of the site at *C's* expenses.[8]

Germany

Generally, *C* will not be liable to *B* unless he is *B's* neighbour (§ 906(2) sentence 2 BGB) or he is at fault (§ 823(1) BGB). Defendant *C* may expect *A* to deal with the waste in a proper manner with due care.

On the other hand, if *A* is *B's* neighbour, then *B* may claim compensation from *A* by a claim analogous to § 906(2) sentence 2 BGB. Since *A's* waste storage is an installation within the meaning of Appendix 1, *B* also has a compensatory claim under § 1 UmweltHG. If *A* was notified of the dangerous nature of the waste, *A* is potentially at fault and liable to *B* under § 823(1) BGB, subject to *A's* infringing a legal interest. Finally, *B* may have a claim under § 823(2) BGB in conjunction with a protective enactment (e.g. § 326(1) StGB, Penal Code).[9]

I. Liability of C

If *C* violated *A's* legal interest by failing to inform *A* of the dangerous nature of the waste, and *C* was under a legal duty to inform, *B* may sue under § 823(1) BGB. The general duty to ensure the safety of premises (and traffic) applies to anyone who creates a source of danger, and requires the creator to take all necessary precautions to protect third parties.[10] Since *C's* waste has created a danger in this case, *C* ought to

[6] Cass., civ. I, *Ville de Montigny-lès-Metz*, 9 June 1993, JCP, 1994, II, No. 22202.
[7] Cass., civ. III, *Widow Destang* v. *Cazalas*, 31 October 2000, in Deharbe, *Le droit de l'environnement*, p. 349.
[8] See Elisabeth Frémeaux, 'La pollution des sols et la responsabilité contractuelle', *Gazette du Palais*, 5 May 1994, p. 563; Gilles Martin, 'Les risques tenant à la pollution des sols', *Revue du droit immobilier*, 1997, p. 559.
[9] 18.5.1871, RGBl p. 195. [10] Palandt/Sprau, BGB § 823 nn. 45 *et seq.*

have informed *A*, and he incurred fault when he failed to do so (§ 823(2) BGB in conjunction with § 326(1) StGB).

II. Liability of A

If *A* is *B's* neighbour, *B* may sue for strict liability under § 906(2) sentence 2 BGB. Again, *A* is liable according to (a) above, although under fault liability (§ 823(1) BGB) the principles established in the *Cupola Furnace* case apply, shifting the burden of proof to *A*. Finally, § 326(5) StGB (negligence) may give rise to liability in conjunction with § 823(2) BGB.

Greece

Law 1650/1986 for the protection of the environment is characterised as a legal framework for environmental protection because it introduces guidelines that authorise the passage of a number of presidential decrees and ministerial decisions, which are necessary to execute Law 1650/1986. The law protects the environment itself and the health and social welfare of persons.

Particularly relevant to this question is Article 12, which concerns solid waste. In this section, the legislature introduced the concept of 'planning the management of solid waste' using health-regulation, environmental, land-planning and economic factors and other criteria to determine solutions to the different locations of waste. Thus, national or local level waste management follows such a plan for the processing and disposal of waste, taking into consideration social, economic, technical and environmental conditions involved, as well as any specific circumstances existing in the area. The question of which authorities are responsible for developing waste management plans is determined according to Article 12 § 3 in combination with Article 12 § 2 by decision of the Minister of Environment, Land Use Planning and Public Works and the other co-competent Ministers of National Economy, Interior, Health, Providence and Social Insurance and Agriculture.

Article 12 § 5 forbids uncontrolled solid waste disposal within or near residential areas, and likewise forbids disposal to any nature site. Any holder of waste must hand it over to the local authorities, who then have the right to refuse it if, due to its composition, type, quality or quantity, it cannot be mingled with the domestic waste. Any holder of waste must deposit it with the authorities responsible for waste management according to Article 12 § 2. However, local authorities may refuse to accept such solid waste, which, due to its composition, type, quality or quantity, cannot be disposed of with domestic waste. Natural

or legal persons whose activities lead to the production of such rejected waste, or third persons to whom management obligations have been delegated, are responsible for waste management under licence from the competent prefect. Moreover, Article 12 § 6 requires the producer, possessor or manager of solid waste, which, due to its composition, type, quality or quantity, is extremely dangerous to health and the environment, to maintain records of the waste. Finally, Article 12 § 1 provides that waste management must be performed in such a way that:

(a) no harm to health or the environment occurs, and no noise or smell nuisance is caused;
(b) no degradation is caused to the environment; and
(c) raw materials are conserved, and waste is reused to the greatest extent possible.

Article 29 (on civil liability) states that: 'Whoever, whether a physical person or legal entity, causes pollution or other degradation to the environment, is liable for damages, unless he proves that the damage is due to an act of God or was the result of a third party's culpable act.'[11]

The legal framework described above was complemented and updated by Common Ministerial Decision (hereinafter CMD) 50910/2727/2003,[12] which broadened the scope of management and determined a uniform structure and function for the planning and implementation of waste management. The Ministerial Decision implements the general principles and directives of Article 12 of Law 1650/1986 while harmonising them with the provisions of Directive 91/156/EEC to ensure a high level of environmental and public health protection.[13] The CMD 50910/2727/2003 provides the following:

- The waste should be managed so as to ensure that no direct or indirect harm is caused to health and no procedures or methods are used that can damage the environment. In order to achieve this, the competent authorities – as determined by Articles 5 and 6 – must draw up National and Local Plans for Waste Management (Article 4).
- For the temporary storage of waste, the owner, tenant or possessor of the site is responsible; by contrast, the municipality or community is responsible for the management of the waste (Article 7).

In addition to the provisions highlighted above, the CMD 50910/2727/2003 also provides (i) that the responsible authorities, after waste

[11] FEK Issue 160A/1986. [12] Published in FEK Issue B/1909.
[13] Article 1 CMD 50910/2727/2003.

disposal establishments have permanently ceased operations, must reinstate the natural environment (Article 9); and (ii) that those who violate the law are subject to penal, civil and administrative sanctions.

Of course, the overall objective is to prevent and/or reduce the production (and harm) of waste as well as to increase its recycling, reuse and reclamation (Article 4).

According to Article 7 of the CMD and Article 29 of Law 1650/1986, the authorities responsible for management are the municipalities or persons who have undertaken management under Article 7 § 6 of the CMD, and they are liable if contamination occurs by means of management operations.

In our scenario, *A* is liable under Article 29 of Law 1650/1986, and *C*, who has deposited with *A* hazardous waste (as a producer, supplier, merchant or consumer), is also liable under Article 15 and Article 4 § 2 of CMD 50910/2727/2003. When, as here, multiple persons are liable, they are jointly and severally liable (Article 926 AK). Moreover, *A* and *C* are liable to one another according to the degree of their respective fault as determined by the court (Article 927 AK). In determining the degree of fault, the court will take into consideration *C's* failure to inform *A* of the dangerous properties of the waste.

Ireland

Both *A* and *C* are potentially liable to *B* in tort (and under the statutory liability regimes for air and water pollution if the pollution is spread through air or water). Defendant *A* is directly liable, but part of the liability may be apportioned to *C*, if fault on the part of *C* can be established, though this does not affect *B's* rights. Even if liability were split and either *A* or *C* were insolvent, *B* could recover because each defendant is liable to pay the claimant 100 per cent of the damage (even where other defendant(s) default).

Between *A* and *C*, *A* may be able to recover from *C* if he or she can establish that *C's* negligence was the cause of the damage. Note that *C* would not be liable under nuisance, trespass or the rule in *Rylands* v. *Fletcher*, since *A* agreed to take the waste. *A* might also be able to recover damages against *C* for breach of contract, if *A* had agreed to take waste of a particular type, and *C* supplied a different type of waste. For example, where *A* agreed to take non-hazardous waste only, and *C* handed over hazardous waste; or where *A* agreed to take a certain type of hazardous waste, and *C* supplied a different type that could not be processed at *A's* facilities, *A* may recover from *C*.

Italy

Here, again, the sale and discharge of waste are regulated by the Decreto Ronchi of 1997.[14] As already mentioned, this special legislation does not govern private party litigation, but rather private parties *vis-à-vis* the state. Hence, the controversy between *A*, *B* and *C* is again subject to the general principles of Articles 844 CC and 2050 CC (see Question 3(a) above).

With regard to the contribution of each party to the damage (above all, to *C's* failure to inform), Article 2055 CC establishes joint and several liability for multiple tortfeasors. If the act causing damage can be attributed to more than one person, all are liable *in solido* for the damages. The person who has compensated for the damage has recourse against each of the others in proportion to the degree of fault of each and to the consequences arising therefrom. In case of doubt, the degree of fault attributable to each is presumed to be equal.'

Interestingly, there is one decision by the Cassazione Civile (Court of Cassation)[15] that applied joint and several liability in an analogous case, but did not consider the exact proportions of fault.

The Netherlands

This question is also governed by Article 6:176 BW. As stated above, *A*, the operator of the dump-site or waste disposal site will be held strictly liable for damage that occurs, before or after the closing of a dump-site, due to air, water or soil pollution by waste deposited there. Where *C* hands over a substance to *A* at the dump-site, *C* is 'dumping' according to Article 6:176(6) BW. Under this rule, the act of depositing or the act of handing over substances at a dump-site is also included in the concept of dumping.

This provision in Article 6:176 BW focuses on resulting environmental damage, rather than on the nature of the substance that caused the damage. Therefore, the fact that the waste was hazardous, or that

[14] Decreto legislativo 5 febbraio 1997, n. 22, Attuazione delle direttive 91/156/CEE sui rifiuti, 91/689/CEE sui rifiuti pericolosi e 94/62/CE sugli imballaggi e sui rifiuti di imballaggio (Decreto-Ronchi).

[15] Cassazione civile 1.9.1995, n. 9211, Sez. I, with several case annotations: Feola, 'Discarica abusiva e danno ambientale: applicazione retroattiva dell'Articles 18 L. 349/86 e responsabilità (solidale) dei produttori di rifiuti e del proprietario locatore della discarica', Resp.civ.prev., 1996, 112; Bata', 'Le nuove fontiere del danno ambientale', Corriere Giuridico, 1995, 1146; da Giampietro, 'Il danno ambientale tra l' Articles 18 l.n. 349/1986 ed il regime ordinario di codice civile', Giust.civ., 1996, I, 780; Atelli, 'Responsabilità per torto ecologico: la Cassazione imbocca una strada pericolosa', Riv.crit.dir.priv., 1996, 699.

C might have been aware of the hazardous nature of his waste, is irrelevant for establishing liability. Operator *A* cannot escape liability to *B* merely by showing either:

(a) that the damage is caused by the illegal dumping activities of *C*, contrary to contractual obligations; or
(b) that *C* has informed him inaccurately, incompletely or in a misleading way about the nature of the hazardous substances; or
(c) that *A* could not possibly have had prior knowledge of the nature of the substances handed over by *C*; or
(d) that the substances that were handed over were not dangerous at all (because *A* is liable for all the damaging effects of the substances dumped on his site, whether or not they are 'dangerous').

The only defence *A* would have against *B* would be if he could show a deliberate third party act to cause *B* harm. Therefore, if *C* knew that, by handing over the hazardous substances to *A*, *B* would suffer loss due to the polluting effects of the substances, then *A* may escape liability under Article 6:178(e) BW.

Portugal

A hazardous waste disposal site is considered to be an industry that is objectively dangerous. Therefore, *A* could be liable to *B* under Article 23 LAP, even if he did not know of the danger. Operator *A* could also be liable on a fault basis under Article 22 LAP or Article 483 CC, if he is deemed to have acted with negligence.

Defendant *C* could also be liable to *B* under Article 22 LAP and Article 483 CC, if he acted with fault. Defendant *C* has a legal duty under waste management law and general environmental law to inform *A* about the nature and dangers of the waste handled.

Scotland

I. Common law liability: A

Common law liability in nuisance or in negligence is fault-based, as discussed above. To hold *A* liable, *B* must establish (i) that *A*, as the operator of a waste disposal site, either knew or ought to have known that the waste obtained from *C* was hazardous; and (ii) that *A* was negligent in the process that allowed the waste to cause pollution.

II. Common law liability: C

In order to establish liability against *C*, *B* will have to show (i) that *C* owed a duty of care to the community when he relayed information to

A, and (ii) that he gave *A* insufficient information to the extent that he breached his duty. (Since the waste is hazardous, the duty might be considered an onerous one.) It will also have to be shown that there is a direct causal connection between giving inadequate information and the damage that occurred; that, but for the fact that *A* was misinformed, the pollution damage would not have occurred.

III. Statute

Strict liability for damage caused by the disposal of waste is governed by section 73(6) of the Environmental Protection Act 1990. The section imposes liability on 'any person who deposited [waste], or knowingly caused or knowingly permitted it to be deposited, in either case so as to commit an offence under section 33(1) or 63(2)'. In other words, this applies only to 'uncontrolled' waste or waste deposited without a licence. Liability attaches under this section to 'any person who deposited' the waste, so this would appear to apply to *A* (having deposited hazardous substances without the applicable licence), despite the fact *A* may not fully have appreciated the danger. It is also arguable that this section applies to *C* since *C* 'knowingly permitted the waste to be deposited'.

Section 59 of the Environmental Protection Act 1990 also allows the Scottish Environment Protection Agency to require remediation of a site where controlled waste has been unlawfully deposited.

Spain

As has been explained, administrative liability for damage caused by waste falls on the producer, possessor or manager of the waste (see the answer to Question 6(a)). Public law also imposes an obligation on the producer and manager of hazardous waste to obtain insurance coverage against the risk of harm to third parties (Articles 21.2 and 22.2 LR).[16]

In private law, since there is a presumption of fault (see the answer to Question 1(a)), both *A* and *C* would be liable, unless *A* proves that *C* did not properly inform *A* about the dangerous property of the waste. Nevertheless, it is almost impossible for the defendants to prove that they have behaved with sufficient care, and therefore, in this case, both

[16] For further details, see Rubén Serrano Lozano, 'Régimen jurídico español de los residuos', in Ortega, *Lecciones de Derecho del medio ambiente*, p. 382; and Javier Junceda Moreno, 'Sobre la contaminación del suelo', RAP 2002, 412–43.

A and *C* will likely be liable. Finally, *B* has a direct action against the insurer (Article 76 of the Insurance Contract Act (LCS)).[17]

Transport of hazardous waste is regulated by the Royal Decree on transport of hazardous goods by road,[18] which applies the European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) in this case (Article 1.1). Under Article 32 III of the Royal Decree, the Act on Organization of Terrestrial Transport regulates liability.[19] The liable person may be different to the one who transports the substances, and thus liability is extended to parties directly obliged to comply with norms or to verify compliance, unless they can show that there are grounds for not imputing liability (Article 32 III).

It does not seem possible to apply the strict liability regime on product liability to the producer of the waste, although it is true that waste is a movable good apparently falling within the scope of Article 2 LRPD. However, Spanish legal scholars note that waste is not a 'product', that is, a *manufactured* good. Instead, it is the unwanted, usually unusable, result of a production or extraction process. Therefore, waste could only fall within the scope of the LRPD if it was reusable and handed over to another person with the purpose of producing recycled goods.[20] Since *C* handed over the waste to *A* for disposal only, *C* would never be strictly liable here on the basis of the LRPD.

Sweden

Generally, see the discussion under Question 1(a). Moreover, provided claimant *B* is from the 'surroundings', *A* can be held liable as operator of the site. Defendant *C's* failure to inform *A* is not a defence. Operator *A* would still be held liable to *B*, but he or she may have recourse against *C* on a contractual basis.

[17] Ley 50/1980, de 8 de octubre, de Contrato de Seguro. BOE No. 250, 17 October 1980.

[18] Real Decreto 2115/1998, de 2 de octubre, sobre transporte de mercancías peligrosas por carretera. BOE No. 248, 16 October 1998, pp. 34249 *et seq*.

[19] Ley 16/1987, de 30 de Julio, de Ordenación de los Transportes Terrestres. BOE No. 182, 31 July 1987, pp. 23451 *et seq*.

[20] See, relying on German legal doctrine, Solé, *El concepto de defecto del producto*, p. 298. Similarly, see also Mª Ángeles Parra Lucán, *Daños por productos y protección del consumidor*, Barcelona (J. M. Bosch, 1990), p. 487.

Case 8 Nuclear power plant

A is the operator of a nuclear power plant. Due to a sudden breakdown of the cooling system, the surrounding land is contaminated by radioactive substances. The breakdown was caused by company *C* who had been in charge of the recent revision of the cooling system. Neighbour *B* suffers a loss.

a) Who is liable? What kind of damage may *B* claim?
b) Would it make any difference if the contamination was the result of a continuous process instead of a sudden incident?

Comparative remarks

1. Comparison

Liability for nuclear power plants is mainly regulated by international law, namely, the Paris and Brussels Conventions.[1] In Belgium, the Paris and Brussels Conventions were implemented by the Act of 22 July 1985, which was amended by the Act of 11 July 2000. Under the amendment, liability for the operator is limited to €300 million. In France, nuclear power plants are operated by the state-owned Electricité de France (EDF). As an *établissement public industriel et commercial*, EDF can be sued in civil court, though, according to special legislation, only the Tribunal de Grande Instance in Paris has jurisdiction. Liability is governed by Law No. 68-943 of 30 October 1968, as amended by Law No. 90-488 of 16 June 1990, and is limited to €90 million per accident. In the United Kingdom, the Paris Convention was implemented by the Nuclear Installations Acts of 1965 and 1969. The liability cap is currently £140 million. The

[1] See Hinteregger, chapter 1, section II.2 above.

limitation period is thirty years from the date of the nuclear incident or, in the case of a continuing occurrence, from the date of the most recent event. Where damage or injury is caused by nuclear material, which was stolen, lost or abandoned by the operator of the nuclear installation, there is a limitation period of twenty years. Germany incorporated the Paris Convention into the Atomic Energy Act of 1959. Liability is unlimited in amount. Greece implemented the Paris Convention by legislative Decree 336/1969, as amended by Law 1758/1988. The liability cap is 15 million SDR. Finland implemented the Paris and Brussels Conventions by the Nuclear Liability Act No. 484/72, as amended by Acts Nos. 386/86, 820/89 and 588/94, and Italy incorporated the Conventions by the Act No. 1860 of 31 December 1962, as amended by Act No. 131 of 5 March 1985 and Act No. 147 of 23 April 1991 implementing the Joint Protocol. The Netherlands enacted the Conventions through the Third Party Liability Act of 1979 No. 225, as amended by Act of 1991 No. 369 and Act of 1991 No. 373. The current liability amount is approximately €340 million per incident covered by obligatory insurance. In Spain, the relevant law is Law 25/1964, of 29 April 1964, which provides for a liability cap of approximately €1.8 million. Sweden incorporated the Conventions by the Nuclear Liability Act (Atomansvarighetslagen) 1968:45, as amended.

It is interesting to note that Portugal has not yet enacted any specific legislation implementing its obligations derived from the Conventions, and Spain did not enact the principle of legal channelling in its Law 25/1964. This means that, according to Spanish law, victims of nuclear damage are entitled to sue the contractor or the supplier of a nuclear power plant under the general regime of Article 1902 Código Civil.

Austria and Ireland are not signatories to any of the nuclear liability Conventions. Austrian law provides a specific nuclear liability statute, which applies to the operation of nuclear plants, the carriage of radioactive material and the handling of radionuclides. Liability is unlimited in amount. Legal channelling is, to a great extent, eliminated, and there is no exclusive jurisdiction of the state in which the plant is situated. The new law ensures that an Austrian court has jurisdiction and that Austrian law is applicable if nuclear damage occurs in Austria, regardless of where it was emitted. The new law also includes a substantial extension of the definition of nuclear damage, and provisions to facilitate the proof of causality. The Nuclear Liability Act does not restrict any liability obligations provided by other liability provisions. An injured person, therefore, is free to assert his or her claim for damages

against the operator of a nuclear plant, or against the carrier of nuclear material pursuant to this or another law, as well as against a third party. Claims may be based on the general provisions of tort law or product liability law, or based on a state's liability. Suppliers of products and services to a nuclear plant, however, are only secondarily liable. A supplier is only liable if an action against the operator of the plant is unreasonable. The operator's right of recourse against such persons is barred as well, unless the damage was caused by an act or omission, done with an intent to cause damage or unless the right of recourse is expressly provided for by contract.[2] If the nuclear damage occurred in a foreign territory, action against the supplier under the Austrian Nuclear Liability Act is only possible insofar as the injured party's home law would provide for comparable compensation. The injured person, therefore, cannot recover the loss if the damage, for instance, has already become statute-barred under this law, if the sum demanded exceeds the amount provided, or if the action against the defendant is barred due to legal channelling. The Austrian Nuclear Liability Act does not make a distinction between damage caused by a particular incident and damage due to continuous pollution. Both types of damage are covered by the strict liability of the operator of the nuclear power plant.

Ireland does not provide a specific liability regime for nuclear damage. Thus, the general rules, outlined under Part A are applicable. Liability can also be established on the basis of negligence, nuisance, trespass and strict liability according to the ruling in *Rylands* v. *Fletcher*. If the tort of trespass is to be established, it must be done without reliance on section 32 of the Waste Management Act, since section 3 provides that the Act does not apply to radioactive substances, including radioactive waste. If the damage was transmitted through water, liability will be regulated by section 20 of the Water Pollution Act. Liability on the basis of the Air Pollution Act is excluded with regard to emissions arising from the use of a radioactive substance or device.

2. *Conclusions*

Case 8 explores three fundamental issues of nuclear liability: the problem of channelling the liability to the operator of the plant, the extent of compensable damage and the concept of a nuclear incident. With regard to nuclear power plants, the common core is established by the fact that most countries are parties to the Paris Convention on Third

[2] § 19(3) AtomHG.

Party Liability in the Field of Nuclear Energy and the Brussels Supplementary Convention. The only two exceptions are Austria and Ireland who are not signatories to any of the international nuclear liability regimes, be it the West European Paris–Brussels system, the Vienna Convention or the 1997 Supplementary Compensation Convention.

Discussions

Austria

Question (a)

Being a 'non-nuclear' state, Austria has not ratified the Paris Convention,[3] the Vienna Convention[4] or the 1997 Convention on Supplementary Compensation for Nuclear Damage.[5] However, responding to the risks of nuclear power plants in the vicinity of the Austrian border, the Austrian Parliament adopted the new Federal Law on Civil Liability for Damages Caused by Radioactivity[6] that governs the operation of nuclear plants, the carriage of radioactive material and the handling of radionuclides. The new Nuclear Liability Law stands in sharp contrast to the basic principles of international nuclear law. According to the statute, liability is unlimited in amount. Legal channelling is, to a great extent, eliminated, and there is no exclusive jurisdiction of the state where the plant is situated, as is otherwise provided for by international nuclear liability law. The statute, on the other hand, always grants an Austrian court jurisdiction, and Austrian law is applicable, if nuclear damage occurs in Austria, regardless of where it was caused. Finally, the statute also substantially extends the definition of nuclear damage and includes provisions to facilitate proof of causation.

In principle, the Nuclear Liability Act does not restrict any liability obligations provided by other liability provisions. The injured person,

[3] Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960 (as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982), published in OECD NEA, *Paris Convention on Third Party Liability in the Field of Nuclear Energy* (1989), pp. 7 *et seq.*

[4] Convention on Civil Liability for Nuclear Damage of 21 May 1963, IAEA Legal Series, No. 3, Rev.10, Agreement No. 1277.

[5] Convention on Supplementary Compensation for Nuclear Damage of 12 September 1997, IAEA INFCIRC/567.

[6] Bundesgesetz über die zivilrechtliche Haftung für Schäden durch Radioaktivität (Atomhaftungsgesetz 1999).

therefore, is free to assert his or her claim for damages against the operator of a nuclear plant or against the carrier of nuclear material pursuant to this law or to another law, as well as to sue another liable person. Claims may be based, for instance, on the general provisions of tort law, on product liability, or on state liability.

Plaintiff *B* is entitled to claim damages either from *A* or from *C*. Defendant *A* is the operator of the nuclear power plant and thus strictly liable for all damage caused by the operation of the plant, including the dismantling of the plant and the disposal of radioactive inventory.[7] The operator's liability also covers damages caused outside his or her plant by radioactive material originating from the plant, if the damage is caused before another operator has taken charge of the material; or, where the material was sent to the operator, if the damage is caused after the operator acquired the legal right to the material.[8] In Austria, the liability imposed on the operator of a nuclear plant is unlimited, irrespective of fault, and does not depend on the occurrence of a nuclear incident. The 'operator' of a nuclear plant is defined as the holder of the operating permit and/or other persons entitled to control the operation of the nuclear plant and who actually derive, or are at least in the factual or legal position to derive, profits from its operation.[9] This definition opens up the possibility for piercing the corporate veil where corporate groups abuse the system by trying to exempt the controlling company from liability by shifting responsibility to an under-financed operating company.

With regard to *C*, who is a supplier of products and services to the nuclear plant, however, *B's* right to claim damages is restricted. The action against *C* will be dismissed, if *C* can prove that an action against the operator *A* will lead to a decision within a reasonable period of time, that this decision can be enforced, and that *A* has sufficient funds to ensure payment of compensation.[10] (If the latter assumption proves false, the case against *C* may be reopened.) This provision is intended to ensure that the responsibility for nuclear damages rests primarily with the operator, who is in the best position to prevent the damage and to provide for insurance if damage occurs. Consequently, an operator's right of recourse against a third party, such as supplier *C*, is barred as well, unless the damage was caused by *C's* act or omission done with the

[7] § 3(1) AtomHG. [8] § 3(2) AtomHG. [9] § 2(4) AtomHG. [10] § 16(2) AtomHG.

intent to cause damage, or unless the right of recourse is expressly provided for in the contract.[11] The costly necessity to duplicate insurance (for both *A* and *C*) is thus reduced, although not totally eliminated, as it is under the Paris or Vienna Convention by virtue of legal channelling.

B's right to claim damages from *C* may also be restricted if the nuclear damage occurred in a foreign territory. If Austrian law is applicable, which is determined by the private international law of the state with jurisdiction, *B* will only be able to benefit from the Austrian law insofar as the law applicable (according to the conflict of laws provision in his or her jurisdiction) also provides for compensation.[12] Plaintiff *B*, therefore, cannot recover if, for instance, the claims have already become time-barred under this law, or if the sum claimed exceeds the amount provided for, or if the action against the defendant is barred because of legal channelling. The main purpose of this provision with respect to *C*, apart from providing an incentive for other states to grant the same benefits as the Austrian law, is to protect the Austrian suppliers to nuclear plants, who are part of a small number of suppliers worldwide who are not protected by legal channelling. While it seems reasonable to make suppliers liable for the damage they cause to Austrians and to nationals of states that likewise do not provide for legal channelling, it was deemed unwarranted to give the right of legal action against a supplier to nationals of states that do not themselves provide for such an action domestically.

In cases of multiple causation, each tortfeasor is judged by the liability law relevant to his or her acts. Insofar as the damage cannot be attributed to one tortfeasor, all of them will be held jointly and severally liable.

A is liable to compensate death or personal injury and loss of or damage to property. The entitlement to these types of damages is regulated by the general provisions of tort law. Section 11(1) AtomHG also adds that compensation for property damage shall include decontamination costs. The person who has suffered the loss or damage is also entitled to claim damages for consequent economic losses.[13]

If the damage to property represents significant *impairment to the environment*, *B* is entitled to the costs of measures of reinstatement,

[11] § 19(3) AtomHG. [12] § 23(2) AtomHG.

[13] This is also expressly provided by Article I subparagraph f(iii) SCC and Article I(1) subparagraph k(iii) of the revised Vienna Convention.

even if these costs exceed the market value of the impaired good.[14] As noted in the discussion to Case 4, the plaintiff may also ask for advance payment. However, any advanced payment that exceeds the market value of the damaged good must be refunded if the restoration is not performed within a reasonable period of time. An impairment of the environment that is not considered a damage to property does not entitle *B* to damages.

The costs of *preventive measures* taken to remove an imminent threat of damage also comprise nuclear damages for the person who has actually paid the costs.[15] Further loss or damage caused by preventative measures themselves, as well as loss of income derived from an economic interest in any use or enjoyment of the environment, are only recoverable if that damage can be classified as 'loss of income'. Even so, such claims are limited: the total amount (including compensation for non-pecuniary loss) must not exceed €40,000 per person.[16] (Non-pecuniary damage is potentially awarded where a person, due to preventive measures or radioactive contamination, is forced to undergo a radical and unwanted change of life, such as giving up a home, job or business.)

The operator's liability under the Nuclear Liability Act does not cover damages to the nuclear plant itself, to any other nuclear plant in operation or under construction on the same site, or to any property on the site of the plant that is used or was used in connection with that plant.

Question (b)

The Austrian Nuclear Liability Act does not make a distinction between damage caused by a particular incident and that caused by continuous pollution. Both types of damages fall under the strict liability of the operator of the nuclear power plant.

Belgium

Question (a)

The Belgian law of 22 July 1985 (as amended by the law of 11 July 2000) implements the Paris Convention of 29 July 1960 on third party liability in the field of nuclear energy, and the complementary Brussels Convention of 31 January 1963.

[14] § 11(2) AtomHG. [15] § 11(3) AtomHG. [16] § 11(4) AtomHG.

In accordance with the Paris and Brussels Conventions, the statute holds the operator of a nuclear installation strictly liable[17] for damages caused by a nuclear incident at the nuclear installation (Article 5) or during the transportation of nuclear materials from the nuclear installation (Article 14).[18] Liability is exclusively against the operator of the nuclear installation for damages caused by the nuclear incident.[19] However, the operator can only be sued on the basis of the treaty system, excluding common law claims, except that an operator may have recourse against third parties where provided by contract or where the third party acts with the intent to cause damage.[20] The operator may have a defence to liability if the damage is due to an act of armed conflict, hostilities, civil war or insurrection (Paris Convention, Article 9). The Belgian legislature has imposed liability on the operator even in the event that the nuclear incident is caused by a natural disaster of an exceptional nature, notwithstanding the defences under Article 9 (Act of 22 July 1985, Article 5).

Liability, according to the Paris Convention, concerns all 'damage to or loss of life of any person', as well as 'damage to or loss of any property'. The Convention does not provide a further definition of 'damage'. As indicated above, according to Belgian law, personal injury and death, property damage, loss of income, and moral damage are normally compensable. By contrast, damages to unowned natural resources are normally not compensable (see further the answer to Case 16).[21]

The Paris and Brussels Conventions and the implementing Belgian legislation combine three sources of finance for the payment of compensation, with the largest source reaching a maximum of 300 million SDR. A first source, contributing a minimum of 5 million SDR, is financed by the operator of the nuclear plant and is covered by insurance or other financial guarantees; the second source (up to 175 million

[17] T. Vanden Borre, '*Efficiënte preventie en compensatie van catastroferisco's. Het voorbeeld van schade door kernongevallen* (Intersentia Rechtswetenschappen, 2001), 219.

[18] On nuclear liability in Belgian law, see especially *ibid*., pp. 209–379.

[19] Paris Convention, Articles 6(a) and (b).

[20] Paris Convention, Article 6(f).

[21] The Convention on Supplementary Compensation for Nuclear Damage of 1997, provides a further definition of nuclear damage and, addresses specifically the issue of environmental damage (Article 1(f)). As in the maritime conventions, loss of income resulting from impairment of the environment and the cost of restoration measures are covered. Natural resource damages as such are not compensable. The Convention is not in force in Belgium.

SDR) is the state in which the nuclear plant is located; and the third source (up to 300 million SDR) is a joint burden of all the parties to the Conventions. An amendment to Article 7 of the Belgian law of 22 July 1985, adopted on 11 July 2000, actually eliminated the second source (the responsibility of the state) by increasing the liability of the operator up to BFr12 billion (roughly 215 million SDR or €300 million).

The statute of limitations for actions is three years from the moment the injured party has knowledge of the damage and of the identity of the operator, although any suit against the operator is nevertheless barred after ten years from the incident (Article 23). Belgian law (Article 26) provides for the exclusive competence of the Brussels Civil Court of First Instance but does not outline conflict of law rules, and it has been suggested that Article 11 of the Paris Convention requires application of the *lex fori*.[22] It can be noted that the proposed EC Regulation on the law applicable to non-contractual obligations (Rome II) does not provide for such obligations resulting from nuclear damage.

Question (b)

Liability applies to damage caused by a nuclear incident. A nuclear incident is defined in Article 1(a)(i) of the Paris Convention as 'any occurrence or series of occurrences having the same origin, which causes damage, provided that such occurrence or series of occurrences, or any of the damage caused, arises out of or results either from the radioactive properties, or a combination of radioactive properties with toxic, explosive or other hazardous properties of nuclear fuel or radioactive products or waste or with any of them, or from ionizing radiations emitted by any sources of radiation inside a nuclear installation.' This definition does not require that the contamination be the result of a sudden incident.[23]

England

1. Common law

Again, the first part of the answer to Question 8(a) is the same as the answer to Question 1(a), as far as nuisance and the rule in *Rylands* v. *Fletcher* are concerned, specifically, that nuisance does not apply because this is a one-time situation. Liability under *Rylands* v. *Fletcher* depends upon the foreseeability of the damage, since the other

[22] Vanden Borre, *Efficiënte preventie*, p. 325. [23] *Ibid*., p. 179.

elements exist: the operation of a nuclear power plant is clearly a 'non-natural use' of the land, and the contamination of adjacent land was due to an escape of something 'likely to do mischief if it escapes'.

Company *C* was an independent contractor for whose conduct *A*, as the owner of the land, is liable. The actions of an independent contractor are not the acts of a 'stranger' so the defence of third party action is not available to *A*.

2. Statutory liability

The Nuclear Installations Acts of 1965 and 1969 establish a regime of control over and liability for the installation and operating of nuclear installations, including nuclear power stations. Section 7(1) and (2) impose on the licensed site operator a duty to ensure that no person suffers injury or damage (either on or off the site) involving nuclear matter. Section 12 of the 1965 Act provides that, where injury or damage has been caused by a breach of the duty imposed by section 7, compensation 'shall' be payable. Liability under section 12 is virtually absolute liability, not excluding liability where the occurrence is caused by other factors, including natural disasters. Section 13 provides very few exceptions to liability for such damage (for example, hostile action in an armed conflict), and liability is subject to a statutory maximum, currently £140 million (section 16(1)). Under section 15, there is a limitation period of thirty years for claims, from the date of the occurrence, or from the breach of section 7, or, in the case of a continuing occurrence, the date of the last violation. Where the damage or injury is caused by nuclear material lost or abandoned by the operator of the nuclear installation, there is a limitation period of thirty years (section 15(2)).

In *Merlin* v. *British Nuclear Fuels Ltd*, the value of a house decreased due to radioactive contamination, and the plaintiff brought suit under section 12(1) of the Nuclear Installations Act 1965.[24] The Divisional Court held that the 'damage . . . to property' referred to in section 7 of the 1965 Act meant physical damage to tangible property and did not extend to pure economic loss of this kind. In *Merlin*, the court also held that the increased risk of the occupants of the house contracting cancer because of the presence of the radionuclides did not amount to personal injury for the purposes of the duty imposed by section 7(1). This issue was subsequently considered by the Court of Appeal in *Blue Circle Industries* v.

[24] *Merlin* v. *British Nuclear Fuels Ltd* [1990] 3 WLR 383.

Ministry of Defence, where the claimant's land had been contaminated by radioactive waste flowing from the defendant's land following a storm.[25] The Court of Appeal held that this contamination amounted to property damage and that section 12 liability should be imposed according to the usual rules on damages (including foreseeability issues).

Question (b)

If contamination were a continuous process, there may be liability in nuisance as well as under the rule in *Rylands* v. *Fletcher*. Under both rules, *A* would be liable, as discussed under Question 1(a).

Finland

Question (a)

Operator *A* is liable for the damage suffered by *B*. Personal injuries, property damage and financial loss are compensable, generally by financial compensation. Since it is also likely that *C* is negligent, *C* can be held liable for damage suffered by *B* in a recourse/contribution action.

Question (b)

No, there is no distinction in this case.

France

Question (a)

Since operation of nuclear power plants is the monopoly of the state-owned Electricité de France (EDF), which is also responsible for the maintenance of the cooling system, only EDF will ever be liable in France for damage from nuclear incidents. As stated in the answers to Questions 1(a) and 2(c), there is a strict liability regime for such damage.

Plaintiff *B* should sue in a civil court because EDF is an *établissement public industriel et commercial*. Article 17 of the Law of 16 June 1990[26] establishes a special jurisdiction in favour of the Tribunal de Grande Instance of Paris. The same law also limits EDF's liability to €37.5 million per accident.

[25] *Blue Circle Industries plc* v. *Ministry of Defence* [1999] Ch 289; [1998] 3 All ER 385.

[26] Law No. 90-488 ratifying the Additional Protocols to the Paris and Brussels Conventions on civil liability, *Journal officiel de la République française*, edition *Lois et décrets*, 17 June 1990; François Vincent, 'Risques d'atteintes à l'environnement et risques nucléaires', *Jurisclasseur Droit des enterprises – Assurances*, vol. II, fasc. 2660, p. 11.

Question (b)

The damage must be remedied, regardless of whether it is the result of a continuous process or of a sudden incident. The only distinction between the two forms of causation is that EDF's liability for an accident is limited to ten years following the accident, which might affect *B's* rights to sue if the contamination was from a continuous process of pollution. Of course, in the event contamination occurred from a sudden incident, *B* (or *B's* beneficiaries) would certainly not wait ten years to sue the EDF.

Germany

Question (a)

A. Liability of A

Plaintiff *B* has a compensation claim against *A* analogous to § 906(2) sentence 2 BGB. Similarly, *A* is liable under Article 3 of the Paris Convention, and § 26 AtomG (Atomic Code)[27] may be the basis for a claim subordinate to the Paris Convention. Finally, *B* may have a claim under § 1 UmweltHG.

B. Liability of C

Defendant *C* is liable under § 823(1) BGB, if he is at fault. Where *C* defectively (or at least negligently, § 312e(6) StGB) manufactures or delivers an atomic installation or an appliance intended for the construction or operation of such an installation, which creates a danger to persons or to the property of others, then *C* is liable pursuant to § 823(2) BGB in conjunction with § 312e StGB. The damages here must be a result of an atomic fission process or radiation from a radioactive substance.

Question (b)

No, there is no distinction in this case.

Greece

Question (a)

The legislative Decree 336/1969[28] ratified the 1960 Paris Convention 'on civil liability in the nuclear energy sector' and introduced the principle of strict liability against operators of nuclear power plants where

[27] 15.7.1985, BGBl. I p. 1565.

[28] Now in force as amended by Law 1758/1988 by which the protocol amending the 1960 Paris Convention, as amended by the additional protocol of 1964, was ratified.

accidents occur inside or outside the nuclear power plant and during transportation of nuclear materials to and from the plant.[29]

Except under Articles 3 and 9 of the Convention, the operator is strictly liable, and persons who suffer loss may obtain compensation. According to Article 9, unless there is a contrary national provision, an operator is not liable for damage caused by a nuclear accident, if it is due to a military conflict, an invasion, a civil war, an insurrection or a natural disaster of an exceptional character. Moreover, although an operator generally has no right of recourse against culpable third persons,[30] the Convention grants a very limited right of recourse:

(a) against a person who intentionally caused (by act or omission) the damage (Article 6(f)(i)); or
(b) where there is an express agreement in a contract (Article 6(f)(ii)).

According to the above provisions, in this case, *A* is liable to *B* without proof of *A's* culpability. Operator *A* cannot make use of Article 9 because a sudden breakdown cannot be considered an act of God (Article 9 restrictively interprets conditions for release from civil liability). Operator *A* would be able to exercise a right of recourse against *C*, but only if he could prove that company *C* acted intentionally to cause the breakdown and the resultant damage.

According to Article 6(b) of the Convention, no other person is held liable to *B* to repair the damage caused by a nuclear accident, not even persons who have constructed the nuclear power plant[31] (or revised some specific systems) or have provided nuclear material.[32] Only where

[29] As Greece has entered a reservation with regard to the Paris Convention, there were doubts (see relatively Ap. Georgiades, in Georgiades-Stathopoulos, Introductory remarks to Articles 914–938, No. 34; I. Karakostas, *Perivallon kai Dikaio*, p. 358) about whether civil liability in the nuclear energy sector, introduced by legislative decree 336/1969, was really in conformity with the 1960 Paris Convention. Cf. P. Kornilakis, *Efthyni apo diakindynefsi*, pp. 99 *et seq*., who considered that, in spite of this reservation, the Convention was in force and applicable to liability in cases of nuclear accidents. After the above-mentioned Law 1758/1988, however, such doubts no longer exist, and strict liability is recognised in nuclear accidents (P. Filios, II, pp. 498–9; P. Kornilakis, *Eidiko Enochiko Dikaio*, Ch. E', VIII, para. 138, p. 462).

[30] Civil liability is imposed on him under the principle of the channelling or 'canalisation' of liability (*Kanalisierung der Haftung*), according to the German theory. See Kanno, *Gefährdungshaftung und rechtliche Kanalisierung im Atomrecht*; Mohr, *Die Kanalisierung der Haftung (unter besonderer Berücksichtigung des Atomrechts*), pp. 69 *et seq*. See also Filios, *ibid*.

[31] See also C. Papathanassiou, EEN 29, p. 268.

[32] Whether the operator of the nuclear power plant has a right of recourse against these persons will be determined according to the provisions of the above-mentioned Articles 6(f)(i) and (ii) of the Convention.

the operator of the nuclear power plant is not liable according to Article 3 or Article 9 will another *N* here the person that, by his culpable act or omission, caused the damage *N* be liable (Article 6(c)(i)(I), as replaced). Thus, *B* cannot sue *C*, since operator *A* is liable. In any case, even if it were possible to apply Article 6(c)(i)(I), *B* would have to prove that the damage was the result of *C's* culpable act. The burden of proof thereof lies with *B*.

It should be noted that Article 11 of the Convention provides that the nature, form and extent of damages are determined by the national law. According to this Article, the answer to this question will be the same as under Case 1.[33]

Question (b)

It would make no difference whether the contamination was the result of a continuous process or of a sudden incident.

Ireland

Question (a)

Both *A* and *C* may be liable to *B*.

It is probable that the pollution was transmitted through air or water or both, so the liability regimes in the Air Pollution Act 1987 and the Water Pollution Act 1990 may come into play (section 28B of the 1987 Act and section 20 of the 1990 Act, respectively).

Regarding pollution through water, *A* will be liable as the occupier of the premises from which the polluting matter originated (causing subsequent damage), unless he or she can prove that the damage resulted from an act of God or of a third person (over whom *A* had no control) and was not foreseeable. Operator *A* will be presumed to have control over the contractor *C*, and will be liable for the acts of the contractor. Defendant *C* may, nonetheless, be separately liable under the Acts as a person whose act or omission occasioned the discharge, provided this act or omission constituted a breach of the Acts, as it does in this case (section 3 of the 1977 Act).

In the case of the Air Pollution Act, *A* is liable in much the same way, except that section 3 provides that the Act does not apply 'in relation to an emission arising from the use of any radioactive substance or device'. In this case, therefore, liability may be excluded since the emission arises from the use of nuclear fuel in a power station. However, if a

[33] According to P. Filios, *Enochiko Dikaio*, p. 499, a claim for monetary compensation for moral damages is not possible.

court were to apply a strict interpretation of the exclusion, it might be considered that the emission arises from a defect in the cooling system, and that the cooling system itself is not a radioactive substance or device (although the result is a discharge of radioactive substances). The question becomes whether the courts will hold that 'arises from' means only direct results, or extends also to indirect results. Under a strict interpretation, the defect in the cooling system would give rise to liability, but a defect in the power system would not, which poses a curious contradiction. Ultimately, the position under the Air Pollution Act must be regarded currently as uncertain. Another point about the Air Pollution Act is that, even if *A's* liability could be established, *C* might not be liable. Although *C* is a person whose act caused the emission, the act might not amount to a breach of the statute, since *A*, as occupier, alone has the obligation not to cause an emission (section 24). However, *A* would also be responsible to *B* for *C's* actions as contractor.

Liability could also be established in tort. Radioactive matter is polluting and dangerous; therefore, a person (*A*) bringing it onto land would be strictly liable under *Rylands* v. *Fletcher* if it escaped. Also, when the matter escapes onto *B's* land, it contaminates the land and interferes with *B's* use and enjoyment of the land, thereby constituting a nuisance. If trespass is to be established in this case, it must be done without reliance on section 32 of the Waste Management Act because section 3 provides that the Act does not apply to radioactive substances, including radioactive waste. The release of the radioactive waste directly to *B's* land may nonetheless constitute placing *A's* property on *B's* land, or a *prima facie* trespass.

As between *A* and *C*, contractor *C* may be liable to *A* for breach of contract or negligence.

It should be noted here that there is no nuclear power plant in Ireland. There are, however, several in close proximity to the state, such that their emissions could result in contamination within Ireland. Under EU jurisdiction rules, the Irish courts would have jurisdiction to hear claims for damage to Irish land resulting from a discharge of pollution by a plant in another EU Member State. It may be expected that Irish courts take a liberal approach to nuclear liability because there is no conflicting national interest in the protection of a nuclear power industry.[34]

[34] A case is currently pending before the courts seeking to establish the liability of British Nuclear Fuels plc for the alleged effect (within Ireland) of accidental and intentional discharges from the Sellafield nuclear reprocessing plant.

Question (b)

Nuisance law is more appropriate for dealing with ongoing situations, while the rule in *Rylands* v. *Fletcher* is more appropriate for dealing with sudden incidents. The distinction is not absolute, however.

Italy

Question (a)

In Italy, liability for damages caused by nuclear activities is governed by an old statute dating from 1962,[35] which introduced the requirements of the Paris Convention of 29 July 1960 into the Italian legal system. The law established a general strict liability regime for damage arising out of an *accident*. There is no case law on the issue, however, and scholarly writings on the matter are rare. It may be presumed that *B* can claim for damages to health and to property.

Question (b)

The statute contemplates only damages resulting from an accident, so contamination as a result of a continuous process would be excluded from its ambit.

The Netherlands

Question (a)

The Dutch statute governing liability for nuclear incidents[36] implements the Paris Convention of 29 July 1960,[37] and the complementary Brussels Convention of 31 January 1963[38] on third party liability in the field of nuclear energy. Generally, under the Dutch statute covering liability for nuclear incidents and the aforementioned Conventions, in the event of a nuclear incident the operator of the nuclear power plant in which the incident took place will be strictly liable. Therefore, no fault or unlawfulness has to be established. The amount of damages for which an operator of a nuclear installation can be held liable is limited to roughly €340 million per incident, and the operator must take out insurance to cover this amount.[39] If the damage exceeds this limit, the victim may claim further redress from a fund financed by the parties to

[35] Legge 31 dicembre 1962, n. 1860 sull'impiego pacifico dell'energia nucleare.
[36] De Wet aansprakelijkheid kernongevallen (Stb 1979, 225 and Stb 1991, 369).
[37] Trb 1983, 80. [38] Trb 1983, 81. [39] Decree of 14 September 2001, Stb 415.

the Brussels Convention or subsequently from the Dutch government up to a maximum of €2.2 billion.[40]

The operator may escape liability if the damage is due to an act of armed conflict, hostilities, civil war or insurrection (Paris Convention, Article 9). The Dutch legislature has maintained liability on the operator even in the event that the nuclear incident is caused by a natural disaster of an exceptional nature (Article 3 of the Dutch statute governing liability for nuclear incidents).

Under the Paris Convention, it is clear that personal injury, loss of life and damage to property may be claimed. As has been elaborated in the answer to Question 1(a), according to Article 6:95 BW material and non-material damage can be compensated.

In conclusion, we can say that under Dutch law and under the Conventions, *A* will be liable to *B* up to a maximum of €340 million.

If *A* wishes to shift liability to *C*, he must do so under the general Dutch liability rules. Under these rules, *B* can first try to establish *A's* liability under the general rules regarding liability for dangerous substances and for air, water and soil pollution. Therefore, Article 6:174 BW would apply, and the possessor of a construction, which does not meet the standards set for it and thereby constitutes a danger to persons or things, will be liable if this danger materialises, unless, pursuant to the preceding section, there would have been no liability if the possessor had been aware of the danger at the time it arose. As discussed above, the term 'construction' comprises buildings and works, durably united with land directly or through incorporation with other buildings and works (subsection 3).

Even if *A* is not the possessor of the nuclear power plant, Article 6:181(1) BW channels liability to *A* if he is the person conducting a business in which the construction is used, as long as the origin of the damage is related to the conduct of that business. Therefore, under normal circumstances, *A* would be liable to *B* because he used the construction to conduct his business and the damage came from this construction. The fact that company *C* was in charge of overhauling the technical aspects of the plant and caused the breakdown and consequent damage complicates the general liability position. Thus, *A* may escape liability by appealing to the so-called 'unless clause' (Article 6:174(1) BW): if *A*, who was aware of a possible danger, instructed company *C* to overhaul the cooling system in the nuclear power plant, taking all

[40] Bauw and Brans, *Milieuprivaatrecht* (2003), p. 18.

the necessary precautions to end the possibly dangerous situation, but the danger and damages nevertheless occurred, *A* may escape liability.

If *A* cannot be held strictly liable for *B's* loss, *B* might nevertheless have a claim against company *C* under general tort (Article 6:162 BW). Under this rule, four elements must be proved: (i) the act or omission by *C* was unlawful (a duty was breached); (ii) the act or omission is imputable to *C*; (iii) there is a sufficient causal connection between the tortious act and the damages; and (iv) damages actually occurred or are certain to occur.

Unlawful acts can be divided into a breach of statutory duty, an infringement of a right, and a breach of due care or due diligence or of an unwritten law (subsection 2). In this case, it could be held that company *C* has acted negligently, or breached their duty of due care, because *C* was in charge of the overhaul of the plant and did not fulfil its contractual duty correctly. By acting in this way, company *C* created a danger, about which it informed neither *A* nor its neighbour, *B*.

The second element is imputability of the tortious act to company *C*. An unlawful act can be imputed to its author if it results from his fault or from a cause for which he is answerable according to law or common opinion. The role of foreseeability of damage is important with regard to imputability. There are three sub-questions to foreseeability:

(1) Who is considered to be obliged to foresee damage?
(2) What exactly should be foreseen?
(3) Does the foreseeable damage require that precautionary measures be taken?[41]

In response to these questions, a party, considered to be a layperson without expert knowledge, should be able to foresee the damage. This person is not required to foresee damage *in concreto*, but it is sufficient that damage *in abstracto* is foreseeable. In case law, the rule in the *Dorpshuis Kamerik* case forms a basis.[42] In this case, the Hoge Raad ruled that the defendants were duty bound to investigate the potentially dangerous nature of a substance to be collected by a refuse collector, and had a duty to warn the refuse collector at the time of the collection that the refuse might contain a potentially hazardous substance. As far as foreseeability is concerned, the Hoge Raad held the defendant liable

[41] Schut, *Onrechtmatige daad volgens BW en NBW* (1990), p. 93.
[42] HR 8 January 1982, NJ 1982, 614, note CJHB (Dorpshuis Kamerik).

for the *unknown* substance. Therefore, it is not required that the precise damage that occurs in a given case is foreseeable. Finally, precautionary measures must be taken if a likelihood of damage exists, and there is a duty to investigate possible dangers whenever there is reason to doubt whether certain activities are harmless.[43]

It might be concluded from the above that, if company *C* had any doubts as to whether its overhaul of the cooling system in the nuclear power plant had been carried out properly, the fact that they did not investigate the matter, or warn *A* or *B*, fulfils the element of imputability.

The next element for a successful claim under Article 6:162 BW is that a sufficient causal connection between the tortious act and the ensuing damage exists. Essentially, under Article 6:162(1) BW, a '*conditio sine qua non* connection' forms the basis of liability (damage 'as a consequence thereof'), but only as a minimum condition.[44] The doctrine of 'reasonable attribution'[45] forms the current criterion for establishing a causal connection between the damage and the wrong. It provides that: 'Reparation can only be claimed for damage which is related to the event giving rise to the liability of the liable person in such a fashion that the damage, also taking into account its nature and that of the liability, can be imputed to the liable person as a result of this event.'[46] Thus the protective scope of the violated norms is decisive in determining that damages are attributable to the defendant's acts. The case law of the Hoge Raad also shows that the 'nature of the liability' and the 'kind of damage' are – among others – of decisive importance.[47] (For example, where a safety or traffic norm is breached, causal connections exist among a much wider set of injurious consequences.)[48]

Therefore, although a determination is dependent upon the circumstances of the case, it is likely that there will be a causal connection in

[43] Van Dam, 'Zorgvuldigheidsnorm en aansprakelijkheid' (1989), No. 84.
[44] Spier (ed.), *Verbintenissen uit de Wet en Schadevergoeding* (2000), p. 203.
[45] Eventually introduced by Köster in 1963. See also: Van Schellen, *Juridische causaliteit* (1972); Van Schellen, *Toerekening naar redelijkheid naar huidig en komend recht* (1985) and Van Dunné (ed.), *Environmental Liability, Continental Style', Environmental Contracts and Covenants: New Instruments for a Realistic Environmental Policy?* (1993), p. 241. The doctrine of 'reasonable attributability' was accepted by the Hoge Raad at the beginning of the 1970s: see e.g. HR 20 March 1970, NJ 1970, 251 (note by GJS) (Waterwingebied).
[46] Article 6:98 BW.
[47] Spier (ed.), *Verbintenissen uit de Wet en Schadevergoeding* (2000), p. 206.
[48] See e.g. HR 2 November 1979, NJ 1980, 77 (note by GJS) (Vader Versluis) and cf. HR 13 June 1975, NJ 1975, 509 (note by GJS) (Amer). This case dealt with qualitative liability. Neither safety rules nor traffic rules were breached, and thus a more limited attributability standard was applied.

the Case 8 scenario. The fact that company *C* (as a professional company in this field) was responsible for the overhaul of a nuclear power plant and knew, or should have known (foreseeability), that radioactive substances could escape should maintenance not be carried out properly, will more easily establish the causal connection.[49]

The final element for a successful claim under the general tort Article (Article 6:162 BW) is proof of damage that has occured or that will occur in the near future. Article 6:95 BW makes a distinction between material and non-material damage. Non-material damage is referred to as 'other harm', which can only be recovered when a specific rule allows it. Material damage consists of loss incurred and lost profits. In the case at hand, *B* suffered a loss, which indicates that he has sustained a material damage. Thus, because all the elements of Article 6:162 BW are met, *B* could at least sue company *C* for committing a general tort.

Question (b)

Under the Dutch statute governing liability for nuclear incidents and the aforementioned Conventions, liability applies to damage caused by a nuclear incident. A nuclear incident is defined in the Paris Convention as 'any occurrence or series of occurrences having the same origin, which causes damage, provided that such occurrence or series of occurrences, or any of the damage caused, arises out of or results either from the radioactive properties, or a combination of radioactive properties with toxic, explosive or other hazardous properties of nuclear fuel or radioactive products or waste or with any of them, or from ionizing radiations emitted by any sources of radiation inside a nuclear installation'.[50] From this definition, we can conclude that it does not make any difference whether the contamination was the result of a continuous process or of a sudden incident.

However, *B* must take into account the limitation periods. Under Article 7(1) of the Dutch statute governing liability for nuclear incidents, *B* is confronted with a limitation period of three years from the time at which he has knowledge of both the damage and the identity of the operator. There is an absolute time limit for personal damage of thirty years from the date of the incident (Article 7(2)(a)) and for other kinds of damage of ten years from the date of the incident (Article 7(2)(b)).

[49] See e.g. HR 1 July 1977, NJ 1978, 84 (note by G) (Van Hees/Esbeek).
[50] Article 1(a)(i) of the Paris Convention.

Under the general Dutch liability rules it makes no difference whether the contamination was the result of a continuous process or of a sudden incident, as long as all the elements to establish liability are fulfilled. Clearly, the element of causation might be more difficult to establish in the case of long latency damage than in the case of a sudden incident. Moreover, in situations of latent damage, a defendant may more easily demonstrate that other factors might be relevant in contributing to the resulting damage. Also, in this case, company *C* could raise a statute of limitations defence. Nevertheless, *B* is entitled to sue for the same kind of damage both from a sudden incident or from latent contamination.

The general statute of limitations for actions provides that: 'A right of action to compensate for damage or to pay a stipulated penalty is prescribed by five years from the day following the one on which the victim becomes aware of both the damage or the exigibility of the penalty and the person responsible therefor; and, in any case, by twenty years following the event which has caused the damage or has made the penalty exigible.'[51]

For environmental damage, subsections 2 and 3 govern special treatment of time limitation. Subsection 2 reads: 'If and when the damage is a result of pollution of air, water or the soil, the action for damages will be time-barred in derogation of the period provided by the end of subsection 1 [twenty years], by the expiry of a period of thirty years after the event which has caused the damage.'[52] In subsection 3, the concept of 'event' is further developed: 'For the purposes of subsection 2, 'event' means: a suddenly occurring fact, a continuing fact or successive occurrences having the same origin. If and when the occurrence consists of a continuing fact, the period of thirty years in subsection 2 will begin to run after that fact has ceased to occur. If and when the occurrence consists of a series of facts with the same origin, this period will begin to run after the last fact has taken place.'[53]

In the case in hand, the limitation period can be applied as follows. An action for damages by *B* will be time-barred either after a period of five years after *B* became aware of both the damage and the identity of the tortfeasor (company *C*) or, in any event, after a period of thirty years after the incident that gave rise to the damage occurred.

[51] Article 3:310(1) BW. [52] Article 3:310(2) BW. [53] Article 3:310(3) BW.

Portugal

Question (a)

A nuclear power plant is considered an industry that is *objectively dangerous*. Therefore, *A* could be liable under Article 23 LAP or under Article 1347 CC because *B* is the proprietor of adjacent land. Operator *A* is also liable under Article 3 of the Paris Convention. Company *C*, on the other hand, is liable only under Article 22 LAP, if he acted with fault.

Question (b)

No, there is no legal distinction in this case.

Scotland

Question (a)

I. Common law liability

For the purposes of common law liability, there appears to be clear evidence of fault here on the part of independent contractors engaged by operator *A*. On this basis, company *C* would clearly be liable. Normally, the proprietor is not liable for delicts committed by independent contractors whom it has engaged. However, there is an exception to that rule when the proprietor has engaged the contractor to carry out a necessarily hazardous operation, thereby rendering the duty of care (owed to potentially affected persons) non-delegable.[54] In this situation, *A* would be liable for *C's* negligence, if maintenance of cooling systems for nuclear reactors is considered an intrinsically hazardous activity, making the responsibility not reasonably delegable to *C*.

II. Statutory liability

In any case, section 7(1)(a) of the Nuclear Installations Act 1965 imposes an absolute duty on holders of nuclear site licences to prevent physical damage to property from the radioactive properties of nuclear matter. Because the duty is imposed specifically on the holders of the nuclear site licence, *A*, as such a holder, will be liable for damages regardless of the fact that it was *C* who caused the breakdown. In the event that *A* fails this duty, as here, he or she must compensate under section 12. Relevant damage is any kind of alteration in the physical characteristics of the property caused by radioactive properties, which render the

[54] See *Noble's Trustees* v. *Economic Forestry* (Scotland) *Ltd*, 1988 SLT 662; and *Powrie Castle Properties* v. *Dundee City Council*, 2001 SCLR 146.

property less useful or less valuable. The claim made may include a figure to compensate for diminution in the value and saleability of land that has been directly affected by the contamination.[55]

Section 13 of the 1965 Act removes liability where damage is 'attributable to hostile action in the course of any armed conflict, including any armed conflict within the United Kingdom', but does impose liability 'where the occurrence, or the causing thereby of the injury or damage, is attributable to a natural disaster, notwithstanding that the disaster is of such an exceptional character that it could not reasonably have been foreseen.'

Question (b)

I. Common law liability

This point makes no difference, except to the extent that, if the damage results from a process that is still ongoing when the damage becomes known, then both *A* and *C* would be deemed at fault for allowing the offending operation to continue.

II. Statutory liability

There is no distinction under statute. Section 7 imposes liability for damage arising as the result of any 'occurrence' on the site, whether a single event or one in a series.

Spain

Question (a)

The Nuclear Energy Act[56] provides that the operator of a nuclear plant will be strictly liable for the damage the plant causes (Article 45 of Law 25/1964 (LEN)). Although the liability is strict, it is not absolute, so the operator may be free from liability if the damage was caused by 'war conflicts, hostilities, civil wars, insurrections or natural catastrophes of exceptional character' (Article 45.3 LEN). No mention is made of acts of a third person, so it seems that the defences are more limited than a *force majeure* defence.

Moreover, the sole person/entity held strictly liable for nuclear accidents is the operator of the nuclear plant or other installation that

[55] *Blue Circle Industries* v. *Ministry of Defence* [1999] Ch 289.
[56] Ley 25/1964, de 29 de abril, de energía nuclear (BOE No. 107, 4 May 1964).

produces or works with radioactive materials. However, the rules of channelling provided by the Paris Convention have not been clearly reflected in Spanish legislation. As a matter of fact, there is no Spanish norm such as Article 6(a) of the Convention: 'The right to compensation for damage caused by a nuclear incident may be exercised only against an operator liable for the damage in accordance with this Convention.'[57] Nor is there a provision similar to Article 6(b), stating that 'no other person shall be liable for damage caused by a nuclear incident'.[58] Quite to the contrary, Article 53 LEN provides that strict liability, although it falls exclusively upon the operator, 'does not exonerate the operator from further liability ensuing for other reasons different from the nuclear damage, nor does it exclude a third party from being held liable for the damage caused'.[59] Scholars solve this legal conundrum by noting that, because Article 45 LEN allows liability only against the operator of the plant, the liability of a third party referred to in Article 53 must be established according to other grounds of liability, such as general fault (see Article 1902 CC).[60] Therefore, *C* will not be held liable under the special regime of the LEN, but he or she could be liable under the general regime of Article 1902 CC.

The LEN defines 'damage' to include 'the loss of human lives, bodily injuries and damage to property' that occur as 'a direct or indirect result of the radioactive properties, or of their combination with the toxic or hazardous properties' of nuclear fuels or substances, or as a result of ionising radiations (Article 2.16). No reference is made to pure ecological damage (see the answer to Question 4(c)), which is quite understandable, since this concept was unknown when the LEN regime was established. This Act and the Decree which develops it provide for a cap of 300 million pesetas (approximately €1.8 million) per accident in each plant, no matter the number of persons who have been injured or the kind of nuclear damage they suffer.[61]

[57] The text of the Convention can be found at www.nea.fr/html/law/nlparis_conv.html.
[58] See the previous note.
[59] Article 53 I LEN states: 'El hecho de que un explotador de instalación nuclear o de cualquiera otra actividad que trabaje con materiales radiactivos o dispositivos que puedan producir radiaciones ionizantes sea declarado responsable por daños nucleares, no exime de la responsabilidad civil ulterior derivada de otros motivos distintos al daño nuclear ni de que pueda declararse a un tercero responsable de los daños.'
[60] See Martín-Casals, Ribot and Solé in Koch and Koziol, *Unification of Tort Law*, p. 306.
[61] See *ibid.*, p. 312.

Question (b)

The LEN deals with liability for nuclear damage caused in the following cases: (a) accidents occurring in the nuclear installation; (b) accidents occurring in other activities when radioactive materials are being used; and (c) accidents occurring during the transportation on Spanish soil of nuclear materials that are being sent to another country or that have been sent from a foreign country destined for a nuclear installation that is based on Spanish soil (Articles 46 and 47 LEN). Therefore, whereas damage caused by a sudden incident would undoubtedly be covered by the LEN, it appears that damage resulting from a continuous process would not. Moreover, gradual damage resulting from a continuous process is not usually covered by insurance policies.[62]

Sweden

Question (a)

Damage due to nuclear radiation is regulated by the Nuclear Liability Act,[63] which establishes strict liability based on international conventions. The strict liability scheme in the Environmental Code is not applicable to radiation, but land contamination caused by radioactive substances could fall under the regulation.[64] If so, the civil environmental liability scheme would apply so that the operator *A* could be held strictly liable to *B* under the conditions described above in Question 1(a).

In a second round of litigation, *A* would have a recourse action against *C*, but *C* would likely not be held liable directly to *B*.[65]

Even if the Environmental Code is not applicable to the case, *A* is nevertheless strictly liable under the Nuclear Liability Act (§ 5). The scope of liability is determined in accordance with international law.

Question (b)

No, neither under the environmental liability scheme in the Environmental Code, nor under the Nuclear Liability Act, would the legal position change based on the type of nuclear incident.

[62] See Eduardo Pavelek Zamora, 'La cobertura del riesgo medioambiental en las pólizas de responsabilidad civil general', in Seaida, *Estudios sobre la responsabilidad civil*, pp. 195–255, at pp. 204 and 231 and Diego J. Vera Jurado, *La disciplina ambiental de las actividades industriales* (Madrid, Tecnos, 1994), p. 191.

[63] Atomansvarighetslagen (1968:45).

[64] See the Environmental Code, Ch. 32 § 2; and cf. Ch. 32 § 3.

[65] NJA 1983 s 209; a property owner with a leaking oil tank was held strictly liable for the city's clean up costs due to water pollution. A recent inspection of the tank by a contractor was no defence.

Case 9 The harmless substance

A's industrial plant releases a chemical substance into the environment that is generally considered to be harmless to human health. Recent medical studies, however, show that this substance can cause a very specific form of asthma. *B*, who suffers from this asthma, wants to sue *A* for damages. *A* objects that he did not know, and could not have known, that the emissions of his plant can cause this disease. Is *A* liable?

Comparative remarks

1. Comparison

The capability to foresee the risk of an activity is an essential prerequisite for a *fault-based liability*. Thus, in most European countries, fault cannot be established, if the operator of a plant did not and, due to the lack of empirical and scientific knowledge, could not have known that emissions from its plant were capable of causing damage. Only the Portuguese reporter stated that such circumstances do not exclude fault liability according to Article 22 LAP.

Under theories of *strict liability*, most jurisdictions do not allow the defendant to escape liability by showing that he did not and could not have known the risk. Product liability, however, poses an exception to this rule, as Article 7(e) of the EC Products Liability Directive provides that the producer of a defective product shall not be liable if he proves 'that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered'. Although Member States are, according to Article 15(1)(b) of the Products Liability Directive, allowed to decide not to incorporate this exonerating circumstance, of all the countries

analysed here, only Finland[1] opted out of enacting this defence. The Spanish product liability statute renders the state-of-the-art defence inapplicable to producers of food and medicinal products. In France, the defence does not apply to products derived from the human body,[2] and in Germany it does not apply to drugs.

In Austria, liability according to § 364a ABGB and all strict liability statutes, such as the liability provisions in the Gene Technology Act or the Nuclear Liability Act, do not provide for the state-of-the-art defence. In Belgium, Germany and Portugal, the situation is the same. Liability according to neighbourhood law and strict liability (Belgium: Article 1384 § 1 Burgerlijk Wetboek; Germany: § 1 UmweltHG; Portugal: Article 23 LAP) also covers damage of an unforeseeable kind. In Finland and Sweden also, the state-of-the-art defence is not permitted under the laws of the neighbourhood and under the specific environmental liability statute. Greek neighbourhood law and Article 29 of Law 1650/1986 for the protection of the environment do not provide for the state-of-the-art defence. Nor does Ireland, where liability according to the Air Pollution Act, as well as under nuisance, trespass and probably also under *Rylands* v. *Fletcher*, does not permit the defence.

In France, England, the Netherlands and Scotland, the situation is different. The French reporter states that one cannot be liable for the unforeseeable consequences of one's acts. Thus liability will be denied, if the defendant can show that he or she could not have foreseen that his or her act was prone to cause the harm. According to the precautionary principle, however, courts will only accept this defence if the tortfeasor applied the scientific and technical knowledge of the time, which is interpreted as the most advanced knowledge at the world level.

In England, according to the ruling of the House of Lords in *Cambridge Water* v. *Eastern Counties Leather*,[3] foreseeability is a necessary prerequisite for liability under nuisance and under *Rylands* v. *Fletcher*. In Scotland, such a defence will always be successful, since strict liability is not available under Scots law. The Scottish reporter, however, stresses that the criterion of foreseeability may be extended to a fairly wide category of occurrences, such that, not the precise accident, but harm of some sort, must be foreseeable. In the Netherlands, the state-of-the-art defence would also be available. The main category of liability for

[1] Together with Luxembourg and Norway. See Annex 1 to the Green Paper on producer liability, COM(1999) 396, July 1999.
[2] See *ibid*. [3] [1994] 2 AC 264.

environmental harm under Dutch law is Article 6:175 Burgerlijk Wetboek, that is, liability for dangerous substances. The Dutch reporter points out that such liability only covers substances that are known to be dangerous. Thus, with regard to substances that are not yet known to be dangerous, no liability will apply. The defendant, however, will only escape liability by showing that he or she had done everything to prevent damage. He or she will be under a duty to discover the risks of his or her activity and to adequately warn of those risks.

In Italy, the solution is still unclear. The Italian reporter states that neither the courts nor scholars have reached a common opinion on this issue. Should such a case be brought to court, however, the courts may be inclined to draw an analogy to product liability law and allow the defendant to plead the state-of-the-art defence.

2. Conclusions

The survey shows that, in environmental liability, the state-of-the-art defence has not yet become a standard defence, as it has in product liability. The fact that operator *A* did not know and could not have known about the risk caused by the emissions is discussed under the notion of foreseeability, and most authors emphasise that, in strict liability, unforeseeability does not amount to a defence. In most countries, this also applies to liability according to neighbourhood law and the specific environmental liability statutes enacted by Finland, Germany, Portugal and Sweden. There is, however, no unanimity in this regard. In Scots law, which does not recognise no-fault liability at all, the lack of foreseeability of damage will usually relieve the defendant of liability. In England, foreseeability of damage is a fundamental prerequisite, not only under the tort of negligence, but also in nuisance and under the rule of *Rylands* v. *Fletcher*. And even the French and the Dutch reporters indicated that, under certain circumstances, lack of foreseeability may have an exonerating effect for the tortfeasor.

Discussions

Austria

The fact that *A*, due to the lack of scientific knowledge, was not in a position to foresee that the emissions were capable of causing this type of damage excludes the possibility of fault-based liability towards *B*. Defendant *A*, however, may be liable on the basis of § 364a ABGB,

which includes development risk. Strict liability regimes, like the Nuclear Liability Act or the Gene Technology Act, typically also cover development risk. An exception is provided by the Product Liability Act, which, in implementing Article 7(e) of the EC Products Liability Directive,[4] provides that a producer shall not be liable if it can be proven that the state of scientific and technical knowledge at the time the product was put into circulation did not allow discovery of the existence of the defect (§ 8(2) PHG).

Belgium

In answering this question, we can leave aside issues of proof and causation, which are more explicitly dealt with in other questions.

Depending on the specifics of the case, liability can be based on fault, nuisance or Article 1384 (1) BW (liability for defective things), which claims have been described in general in the answer to the previous Questions. The fact that the operator did not know, and could not have known, about the risk caused by the emissions will be no defence under strict liability either under nuisance law or under Article 1384(1) BW.

If the action were based on negligence, however, this defence might be valid.[5] One of the conditions for liability for negligence is that damage was a foreseeable result of the defendant's activity.[6] Regarding the other elements, it would be impossible to show a violation of a duty of care if a defendant could not possibly have known his plant's emissions were dangerous so as to breach the duty.

England

This questions turns on the foreseeability of the damage. The facts of this case are similar to the facts of *Cambridge Water* v. *Eastern Counties Leather*,[7] where chemicals, which, at the time of the incident, were not known to be hazardous for the environment, leaked into the chalk aquifer and from there into the groundwater. The House of Lords held that the damage was not foreseeable, and therefore the defendants were

[4] Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, OJ L 210, 7.8.1985, p. 29.

[5] M. Deketelaere, 'Milieu en burgerlijk aansprakelijkheidsrecht', in K. Deketelaere (ed.), *Handboek milieurecht*, p. 1189.

[6] Cornelis, *Beginselen*, p. 41.

[7] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264.

liable neither under the law of nuisance nor under *Rylands* v. *Fletcher*.[8] Following the judgment in *Cambridge Water* v. *Eastern Counties Leather*, *A* will not be liable in this case.

Finland

Liability is always strict in this case, and therefore *A's* awareness of the impact, or lack thereof, is irrelevant. However, *B* must still show a probable causal link between the activity and the damage in order to assert liability against *A*.

France

A cannot be liable for unknown/unforeseeable consequences. However, recent emphasis on the precautionary principle could change this legal position.[9] The custodian of a thing (Article 1384 § 1 CC), or the producer of a defective product (Article 1386–11 CC), has to prove that the consequences were unforeseeable 'with regard to the scientific and technical knowledge of the time'.[10] Courts tend to interpret this level of knowledge as 'the most advanced knowledge at the world level' at the particular time.[11]

Germany

I. If *A* is *B's* neighbour, then *B* has a compensatory claim against *A* by analogy to § 906(2) sentence 2 BGB because *B* was actually prevented from averting the infringement/harm by lack of knowledge of the danger of the emissions.
II. Plaintiff *B* has a claim against *A*, independent of *A's* fault, under § 1 UmweltHG, which provides no developmental risk defence to liability, unlike product liability law.[12] (See Case 11 below regarding facilitating the burden of proof pursuant to § 6 UmweltHG.)
III. Plaintiff *B* may have a compensatory claim against *A* under § 823(1) BGB because *A* violated a legal interest, harm resulted and there is a causal connection between the harm and the act. However, it is questionable whether an 'unlawful' behaviour led to the violation of a legal interest, since *A* was unaware and could not have known of the danger. Liability under § 823(1) BGB does not extend to so-called

[8] *Ibid*.
[9] On the influence of the precautionary principle on civil liability, see Viney and Jourdain, *Les effets de la responsabilité*, p. 20; Agathe Van Lang, *Droit de l' environnement*, p. 70; Karine Foucher, *Principe de précaution et risque sanitaire* (L'Harmattan, Paris, 2002), pp. 161–80.
[10] Article 1386-11-4 CC.
[11] See Pierre Bechmann and Véronique Mansuy, *Le principe de précaution* (Litec, Paris, 2002), p. 103.
[12] Schmidt-Salzer, UmweltHG, 1992, § 1 n. 321.

'developmental risks', where a product later proves to be harmful but was not foreseeably so based on the state of technical knowledge at the time of its introduction.[13] (Again, see Case 11 on the burden of proof issues regarding causality under the principles of the *Cupola Furnace* decision.)

Greece

I. As mentioned in the answer to Case 1, Article 29 of Law 1650/1986 for the protection of the environment states: 'Whoever, whether a physical person or legal entity, causes pollution or other degradation to the environment, is liable for damages, unless he proves that the damage is due to an act of God or was the result of a third party's culpable act. The third party must have acted intentionally.'[14] Here, *A's* activity causes the pollution, and thus *A* will be strictly liable (Article 29) if *B* can prove that:

(i) *B's* right of use of the common property (i.e. the atmosphere) is violated;
(ii) the violation entails a danger to *B's* life and health; and
(iii) the damage is due to the particular source of danger from *A*.

Moreover, *A's* polluting activity may be considered a source of *increased* danger, as, according to medical studies, the substance emitted from *A's* site increases the possibility of contracting this specific form of asthma. In any event, due to the broad scope of Article 29,[15] anybody who causes pollution is liable, whether or not his activity is a source of increased danger. Characterising *A's* polluting activity as a source of increased danger would be of importance only under the majority view of scholars that Article 29 of Law 1650/1986 should be read in a restrictive manner, and liability should attach only when the polluting activity may be considered as a typical source of increased danger.[16] A danger is 'increased', in general, when:

(i) the danger cannot be avoided, even if all measures of care and providence are taken by the polluter; and
(ii) the person exposed to the particular danger is obliged to be exposed to it, or, in order to stop exposure, he must give up his use of a common good or property.[17]

In short, here, *A* will be liable according to Article 29, both under broad and narrow (only increased dangers subject to liability) interpretations.

[13] Soergel/*Zeuner*, BGB (12th edn, 1998), § 823 n. 177.
[14] FEK Issue 160A/1986.
[15] The broad scope of Article 29 of Law 1650/1986 has been severely criticised by scholars. See the answer to Case 1 above.
[16] P. Filios, II, § 205 C; Ap. Georgiades, *Enochiko Dikaio*, p. 702, No. 105; Karakostas, *Perivallon kai Dikaio*, p. 334.
[17] I. Karakostas, *Perivallon kai Astiko Dikaio*, p. 169.

II. Another legal basis for *B's* claims is Article 914 AK, which regulates civil liability for an illegal act. This liability is based on fault, with the burden of proof on the plaintiff. However, damages can be awarded, even without proving fault, by applying the 'principle of the origin of risks' or the 'principle of the fields of influence' and Article 925 AK, by analogy (see the discussion under Case 1 above). In order to obtain damages according to Article 914 AK, *B* must prove that he suffers from asthma, and that the cause of the asthma derives from *A's* activities. Here, the asthma is due to *A's* polluting activity and can be considered an 'industrial illness', such that the proof of the 'industrial provenance' of the illness is the minimum causality necessary. Thus, applying the 'principle of the origin of risks' or the 'principle of the fields of influence' and Article 925 AK (by analogy) may establish proof of culpability and the causal link.

On the other hand, *A* may be able to avoid liability on the state-of-the-art defence[18] where:

(i) only recent medical studies show that the chemical substance released by *A's* industrial plant has harmful effects;
(ii) it was generally held before that the substance was harmless; and
(iii) *A* did not know, and could not have known, that the emissions from his plant caused this disease. So, it may be considered that *A* has shown all reasonable care and providence and, therefore, he is not liable towards *B*.

The state-of-the-art defence, however, cannot be used under Article 29 of Law 1650/1986, as the tortfeasor is exempted only if the damage is due to an act of God or a third party's culpable act.

Ireland

The emission here is presumably deliberate. It is also presumably a discharge to air, since asthma is a respiratory problem.

Civil liability under the Air Pollution Act is strict. Once the emission causes damage, *B* has a claim. Defendant *A* may, however, plead the defence that the emission was in accordance with an emission limit or a licence under the Air Pollution Act. Nevertheless, there is no defence for compliance with an IPC licence under the EPA Act, if *A* had such a licence (unless that licence incorporates an emission limit established under the Air Pollution Act). Ignorance, in this case, is also not a defence.

[18] This defence is explicitly given to the producer of defective products, in order to free him from any liability (Articles 6(8) of Law 2251/1994 on consumer protection). For an analysis of this law, see I. Karakostas, *I efthyni tou paragogou ghia elattomatika proionta*; I. Karakostas (with the collaboration of D. Tzouganatos), *Prostassia tou katanaloti*.

The position in the law of negligence is different. If *A* could not have known that the emission was harmful, there will be no fault and no liability. If *A* could have known, by carrying out appropriate tests, and should, in all the circumstances, have taken the precaution of carrying out the tests, he or she may be liable. If there were substantial reasons for concern, but *A* deliberately ignored them, it is more likely that *A* will be liable. Wilful blindness likely constitutes a breach of *A's* duty in negligence.

There may be a nuisance if *B* occupies land in the area and inhales the substance there. This is similar to the liability which existed in *Hanrahan* v. *Merck Sharpe and Dohme*.[19]

There is really no trespass against land, and it would be very difficult to argue that the emission of a pollutant constitutes a battery (that is, a trespass against the person). However, it might be possible to establish such liability by analogy to spitting: spitting in someone's face constitutes direct physical contact by one person with another.[20] If the pollutant can be seen as equivalent to the spittle, its inhalation by *B* could be physical contact. However, this stretches the legal principle a very long way, and seems a somewhat unlikely course for the courts to adopt if there is another possible line of liability in negligence or under statute.

Italy

There is no specific statutory provision and no case law concerning the scenario in Case 9.

However, since the statute concerning product liability excludes liability for all development risks, it is quite likely that Italian legislators and/or the courts will analogously find a defence to liability for *A* in this case.

The Netherlands

In general, because *A* is a professional user or keeper of dangerous substances, he will be held strictly liable for the damage caused by these substances under Article 6:175 BW, but only if the dangerous substance is *known* to be dangerous. He will escape liability for substances that are not generally known 'by the group of people in society that are accustomed to this substance' to have any specific, inherent danger

[19] [1988] ILRM 629. [20] *R* v. *Cotesworth* (1704) 6 Mod 172.

(the state-of-the-art defence).[21] This defence must be considered in relation to the duty to investigate, which is an unwritten, general legal obligation on a defendant. Essentially, a defendant must show that an investigation into the possible dangerous properties of the relevant substance would not, at the time in question, have indicated the dangers.[22]

The defence has two distinct inquiries. First, it is important to determine whether anyone could have known about the danger of the substance used by *A*. Secondly, if someone could have known, the question is whether *A*, specifically, may be excused for not being aware of the danger. Depending on the nature of defendant, the application of the defence can vary, such that a small company with no specific expertise in the relevant matter will be judged differently from a large multinational company that produces certain 'questionable' substances.[23] In the present case, as owner of an industrial plant, *A* may not very easily be excused his ignorance.

It might be possible to apply reasoning from the regulation on product liability (Article 6.3.3 BW) to the environmental sector. Under the product liability regulation, the manufacturer is not liable if 'based on the state of the art at the point in time at which he brought the product into circulation, it was not possible to discover the defect'.[24]

The *Asbestosis* case[25] is the first landmark case on the issue of liability of employers for damage inflicted on employees during their employment, and clarifies the state-of-the-art defence. In this case, an employee suffered from asbestosis ('asbestos lung') caused by asbestos dust present in his workplace when he worked there between 1948 and 1978. Liability was based on Article 1638x (old) BW.[26] The Hoge Raad ruled that: '[T]he employer must show, when the health of one of his employees is affected by a material he produces or works with, to what extent he ascertained in a timely manner the danger connected with that material and with a view to taking preventive measures, for

[21] Parliamentary History: Reports of Parliamentary II, 21 202, 1988–9, No. 3 (Explanatory Memorandum), p. 42; and Reports of Parliamentary II, 21 202, 1990–1, No. 6 (Explanatory Memorandum), p. 15.

[22] Kottenhagen-Edzes, *Onrechtmatige daad en milieu* (1992), p. 192 and Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 456.

[23] Bauw Brans, *Milieuprivaatrecht* (2003), p. 75.

[24] Article 6:185(1)(e) BW.

[25] HR 6 April 1990, NJ 1990, 573 note by PAS, TMA 1991, p. 8 note by Knottenbelt (Asbestosis or Janssen-Nefabas).

[26] Article 7:658 BW.

example by experts, or why a similar investigation or similar measures could not reasonably have been required of him.'[27] In the *Cijsouw I* case,[28] the Hoge Raad also imposed liability on the employer, where the employer failed to undertake the relevant preventive measures in order to prevent a known danger from occurring, even though an unknown danger subsequently caused the damage. In a later, similar case, *Cijsouw II*, the Hoge Raad further ruled that the employer cannot successfully raise the defence that he was not required to take preventive measures because working with asbestos was customary and socially accepted.[29] However, we must consider that both judgments concerned a contractual relationship.

Applying these rulings to the environmental sector, the state-of-the-art defence under Dutch environmental tort law would only be a valid defence when the defendant (for example, the owner of an industrial plant) made himself aware of the dangers of the chemical substances he released during the industrial process and took the necessary steps to prevent any danger he became aware of from materialising.[30] Even information on the specific nature of the dangerous substance available outside the Netherlands will be relevant in determining the defendant's liability.[31] However, having knowledge of the dangerous nature of a substance does not automatically imply the availability of information on preventative measures. The person who uses or controls the substance might have a duty to inform those working with the substance, even if there are still doubts as to the true risks of the substance.[32]

In conclusion, it can be stated that, in the field of product liability as well as in the environmental sector, the state-of-the-art defence is of little practical relevance, and its status in environmental liability cases

[27] HR 6 April 1990, NJ 1990, 573.
[28] HR 25 June 1993, NJ 1993, 686, note by PAS (Cijsouw I).
[29] HR 2 October 1998, NJ 1999, 683, note by JBMV (Cijsouw II); cf. also HR 17 December 2004, RvdW 2005, 4.
[30] Cf. the verdicts of some lower courts, for example Rb Den Bosch 16 February 1990, M&R 1990, 57 (Staat/Gerjo); Rb Arnhem 24 August 1989, TMA 1991, p. 134 (Staat/Heijting); Rb Rotterdam 9 October 1987, M&R 1988, 3 (Staat/Shell); and Rb Den Bosch 16 May 1986, M&R 1987, 41 (Staat/Philips).
[31] Van Dunné, *Ontwikkelingsrisico's in de bouw; het verweer van de stand van de wetenschap en de techniek ('State of the Art')* (1988), pp. 321–331; see also Van Dunné, *Environmental Liability, Continental Style', Environmental Contracts and Covenants: New Instruments for a Realistic Environmental Policy?* (1993), p. 247.
[32] Hof Amsterdam 11 May 1995, NJK 1995, 41 (X/AMC). See also Pres. Rb Amsterdam 23 January 1992, KG 1992, 62 (J/AMC).

is not always clear.[33] However, as long as the defendant was completely convinced of the harmlessness of his activities, he may find a defence to liability.[34]

Portugal

If the plant is considered an *objectively dangerous* industry, *A* would be strictly liable under Article 23 LAP. There is no 'development risk defense' under this provision.

On the other hand, if the plant is not objectively dangerous, *A* might nevertheless still be liable under Article 22 LAP, provided that he acted with fault. The fact that he could not have known that the emissions could cause the disease does not exclude the possibility of negligence based on fault under this article.

Scotland

If *A* did not know, and could not have known, that the emissions from his plant could cause asthma, *B* will be unlikely to establish *A's* fault and will therefore have no claim in nuisance or negligence. In particular, it would be difficult to find fault if, at the time of the release, *A's* plant met with all existing public law regulatory standards for that particular type of plant.

Moreover, even if it could be proven that *A* breached a duty of care in releasing the chemical substance into the environment, *B* would nevertheless still need to prove the causal link between the release of that particular substance and his particular illness. Recent case law suggests that such a specific causal link can be extremely difficult to establish.[35]

Spain

The question poses two different issues: a development risks defence and a victim's sensitivity to harm.

[33] It is difficult to give a specific reason for this, but some scholars are of the view that the reason could pertain to our relative lack of knowledge of the environment in the middle of the twentieth century, which was thus a kind of 'technical and scientific Dark Ages': Messer, 'De 'state-of-the-art' in het milieu aansprakelijkheidsrecht' (1989), p. 269.

[34] Betlem, *Civil Liability for Transfrontier Damage* (1993), p. 459.

[35] See *Graham and Graham* v. *Rechem* [1996] Env LR 158, in which the operator of the offending incinerator knew that dioxins and furans were being introduced into the atmosphere and were capable of causing injury to animals, but the action failed because the neighbouring farmers could not establish definitively the necessary causal connection between the operation of R's incinerator and the ill-health of their cattle.

The development risks defence was introduced in the Spanish Products Liability Act (Article 6.1.e) (LRPD) and later in the liability regime for the Public Administration (see the answer to Question 5(b)). The same defence was also foreseen in the Draft Bill on civil liability flowing from activities with environmental impact (see the answer to Question 1(a)), as a reason to 'reduce or exclude' liability (Article 4(b)). The Tribunal Supremo, however, has established that the defendant Public Administration must actually prove that the scientific knowledge was insufficient.[36] Some scholars think that this is a *diabolica probatio* and that, consequently, the defence will be very limited in practice.[37] Others emphasise that it is not sufficient for the Public Administration merely to quote an article in a journal, review or research study, but that an expert should testify in court as to the 'state of the art'.[38] In any event, although the defence was introduced primarily because of the fear of an increase in the number of claims for damage caused by transfusions with blood infected with hepatitis C or with HIV,[39] it could turn out to be an effective shield in the environmental arena as well.

If *A* is a Public Administration, it may avoid liability under the defence (Article 141 LRJAP). If *A* is a private person, *A* may still avoid liability under a fault-based regime, provided that he or she proves that the harm was unforeseeable (Article 1902 CC). Finally, under the strict liability regime established by the LRPD, the development risks defence would be unavailable where damage was caused by medicines, food or foodstuffs for human consumption (Article 6.3).

The second question in this scenario is related to the predisposition or hypersensitivity of the victim to the harm. In theory, *A* could argue that he or she could not have foreseen that *B* was so vulnerable. The

[36] STS, Sala 3ª, Sección 6ª, 31.5.1999 [RJ 1999/6154], commented by Pablo Salvador Coderch, Joan C. Seuba, Sonia Ramos González, Álvaro Luna Yerga and Juan A. Ruiz, 'Hepatitis y riesgos de desarrollo', *InDret* 02/2000, www.indret.com.

[37] See Jesús Jordano Fraga, 'Ciencia, tecnología, medio ambiente y responsabilidad patrimonial de la Administración: en especial, los denominados riesgos del desarrollo', *Documentación Administrativa* (2003), pp. 237–65, at pp. 239–40 and 260, according to whom the defence is contrary to the precautionary principle.

[38] See Juan F. Pérez Gálvez, 'Responsabilidad por acto sanitario y progreso de la ciencia o de la técnica', REDA 1999, 657–73, p. 669.

[39] As Martín, Solé and Seuba, in Dute, Faure and Koziol, *Liability for and Insurability of Biomedical Research*, p. 271, explain. For a detailed account of case law, see Joan C. Seuba Torreblanca, *Sangre contaminada, responsabilidad civil y ayudas públicas* (Madrid, Civitas, 2002); cf. also Francisco Cominges Cáceres, 'Análisis jurisprudencial de la responsabilidad sanitaria por contagio de hepatitis C', RAP 2001 No. 151, 193–222.

objection does not seem to automatically bar the claimant from recovery under Spanish law, however. Thus, after a fashion, Spanish law does follow the principle that the defendant takes his victim as he finds him or her.[40] Thus, if most people in the vicinity are hardened to the discomfort of noise, smoke, dust or the like coming from the defendant's facilities and do not object to it, a claimant would not be prevented from bringing a tort action.

Sweden

Yes, *A* is liable because there is no state-of-the-art defence in Swedish law, except under the Product Liability Act, based on the EC Directive.[41]

[40] See Albert Ruda, 'Comentario a la Sentencia de 6.6.2002', CCJC 2002, No. 60, 1067–80, p. 1077, with further references.
[41] Hellner, *Skadeståndsrått* (2000), p. 316.

Case 10 Historic pollution

A is the operator of a site for the permanent deposit of waste. After more than 30 years of site operation, all the vegetables planted in the neighbouring area suddenly turn black. Chemical analyses show that the plants and the groundwater used for watering the plants are heavily contaminated by borax. Hydrological experts demonstrate that *A's* waste disposal site is the source of the contamination. According to *A's* records, borax had only been deposited on the site during the first 3 years of site operation. At that time, the site had been operated by company *C*, still currently an important borax producer, who had sold the site to *A* more than 30 years ago. Who is liable?

Comparative remarks

1. Comparison

Regulations on the statute of limitations vary considerably. In Austria, liability claims become statute-barred after three years from the point in time when the injured party learns of the existence of the damage and the identity of the liable person (§ 1489 ABGB). With regard to criminal offences punishable by more than one year of imprisonment, the statutory limitation period is thirty years from the date when the damage occurred. The same prescription period applies, in any event, even if the injured person did not know either of the damage or of the identity of the liable person. In Germany, the prescription period for property damage is ten years, or thirty years with respect to personal injury (§ 199(2) BGB). Belgian, Greek, Dutch, Italian, Scots and Spanish law provide for shorter prescription periods. In Spain, Articles 1902 and 1968 § 2 Código Civil provide for a presciption period of only one year from the moment when the victim knew of the damage. In Italy, the

prescription period is five years (Article 2947 Codice Civile), as it is in Scots law. According to the Prescription and Limitation (Scotland) Act 1973, the five-year prescription period starts to run when the damage occurred, or, if the damage is not immediately apparent, when the victim became or could with reasonable diligence have become aware of the damage. According to Article 2262 *bis* of the Belgian Burgerlijk Wetboek, Article 937 of the Greek Astikos Kodikas, and Article 3:310 § 1 of the Dutch Burgerlijk Wetboek, liability claims must be brought within five years from the moment the injured party has knowledge of the damage and of the identity of the liable party. At any rate, the right to compensation becomes statute-barred after twenty years from the event that caused the damage. With regard to fault liability, the limitation period begins to run the moment the tortious act was committed. In Greece, Article 286 § 2 of the Penal Code, which deals with the criminal liability of a constructor, provides that the prescription period does not start with the tortious act, but with the occurrence of the damage. The Greek reporter, therefore, proposes that the legislature should extend this rule also to other dangerous activities. In the Netherlands, the general prescription period does not apply to environmental damages. If the damage is the result of pollution to air, water or soil, sections 2 and 3 of Article 3:310 Burgerlijk Wetboek provide for a limitation period of thirty years from the event that caused the damage.

If, as the Belgian reporter explicitly points out, the damage is the result of a series of consecutive tortious acts, the limit will run from the last act that can be considered a cause of the damage. If it is possible to attribute certain parts of the damage to certain acts, then there are different time limits for each of the parts of the damage. The same will apply in the event of a continuous release of pollutants.

In England and Ireland, the limitation period in actions for negligence, nuisance or breach of duty is three years. The Irish Civil Liability and Courts Act 2004, however, reduced the limitation period to two years in cases of personal injury. For other torts, including trespass and the rule in *Rylands* v. *Fletcher*, the statute of limitations is six years. With regard to nuisance and trespass, the limitation period begins to run on the day that the tortious act was committed. In relation to nuisance, the decisive point in time is the moment of the discharge. A claim in trespass, however, will not be statute-barred as long as the contaminant is on the property of the other. With respect to negligence and the rule in *Rylands* v. *Fletcher*, in both England and Ireland, the limitation period runs from the day on which the damage became discoverable.

In Sweden, the general prescription period of ten years, as provided by the Limitation Act of 1981, also applies to environmental liability according to Chapter 32 of the Environmental Code, and runs from the date damage was caused. The administrative liability, according to Chapter 10 of the Environmental Code, is not subject to prescription at all, but it is only applicable to activities that have not been terminated prior to 1 July 1969, the date the Act came into force. If pollution is ongoing, the new landowner will be held responsible. The same applies under French law. According to Article 2270-1 Code Civil, the prescription period for extra-contractual civil liability is ten years. With regard to administrative liability, however, no prescription is provided. In Finland, the prescription period for environmental damage is ten years, as provided by § 8 of the Prescription Act 2003. The limitation period runs from the date when the damage is discovered or when the polluting activity stopped.

2. Conclusions

With regard to national regulations on the statute of limitations, only a very weak common core can be found, in as much as, after a certain period of time, in all the jurisdictions analysed, damages claims are statute barred. The limitation periods, however, are very different, ranging from one to thirty years.

Discussions

Austria

Both *A* and *C* may be liable for the damage. Although the cause of action accrued more than thirty years ago, liability is not time-barred. According to § 1489 ABGB, the statute of limitations for this liability is three years after the point in time when the injured party first learns of the existence of the damage and the identity of the responsible or liable party. With regard to criminal offences punishable by more than one year of imprisonment, the statutory limitation period is thirty years from when the damage occurred,[1] regardless of when the injured party gains knowledge thereof.

Again, both *A* and *C* are also liable under § 364a ABGB, either by direct or by analogous application.[2] Defendant *A*, being the actual operator of

[1] OGH 29.4.1992, 2 Ob 58/91, JBl 1993, 726 (Huber); [Gimpel-]Hinteregger, *Grundfragen* 212 *et seq.*; Koziol, *Haftpflichtrecht* I[3] n. 15/19.

[2] See OGH 16.1.1991, 1 Ob 39/90, JBl 1991, 580 (Kerschner).

the plant, is also responsible for *C's* previous borax disposal. This rule is derived from § 364a ABGB and § 1409 ABGB, which provide for an *ipso iure* assumption of liability.

Belgium

Liability actions, according to the law of 10 June 1998 (amending Article 2262 *bis* BW),[3] must be brought within five years from the moment the injured party has knowledge of the damage and of the identity of the liable party. However, any right to compensation lapses twenty years after the event which caused the damage.[4]

Since *C's* borax disposal took place more than thirty years before the occurrence of *B's* damage, any suit against *C*, if such a basis exists, appears impossible.

For a claim against *A* based on fault (for example, the operator having failed to take reasonable precautionary measures or having violated a statutory provision), the event that caused the damage would probably be considered to be the moment the fault was committed.[5] Where the damage is the result of a series of consecutive faults, the limit will run from the last fault that can be considered a cause of the damage. If it were possible to identify several parts of the damage as the consequence of several faults, different time limits would govern liability for the different parts of the damage.

Poorly equipped or operated waste disposal sites have been considered 'defective things' in the sense of Article 1384(1) BW.[6] If Article 1384(1) BW were the basis of a claim against the operator, one could probably consider the escape of the contaminants from the

[3] On time limits for liability actions, see I. Claeys, 'De nieuwe verjaringswet: een inleiddende verkenning', RW, 1998–9, 377, R. O. Dalcq, 'La loi du 10 juin 1998 modifiant certaines dispositions en matière de prescription', JT, 1998, 705; H. Bocken, I. Boone, B. Claessens, D. Counye, E. De Kezel and P. De Smedt, *De herziening van de bevrijdende verjaring door de wet van 10 juni 1998. De gelijkheid hersteld?* (Kluwer Rechtswetenschappen), p. 199.

[4] Under the previous version of Article 2262, the time limit started to run from the moment the various conditions for liability, including the occurrence of the damage, were fulfilled. See I. Boone, 'De verjaring van de vordering tot schadeherstel op grond van buitencontractuele aansprakelijkheid en van de burgerlijke vordering uit een misdrijf', in H. Bocken *et al.*, *ibid.*, p. 114.

[5] In the absence of indications in the preparatory works of the Act of 10 June 1998 and of case law on the subject (see Boone, *ibid.*).

[6] Liège, 4 February 1975, GGAR, 1975, 9506; see Bocken, TBBR, 311, Ph. Coenraets, 'La responsabilité de l'entreprise du fait des déchets', p. 287.

disposal site to be the event that caused the damage.[7] In the event of a continuous release, the same reasoning would apply to pinpoint 'the event causing damage', as in the case of fault liability. Moreover, a suit against *A* in nuisance similarly calculates 'the event' either for one-time or continuous release.

In all cases, the time limit of five years from the moment the defendant has knowledge of the damage and the identity of the liable party would also have to be taken into account.

England

I. A's liability

Defendant *A* would not be liable under *Rylands* v. *Fletcher* (*A* did not accumulate the borax on the land), nor would he be liable in negligence (*A's* actions did not cause the borax to be present, so he cannot be regarded as having caused the damage suffered by *B*).

In contrast, *A's* liability in nuisance is not excluded by the fact that it was not he who originally deposited borax on the waste disposal site, since *A* can be liable if he 'adopted' the nuisance by failing to take steps to prevent it.[8] However, *A's* liability would depend on whether the contamination of *B's* land was known to him at a time when *A* had the opportunity to prevent the damage from occurring, and whether the damage suffered was foreseeable. The House of Lords held in *Cambridge Water* v. *Eastern Counties Leather*,[9] that there is no strict liability for pre-existing pollution, unless such damage was foreseeable at the time the actions which constitute the nuisance took place. In this case, it would appear that the damage had already occurred by the time *A* took control of the land, so he will not be liable. In *Cambridge Water* v. *Eastern Counties Leather*, the dangerous chemical substances had already percolated into the chalk aquifer and ground water and were, therefore, out of the control of the landowner, Eastern Counties Leather plc, who was thus not liable for damage to the claimant's property.[10]

II. C's liability

1. Common law There may be a nuisance where contaminants have migrated from land under the control of *C* to land under *B's* control.

[7] See Boone, 'De verjaring van de vordering tot schadeherstel op grond van buitencontractuele aansprakelijkheid en van de burgerlijke vordering uit een misdrijf', p. 115.

[8] See *Sedleigh-Denfield* v. *O'Callaghan* [1940] AC 880; *Goldman* v. *Hargrave* [1967] 1 AC 645.

[9] *Cambridge Water Co.* v. *Eastern Counties Leather plc* [1994] 2 AC 264 (306–7).

[10] *Ibid.*

Defendant *C* may be liable as the person who created the nuisance. However, as explained above, there will only be liability where the damage was foreseeable at the time the borax was brought onto the land. Also, the action may be time-barred, depending on when *B* became aware that he had a cause of action.

2. Statutory law This situation would be treated as 'contaminated land' for the purposes of Part IIA of the Environmental Protection Act 1990 (see the answer to Case 3). The provisions relate to contaminations both of land and of water. Under the provisions of section 78F and the Statutory Guidance issued by the Secretary of State (which the local authority and the Environment Agency are obliged to follow under sections 78A(5) and 78W, the remediation notice would be served, in this case, on *C*, the person who caused the contamination, even though he no longer occupies the site. Only if *C* could not be found would the remediation notice be served on the current owner or occupier.

Since the damage was caused by the deposit of waste on land, there could also be liability under section 78(6) of the Environmental Protection Act 1990 to pay compensation for the property damage suffered by the neighbours (see the answer to Case 6).

Finland

Defendant *A*, as current owner of the waste deposit, must ensure that the deposit will not cause damage to health or the environment (Waste Act[11]). Operator *A* is thus strictly liable if the deposit has caused environmental damage. As a polluter, *C* is jointly liable with *A* for remediation measures to restore the groundwater.

Due to the restriction on retroactive application of the Environmental Damages Act (1995), civil liability against 'historical causation', as in this case with the borax deposits, falls under general tort law, and the date of the activity, not the date of the damage/impact, is decisive.

France

Defendant *C* is liable as the former owner (as custodian of the polluted soil),[12] but *A* is also liable because, during the three years of site operation under *C's* control, *A* contributed to the pollution. The fact that the contamination occurred thirty years ago is immaterial to the question

[11] Jätelaki, 1072/1993. [12] Cass., Civ. II, 5 March 1975, *Bulletin* II, 1975, No. 73.

of liability, given that the damage to the vegetables appeared recently and the nuisance is ongoing.

Law No. 2003-699 of 30 July 2003 (Article L.512-7 of the Code de l'environnement) obliges the operator of a waste storage, incineration, treatment or recycling facility (and also operators of pits and quarries, and operators of 'Seveso' installations) to restore the soil (i.e. to remove any pollutant) when he or she ceases operating the installation. In this case, *C* may be liable for damages occurring because of his operations (after he ceased active operation).

Germany

I. Claims against C

It is notable that § 1 UmweltHG, in accordance with § 23 UmweltHG, does not apply where the damage was caused prior to the UmweltHG's entry into force.

A claim pursuant to § 823(1) BGB is dependent on §§ 195 and 199 BGB, which set the limitation period for tortious acts (including statutory violation) at three years, starting at the end of the year in which the injured party gains knowledge of the harm and of the person liable. If by the injured party's gross negligence, he or she remains unaware of these facts, the period begins at the end of the year in which he or she could have discovered the facts, had it not been for his or her negligence.

Regardless of the three-year period, claims for damages to property are barred either ten years after the damage occurred, regardless of the knowledge of the injured party (§ 199(3) sentence 1 No. 1 BGB), or thirty years after the tortious act, regardless of the knowledge of the injured party or the source of the damage (§ 199(3) sentence 1 No. 2 BGB). The shorter of these two periods will apply (§ 199(3) sentence 2). Claims for damage to life or health are uniformly barred thirty years after the tortious act regardless of the knowledge of the injured party or the source of any damage (§ 199(2) BGB). It is thus possible that a claim would be barred even before the harm developed.[13]

A claim under § 6 USchadG (Umweltschadensgesetz, Environmental Damage Act) should be considered. The German USchadG was enacted on 10 May 2007 to implement Directive 2004/35/EC of 21 April 2004 into national law. The USchadG governs decontamination of damage caused to the environment. Civil law claims, for example under § 1 UmweltHG or § 823 BGB, continue to remain available pursuant to § 1 USchadG. One

[13] Lorenz/Riehm, *Lehrbuch zum neuen Schuldrecht* (2002), n. 61.

particularity of the Environmental Damage Act, however, is that, pursuant to § 10 USchadG, the public authority will act *ex officio* not only when enforcing the decontamination obligation, but also when requested to by an affected person or even an association that can appeal pursuant to § 11(2) USchadG. The USchadG applies, according to § 3(1) USchadG, to environmental damage and to imminent danger of such damage caused by occupational activities listed in Appendix 1 thereto. Furthermore, it can be used pursuant to § 3(2) USchadG for either damage to animal or plant species and natural habitats under § 21a(2) and (3) BNatSchG (Bundesnaturschutzgesetz, Federal Nature Conservation Act), and to an imminent danger of such damage caused by occupational activities other than those listed in Appendix 1 if the responsible person acted intentionally or negligently. *A* is the operator of a site for the permanent deposit of waste. The installation could be covered under Appendix 1 No. 2. However, the USchadG does not apply to damage that occurred before 30 April 2007 or is relevant only to activities ending before that date pursuant to § 13(1) USchadG. Furthermore, it does not apply to damage caused more than thirty years ago if no public authority has taken measures against the responsible person. In this case, § 6 USchadG hence does not apply.

II. Claims against A

A different legal position could apply for claims against *A* if it has committed a tortious act within the last thirty years, such as contamination of the ground water, which is now contaminating the plants. Claims would exist as discussed under Case 1.

§ 6 USchadG does not apply pursuant to § 13(1) USchadG.

Greece

If such a long period had not elapsed from the commission of the damaging act (the deposit of borax), company *C* would have been liable for compensation for the pollution caused according to Article 29 of Law 1650/1986, regardless of when the site was sold to *A*. If *C* is the 'polluter', *C* is liable according to the law. Although *C* is generally not liable for remediation measures, Article 297 AK (*in natura* compensation) provides that 'a person who is obliged to pay reparations shall pay in money; nevertheless the court may, taking into consideration special circumstances, order restitution to be made in kind, insofar as this is not contrary to the interest of the creditor'. Moreover, *C* or its shareholders would be liable to *A*, who bought the land, if there was fraud on their

part or breach of contract (as the transferred land may be considered a defective product). Defendant *A* would also be liable for compensation (also *in natura*) for the pollution (Article 29 of Law 1650/1986).

The problem here is that the vegetables became black after more than thirty years of operation of the site, and Article 937 AK states that 'the claim for reparations for any damage arising from a delict is barred by prescription five years from the time the injured party had knowledge of the injury and of the identity of the person bound to make reparations, and, without regard to such knowledge, twenty years from the commission of the act. Should criminal law prescribe for the act a longer period of prescription, such longer prescription prevails.' Consequently, *A* and *C* will not be liable in this case, as more than twenty years from the commission of the act (the deposit of the borax) have elapsed, and the claim for reparations is time-barred. The date on which the violation appeared, that is, when the vegetables became black, is irrelevant for the prescription *de lege lata*.

It has to be mentioned here, however, that Article 286 of the Greek Penal Code dealing with the penal liability of the constructor – who, intentionally or negligently, acted contrary to the commonly known technical rules, and thus caused damage to the life or health of a human being – was amended by Law 2331/1995 to provide that the prescription period for the illegal act starts from the date the result of the violation became apparent.[14] Before this amendment took effect, the prescription period started to run from the moment the danger existed (the delivery of the work), if the constructor acted out of intention, or from the moment the violation took place, if the constructor acted only negligently. So, if a construction is delivered today and the result of the violation appears in 2030 because of an earthquake that then takes place for example, the claim based on the illegal act will be time-barred in 2035 (the prescription period for misdemeanours being five years).[15]

This provision of the Greek Penal Code cannot apply by analogy to the case of dangerous activities at the site for the permanent deposit of waste, as penal rules are strict and their application by analogy is not permitted under the Constitution. Only *de lege ferenda*, it is suggested

[14] For defective constructions made after 23 August 1995 (the date that the law came into force). Penal laws have no retroactive force, according to Article 7 § 1 of the Greek Constitution.

[15] See Ap. Georgiades, EllDni 2001, pp. 1194, 1195.

that the Greek legislature should pass a similar provision in the future in relation to dangerous activities other than those of constructors, beginning the prescription period from the date the result of the violation became apparent.

Ireland

The first thing to be determined here is whether anyone is liable. As far as *B* is concerned, both *A* and *C* should be sued, and *B* does not need to establish which of them is liable. The defendants can then determine liability between themselves, or the court can determine it.

When *C* sold the land to *A*, the Waste Management Act had not been enacted. Therefore, the title to the waste passed with the title to the land. The waste, which *A* therefore owns, then escaped from the land onto *B's* land where it caused damage. On the other hand, *A* would not own the waste if it escaped before *A* bought the site (over thirty years ago) or before the Waste Management Act 1996 came into force, thus affecting the outcome.

There are potential claims in strict liability against *A* or *C*. Borax is a polluting substance which will cause damage if it escapes, and constitutes a dangerous or hazardous substance. As a result, there is a good *prima facie* case for liability under the rule in *Rylands* v. *Fletcher*. The difficulty with such a case is that *A* did not bring the waste onto the land (it was brought by *C*), and *A* may have been completely unaware of its presence. Nevertheless, it seems likely that *C* did not allow the waste to escape. In any event, the position is uncertain: the case might lie (a) against *C*, for bringing the polluting substance onto land from which it escaped; (b) against *A*, as the owner of the land from which the dangerous substance escaped; (c) against *A* and *C*, as consecutive landowners during whose tenure the tort occurred; or (d) against neither, since neither actually committed the entire tort. Other strict liability claims may exist. If the escaping borax belongs to *A*, it has come to rest on *B's* land and constitutes a trespass by *A* on *B's* land. The presence of the borax on the land interferes with *B's* use and enjoyment of land, specifically with the ability to grow crops on the land, and this amounts to a nuisance. Defendant *C* would be liable in this case because *C* caused the nuisance by putting the borax in the place from where it has leaked onto *B's* land.

Although fault is not an element of nuisance, trespass or the rule in *Rylands* v. *Fletcher*, it is likely that a court hearing the case would be reluctant to hold *A* liable for something done long ago by *C* and might

take an approach similar to that adopted in England in *Cambridge Water* v. *Eastern Counties Leather*, where it was held that the damage must have been foreseeable at the time *C* was carrying on the activity.

It might also be possible to show that the disposal of the waste was negligent, and that, as a result of that negligence, *B* has suffered damage. Defendant *A* may argue that he or she did not bring the dangerous substance onto the land. Plaintiff *B* could counter such an argument by saying that *A's* records showed that there was borax at the site, and *A* should have taken steps to avoid the damage. Defendants *A* or *C* may argue that any tort was completed long ago, and that any liability is statutorily time-barred. The limitation period in actions for negligence, nuisance or breach of duty is three years, and for other torts, including trespass and the rule in *Rylands* v. *Fletcher*, it is six years.

Some torts (for example, nuisance and trespass) are actionable without proof of damage, and the limitation period begins to run on the day on which the tortious act was done. In relation to trespass, the presence of *A's* property on *B's* land constitutes a new act of trespass every day that it continues. A claim in trespass would, therefore, not be statute-barred. Nuisance is a continuing tort and it would also appear to be subject to the same rules, except that it may be that the nuisance ceases once the discharges cease.

Other torts (like negligence) require proof of damage, and the limitation period runs from the date on which the damage occurred or from the date on which it became discoverable. There is some confusion on the matter, but the Irish courts tend to prefer the latter criterion of discoverability. In relation to the rule in *Rylands* v. *Fletcher*, the tort is the escape of the dangerous substance causing damage, so the tort is committed when the damage occurs. This may be either the time when the land became contaminated or the time when the crops were affected. It is probable that the tort was only discoverable when the crops blackened, but *B* may be able to prove that *A* should have discovered sooner. Even if *B* cannot do so, a claim under the rule should not be barred. In relation to negligence, the position is the same.

As between *A* and *C*, *C* may be liable to make a contribution to *A*, if *A* is held liable.

Italy

This is a very difficult issue in Italian law. According to Article 2947 CC, the prescription period for civil liability actions is five years; thus, it

would be very difficult to sue under any theory after thirty years.[16] Moreover, there is no specific provision in environmental law regarding time limits, so the general five-year period of Article 2947 should apply.[17]

These principles govern the relationship between private parties, not between a polluter and the state. In particular, the restoration and the clean-up of contaminated areas is governed by the Decreto Ronchi, which established specific rules concerning the costs of clean-up.[18] However, the difficulty in answering this question is that to address 'liability' is to discuss an action subject to Article 2947. Nevertheless, the actual owner of contaminated land may be obliged to clean up according to the specific rules of the Decreto Ronchi, which are 'administrative measures', not civil liability.[19]

The Netherlands

As discussed above, by Article 6:176 BW, the Act introduced strict liability against operators of dump-sites for damage to air, water or soil, arising before or after the site was closed and resulting from substances dumped at the site before its closure. The term 'operator' includes not only the licensee, but also any person who operates the dump-site without a licence. Anyone who has dumped waste on a legal site is not liable if damage later occurs, since liability is channelled to the operator of the dump-site at the time the danger materialises.

From this perspective, the case in question has to be interpreted as follows: the fact that it has been proved that company *C*, the former site operator, deposited the borax on the site more than thirty years ago, and after selling the site to the current site operator *A*, the damage from the dumping of the borax then materialises another thirty years later, will not allow *A* to escape liability. *A* is the current site operator, and in

[16] See Monateri, *Le fonti delle obbligazioni*, pp. 371 *et seq.*, Roselli-Vitucci, 'La prescrizione e la ecadenza', in Trattato Rescigno, vol. 20, *La tutela dei diritti*, II (Turin, 1985), p. 451. On the Italian system, see also Pozzo, 'Constitutional review of Disproportionately Different Periods of Limitation of Actions (Prescription)', *European Review of Private Law* 1997, vol. 1, pp. 79–100.

[17] Article 2947 (Prescription of right to compensation for damages) states that: 'The right to compensation for damages arising from unlawful acts is prescribed in five years from the date on which the act occurred.'

[18] See Article 17 of the Decreto Ronchi.

[19] See e.g. Prati, 'La responsabilità del detentore dei rifiuti per il corretto smaltimento', in *Il Decreto Ronchi* (Milan, 1997), pp. 31 *et seq.*; Capria, 'La nuova disciplina sulla bonifica dei siti contaminati', in *Il Decreto Ronchi*, pp. 39 *et seq.*

that capacity the strict liability rule of Article 6:176 BW channels liability to *A*. The so-called 'segmented liability' regime results in the dump-site operator who has the dangerous substance under his control bearing the liability and not, for instance, a former dump-site operator, even if the latter was the only person who actually used that specific dangerous substance (the borax) when he was operating the site. Therefore, *A* is liable for the damage to the soil, and hence the damage to the vegetables in the neighbouring area.

However, since the contamination actually took place over thirty years ago and the damage has only now materialised, the statute of limitations issue arises. Under Dutch law, time limitation concerns the action, not the right someone is entitled to. In other words, when the set period of time in which a victim could start legal action has expired, a so-called natural obligation (which is not enforceable by law) remains. Article 3:310(1) BW provides as follows:

> A right of action to compensate for damage or to pay a stipulated penalty is prescribed as five years from the date on the victim became aware of both the danger and the exigibility of the penalty and the person responsible therefor, and, in any case, as twenty years following the event which caused the damage or made the penalty exigible.[20]

This twenty-year period applies regardless of whether the victims were aware of the damage and thus has been considered unfair in 'long latency cases',[21] such as this case, where the borax dumped on the site more than thirty years ago is only now causing damage. Thus, Article 3:310(2) and (3) BW states that, if and when the damage is a result of pollution to air, water or the soil, the action for damages will be time-barred in any case by expiry of a period of *thirty* years from the event which caused the damage.[22] In this respect, the concept of 'event' means a suddenly occurring fact (such as the vegetables suddenly turning black), a continuing fact or successive occurrences with the same origin.

In conclusion, any action for damages by owner(s) of the neighbouring area where the vegetables turned black will be time-barred either

[20] Article 3:310(1) BW.

[21] See Kottenhagen-Edzes, 'Onrechtmatige daad en milieu' (1992), p. 282: 'It is unclear, for example', in the case of damage due to substances which have leaked from their containers after they had been deposited; is the decisive moment the moment of deposition of the barrels or the moment of the leakage?' Translation by Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 509.

[22] Article 3:310(2) BW.

after a period of five years after the moment that they became aware of both the damage and the identity of the liable person (defendant *A*), or, in any event, after a period of thirty years from the incident (the dumping of the borax) giving rise to the damage occurred. A time limitation defence must be specifically raised by the defendant.[23]

Portugal

No claim lies under Articles 22 and 23 LAP, because the damage was caused before the coming into force of the statute and it has no retroactive effect. However, the proprietors and authorised occupants of the neighbouring land could sue *A* under Article 1347, regardless of the fact that the cause of the damage occurred more than thirty years ago. Other compensatory claims could be made under the general rules of liability (Article 483 CC), if fault and causal connection could be established. Finally, *A* could also be liable under Article 483 CC, if he acted with fault (i.e. he knew the danger and did not take preventive measures).

Scotland

I. Common law: A

The proof of the causal link between the specific damage to the vegetables and the borax contamination is assumed in this answer. It has to be said that the Scots courts, as the English, have shown no great enthusiasm for the use of the common law as a means of dealing with pre-existing contamination. However, it is possible, in these circumstances, that *A's* fault could be established for the purposes of the law of nuisance. The Scots law of nuisance follows the English rule contained in *Sedleigh-Denfield* v. *O'Callaghan*,[24] in that a proprietor is liable for nuisance created by a predecessor if he or she can be presumed to have known about the source of nuisance and has done nothing to correct it. In this case, the deposit of borax is evident from records which *A* holds, and it is no doubt known that the deposit of borax can lead to pollution of this nature. However, the scale of the risk, as reasonably perceived, would have to be set against the practicability of remediation measures.

II. Common law liability: C

Although the actual cause of harm dates back thirty years, an action would probably not be barred by the rules on prescription. Under section 11(3) of the Prescription and Limitation (Scotland) Act 1973,

[23] Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 508. [24] [1940] AC 880 at 894.

the five-year prescription period within which actions for property damage must be brought starts to run only on the date that physical damage is caused (when the vegetables become damaged) or, if the damage is not immediately apparent, the date at which the victim became or could with reasonable diligence have become aware of the damage.

Fault would, however, need to be shown. It would have to be established that, at the appropriate time, the possible contamination hazards of handling borax in this way were known, or ought to have been known, to *C*.

III. Statute

The various statutory provisions which deal with the clean-up of contaminated land largely omit any mention of civil liability, except with regard to the deposit of waste.[25] However, it is assumed here that the cause of the contamination is not borax deposited as waste, but borax which has escaped during the process of production.

One marginal possibility for a cause of action relates to the liability of the local government authority. Under section 78B(1) of the Environmental Protection Act 1990, local authorities are obligated to inspect their areas from time to time for the purposes of identifying contaminated land. It might be argued that they have failed to exercise this duty adequately. But the Scots courts, as the courts in England, have shown reluctance to attach liability to local authorities for failing to act, except in extreme circumstances where such failure is unreasonable.[26]

Spain

The successor owner of a piece of land is not automatically liable for the damage caused by the activities of its previous owners under Spanish law. It is the person who causes damage (Article 1902 CC) who is to be held liable. The same principle could apply to succession in plant operator/ownership, so *A* could not be held liable for damage caused by *C*. Notably, any agreement between *A* and *C* as to liability would have no effect on the victim. This is not to say that *A* could not be held liable if it could be considered that he or she had actually contributed to causing the damage, for instance by not removing the pollutants. In fact, legal doctrine refers to a distinction (drawn by German scholars) between

[25] Under section 73(6) of the Environmental Protection Act 1990.
[26] E.g. *Gibson* v. *Chief Constable of Strathclyde*, 1999 SC 420.

liable persons, as either the one who carries out the polluting activity (*Handlungsstörer*), or the one who fails to remedy the inherited condition and maintains the polluted/polluting situation, which eventually causes damage (*Zustandstörer*).[27]

Sweden

Under the civil liability scheme in the Environmental Code (Chapter 32), the general statute of limitation applies:[28] no liability will apply after ten years from the cause of the damage, here, the deposit of borax.

Under the environmental administrative liability scheme in Chapter 10 of the Environmental Code, however, activities terminated before 1 July 1969, which is the date the scheme came into force under the Environmental Protection Act, do not subject the operator to liability. If pollution is still being caused by the site, on the other hand, the new landowner will be held responsible. Restoration measures are not subject to limitation.[29]

In this case, company *C* can be held liable as the operator for clean-up and restoration costs, if the activity, the deposit of the borax, took place after 1 July 1969. If operator *A* purchased the site before that date, *A*, as the landowner, will be held liable for clean-up and restoration to the extent reasonable.

[27] See Egea, *Acción negatòria*, pp. 50–51. [28] Limitation Act (Preskriptionslagen, 1981:130).
[29] Environmental Code, Ch. 10 §§ 2, 3 and 4. See also the provision of promulgation, § 8. For comment, see e.g. J Darpö, 'Miljövårdskrav i tiden', *Förvaltningsrättslig Tidskrift* 4–6, 2001, p. 85; and Larsson, *The Law of Environmental Liability* (1999), pp. 486–9.

PART B • CAUSATION AND MULTIPLE TORTFEASORS

Case 11 Cancer from pollution

A engages in a polluting activity. *B*, who has been substantially exposed to its negative effects, develops cancer. *B* wants to sue *A* for damages.

a) Who bears the burden of proof on the issue of causation?
b) How certain must it be that *A's* activity caused *B's* illness so that *B* is entitled to damages? Which rules of evidence (preponderance rule, free evaluation of evidence) apply?

Comparative remarks

1. Comparison

(a) Burden of proof

All the jurisdictions analysed have the general rule that the *burden of proof* on causation lies with the plaintiff. In some European countries, this is explicitly provided for by legal provisions, such as in Belgium (Article 1315 Burgerlijk Wetboek and Article 870 of the Code of Civil Procedure), Finland (§ 3 Environmental Damages Act 1994), France (Article 1315 Code Civil), Greece (Article 338 of the Code of Civil Procedure), Italy (Article 2697 Codice Civile), the Netherlands (Article 150 Wetboek van Burgerlijke Rechtsvordering), Portugal (Article 563 Código Civil), Spain (Article 217 Civil Procedure Act) and Sweden (Procedural Code, Chapter 35). In other countries this principle derives from case law (England, Ireland, Scotland), or judicial interpretation (Austria, Germany).

(b) Level of certainty

Causation is established if the plaintiff can link the defendant to the harm to the satisfaction of the court. There are, however, considerable differences with regard to the *level of probability* that is necessary to

establish causation. Austrian, German, Greek and Spanish law require a very high level of probability, close to certainty. In Belgium, France, Italy and The Netherlands, the claimant must also prove to the court that the defendant actually caused the damage, but the required level of probability is not defined. Thus courts have broad discretion on the issue of proof of causation. On the other hand, if the victim brings his compensation claim before the criminal court in a criminal proceeding against the tortfeasor, the proof of causation must meet the high standard of criminal law. This was explicitly pointed out by the Belgian reporter and is also true for Austria and Sweden.

In the common law countries, as well as in Scotland and the Scandinavian countries, the required level of probability is much lower. In England, Ireland and Scotland, the claimant must prove that, on the balance of probabilities, the defendant's activity was, at least, a material contributor to the damage. In Finland and Sweden, similarly, causation is established when the claimant can prove that it is more probable than not that the defendant caused the damage. In Sweden, this general rule is also explicitly extended to environmental harm by Chapter 32 § 3(3) of the Environmental Code.

All European countries provide for *free evaluation of evidence*. Thus, admissibility and the weighing of evidence lie within the discretion of the competent court. The civil procedural laws also allow the courts to require parties to produce all evidence at their disposal. This is explicitly stated by the Austrian, Belgian, Dutch and English reporters and is, to a certain extent, also provided by Chapter 35 § 6 of the Swedish Procedural Code.

(c) Easing the burden of proof

With regard to activities dangerous to the environment, many European countries have developed methods to facilitate fulfilment of the claimant's burden of proof. A common device is *prima facie evidence*, according to which causation is established if it can be inferred from a typical course of events (Austria, Germany, Greece, The Netherlands and Sweden). In Austria, *prima facie* evidence is usually applied in the case of a violation of a protective law (*Schutzgesetz*). In common law countries, the comparable rule of *res ipsa loquitur* is primarily applied for the proof of fault under the tort of negligence and not with regard to the proof of causation. The Irish reporter, however, states that this rule should also be applied to proof of causation in cases where facts that need to be proven are peculiarly within the defendant's control. Yet, in

the relevant Irish case of *Hanrahan* v. *Merck Sharpe and Dohme*,[1] which dealt with polluting emissions from a chemical factory, the Irish Supreme Court refused to reverse the burden of proof with regard to the proof of causation.

In Austria, Germany, Greece and the Netherlands, courts provide for an easing of the burden of proof with regard to causation. In Germany, for example, the BGH, in the famous *Kupolofen* case, imposed a duty of discovery on the operator of a polluting plant and required the operator to prove that he or she had taken all necessary measures for the containment of the emissions. According to the ruling in this case, courts are allowed to facilitate the plaintiff's burden of proof if the necessary notification has not been carried out or emission limits have been exceeded. In such a case, the plaintiff need not prove causation, but only certain facts that show that it is probable that the damage was caused by the defendant. The Austrian OGH also provides for a lessening of the burden of proof, if the defendant was closer to the risk than the plaintiff. In Greece, scholars propose that the courts should reverse the burden of proof according to the 'principle of the origin of risks' or the 'principle of the fields of influence', and by analogous application of Article 925 Astikos Kodikas, as they have done in product liability law. Thus, the plaintiff need only show a 'minimum causality', and it is for the defendant to prove that the cause of the harm was not within its sphere of influence. A comparable theory is applied by the Dutch courts obliging the defendant to prove all the facts within his or her area of knowledge. Under Dutch law, another often used method is the *omkeringsregel*. If the plaintiff can show that the defendant's behaviour was unlawful, that the behaviour created or increased a specific risk of damage, and that this risk actually materialised, then the causal link between the unlawful behaviour and the damage is established, and it is up to the defendant to prove the contrary. In the recent case of *Fairchild* v. *Glenhaven Funeral Services*,[2] the House of Lords ruled that courts may apply a different causal requirement where the state of scientific knowledge makes it impossible for the victim to prove causation according to a generally applied rule of the balance of probabilities. Thus, a worker who contracted an asbestos-related illness at his

[1] [1988] ILRM 629. [2] [2003] 1 AC 32.

workplace may sue each employer for compensation, if it is not possible to show whether the illness was due to a single exposure or to the cumulative effect of exposure in various workplaces.

In Austrian and German law, several strict liability statutes provide for a *presumption of causation*. In Austria, a presumption of causation covers damage to water (§ 26(5) WRG) and forests (§ 54 ForstG), as well as damage caused by dangerous activities or installations, such as mines (§ 162(1) MinroG), nuclear power plants (§ 12(1) AtomHG) and genetically modified organisms (§§ 79d, 79k(4) GTG). The presumption of causation in § 12(1) AtomHG, however, relates only to personal injury caused by radioactivity. The various presumptions of causation differ in their effect. The presumptions of causation provided by § 26(2) WRG, § 162(1) MinroG, and § 54 ForstG are very strong. They can only be rebutted by proof to the contrary. The presumptions provided by § 12(1) AtomHG and §§ 79d and 79k(4) GTG are already rebutted, if the defendant proves that it is merely probable that the damage was not caused by, respectively, the nuclear power plant or the genetic modification of the organism. German law also provides for a presumption of causation in § 6 UmweltHG. This presumption requires the plaintiff to prove that it is, according to certain criteria enumerated in § 6(1) UmweltHG, probable that the damage was caused by the relevant installation. This presumption can be rebutted by the defendant and does not amount to a reversal of the burden of proof. The presumption may be rebutted by proving that the operator acted within the terms of a licence, that it complied with all legal and administrative regulations, and that there was no irregular incident. The presumption is also rebutted if the operator can show that it is equally probable that the damage can be attributed to another cause.

Jurisdictions that already accept a lower level of certainty as a general rule, such as England, Ireland, Finland and Scotland, which recognise the rule of preponderance of probabilities, do not provide for comparable strategies with regard to proof of causation. In France, too, no such instruments are applied. With regard to asbestos victims, however, the state intervened by establishing a fund to provide compensation. Belgium and Italy, which leave the issue to the discretion of the courts, apply no specific strategies for easing the plaintiff's burden of proof. However, with regard to the causal relationship between the damage and the defect of a thing, Belgian courts often consider the fact that other reasonable explanations for the damage are excluded as sufficient evidence. In Portugal, no sound practical solution has yet

been found. Scholars, however, offer several theories: (i) redefine the traditional theory of adequate causation through a theory of normative causation, (ii) replace the *conditio sine qua non* theory with a theory of probable causation, or (iii) empower the courts to impose the burden of proof according to the specific circumstances of each case. Under the LAP, for example, judges already have more discretionary power with respect to the gathering of evidence than under the general rules of tort law. In Spain, courts are not willing to apply a general theory in order to ease the burden of proof with regard to causation. Case law, however, shows that the Spanish Tribunal Supremo is inclined to make concessions for the plaintiff on a case-by-case basis, such as in cases where the defendant has violated the law, or where the plaintiff faces severe evidentiary difficulties because of the lack of scientific knowledge. Some cases, described by the Spanish reporter, show that the Tribunal Supremo deduces causation from a typical course of events, which comes close to *prima facie evidence*. In 2001, the new law on civil procedure requires the courts to take into account which party is in the better position to deliver the evidence when deciding upon the distribution of the burden of proof between the litigants.

2. *Conclusions*

Case 11 discusses fundamental issues relating to the proof of causation. The national reports show a clear common core in the fact that, in all jurisdictions, in principle, the burden of proof of causation lies with the plaintiff. From the point of legal formants, it is interesting to see that, in most countries, this result is achieved by explicit legislation; in others, however, it is achieved by case law or through judicial interpretation. Under certain circumstances, many jurisdictions are ready to ease the plaintiff's burden of proof. The theories applied are rather complex and diverse. The fact that all countries provide for free evaluation of evidence is another important convergence among the European countries.

With regard to the level of certainty required, a clear dividing line can be observed between the continental jurisdictions, which, in order to establish causation, require a very high level of probability (proof of causation to the satisfaction of the court), and the northern countries (England, Ireland, Scotland as well as Finland and Sweden), where the level of certainty required is much lower (preponderance of probability).

Discussions

Austria

Question (a)

Causality is a necessary prerequisite for liability in tort. In principal, the burden of establishing the causal link between the damage and the tortious act is on the plaintiff. The causal link in this case is established if *B* can show, to the satisfaction of the court (a very high level of probability close to certainty), that *A* caused the injury.

Question (b)

The admission and weighing of evidence lies within the discretion of the court (free evaluation of evidence).

Under certain conditions, the burden of proof may be eased for the plaintiff. Causality may be established by *prima facie evidence*, if causation can be inferred from a typical course of events. The application of *prima facie* evidence is especially justified where the defendant has violated a law that was designed to protect persons like the plaintiff from the sort of damage that occurred (protective law, *Schutzgesetz*).[3] Many strict liability statutes create a presumption of causation. The most important and stringent presumption of causation is provided by § 26(5) WRG, which covers water pollution and which can only be rebutted by proof to the contrary.[4] A similar presumption of causation is stated in § 162(1) MinroG and in § 54 ForstG. The presumptions of causation provided by § 12(1) AtomHG (nuclear damage) and by §§ 79d and 79k(4) GTG (genetically modified organisms) are not as strong. These presumptions may be rebutted by proof merely of the probability that the damage was not caused, respectively, by the nuclear power plant or by the genetic modification of the organism.

Belgium

Question (a)

The rules on burdens of proof for specific obligations are governed by Article 1315 BW. The person demanding performance of an obligation

[3] See [Gimpel-]Hinteregger, 'Umwelthaftung in Österreich', PHi 1996, 202 (204, 207).

[4] This presumption of causation is expressly provided for the liability of the holder of a licence according to the Water Act, but it is analogously applied to every person who causes water pollution: OGH 24.10.1990, 1 Ob 21/90, ecolex 1991, 81 (Wilhelm); 16.1.1991, 1 Ob 39/90, JBl 1991, 580 (Kerschner); 17.11.1993, 1 Ob 19/93, RdU 1994/9.

must prove the existence of the obligation. Anyone who claims either that there was no obligation or that the obligation has been fulfilled must prove that to be the case. Article 870 of the Gerechtelijk Wetboek (GerW) confirms and extends this rule generally by stating that each party must establish any facts that he invokes. The GerW also allows the court to require the parties to produce other evidence that they have at their disposal (Article 871) and certain documents (Article 877).

Question (b)

With respect to the standard of proof in civil cases, the Cour de cassation (Hof van cassatie) has stated in a number of decisions that the parties must ensure the correctness of the facts that they advance.[5] However, the Court has not formulated an operational standard to determine when a sufficient degree of certainty is attained. Rather, there is broad discretion for the judge in the evaluation of the evidence. Subject to the rules on the nature and admissibility of the different types of evidence and on the duty to justify his decision, the judge is free to evaluate testimonial evidence, as long as he does not give it a meaning irreconcilable with the language used by the witness. The judge's discretion in the evaluation of presumptions[6] is equally broad. The Cour de cassation (Hof van cassatie) exercises only a marginal control over lower court discretion by rejecting those presumptions that cannot find any justification. Finally, broad scope of the discretion explains the discrepancy among cases in the degree of rigour required for admitting certain facts as proven.[7]

Legal literature pays little attention to the question of the standard of proof in civil cases. The authors, rather, stress the difference between scientific truth and legal certainty. Ultimately, the parties must subjectively convince the judge. They should establish a sufficient degree of probability,[8] such that the judge has no serious remaining doubts and should no longer seriously consider the opposite hypothesis as a

[5] Cass. 19 December 1963, Pas., 1964, I, 416; Cass. 3 March 1978, Pas., 1978, I, 759. The requirements are less strict when a negative fact is to be shown (Cass. 27 February 1958, Pas., 1958, I, 713: see R. Mougenot, *Droit des Obligations. La preuve*, (Brussels, Répertoire notarial, 1997), p. 81).

[6] Mougenot, *ibid*., pp. 212–16.

[7] With respect to causation in environmental matters in particular, see H. Bocken, *Het aansprakelijkheidsrecht*, pp. 118–22.

[8] J. Ronse, *Aanspraak op schadeloosstelling uit onrechtmatige daad* (Brussel, 1954), No. 196, 158; M. Storme, *De bewijslast in het Belgisch privaatrecht* (Gent, 1962), 142, 269; M. Van Quickenborne, *De oorzakelijkheid in het recht van de burgerlijke aansprakelijkheid* (Gent, 1972),

plausible alternative. (Generally, though, these statements are more a description of the court process than a dogmatic formulation of the standard of proof.)

In Belgium, the victim of a criminal offence may, as a *partie civile*, bring a civil claim for compensation for the damage caused by the offence before the criminal court dealing with the criminal proceedings. Here, the standard of proof is substantially higher, however. A high probability is insufficient; the offence and the causal link with the damage must be established with certainty.[9]

England

Question (a)

It is most unlikely that any action on these facts would succeed in an English court because of the foreseeability of damage requirement in negligence, nuisance and the rule in *Rylands* v. *Fletcher*. Unless it was known before the activity started that the pollutants caused cancer, then the ultimate damage would be considered unforeseeable. Assuming the foreseeable damage hurdle can be overcome, then causation will present further problems for the claimant.

Causation is a vexed issue in English tort law, particularly when the damage is potentially caused by something involving scientific knowledge. This knowledge is often controversial, incomplete or both. Outside the environmental arena, this is particularly evident in negligence cases, such as *McGhee* v. *National Coal Board*.[10] The claimant had to prove that the lack of washing facilities at his place of work had been a 'material cause of his damage' (dermatitis). However, due to the state of medical knowledge at the time the case came to trial, he was unable to prove causation specifically. The House of Lords then held that it was sufficient for the plaintiff to show that the lack of facilities had 'materially increased the risk' of his contracting dermatitis. The House went so far as to say that the holding's approach reversed the burden of proof, requiring the defendant to prove that his negligence was not a cause of the claimant's damage. The advantage to claimants has met with disapproval on many occasions since 1973, most particularly in *Wilsher* v. *Essex Area Health Authority*.[11] English common law now takes the view

No. 219, 131; W. Van Gerven, *Algemeen deel*, 362; Mougenot, *Droit des obligations*, 75; Bocken and Boone, 'Causaliteit', 41.

[9] Faure, *(G)een, schijn*, p. 27 and references.

[10] *McGhee* v. *National Coal Board* [1973] 1 WLR 1.

[11] *Wilsher* v. *Essex Area Health Authority* [1988] 1 All ER 871.

that, while the defendant's creation of a risk raises an inference of negligence, it does not reverse the burden of proof.[12]

Plaintiff *B* may also have a claim in private nuisance, although it would be problematic following the House of Lords decision in *Hunter* v. *Canary Wharf*. Nuisance is essentially a tort designed to protect land, not persons. However, this situation may allow for a nuisance action, but only where the claimant has an interest in the affected land. The most succinct summation of the issue of causation in nuisance was given by Lord O'Hagen in the Scottish case of *Shotts Iron Co. Ltd* v. *Inglis*, where he stated 'we have then to determine to which of [the] causes the mischief, which was admittedly accomplished somehow, may justly be ascribed'.[13] Although Scots law differs in some aspects from English law, here English law is the same. There is no reversal of the burden of proof under the above summation. Moreover, in the Irish case of *Hanrahan* v. *Merck, Sharp & Dohme* (Ireland) *Ltd*,[14] the Supreme Court also refused to reverse the burden of proof, although the issue of causation was a difficult one.

Question (b)

English law recognises only one rule in relation to the burden of proof in civil actions – the claimant must prove his claim on the balance of probabilities. The standard of causal connection is the same as in all civil cases: *B* must prove that, on the balance of probabilities, *A's* activity was at least a material contributor to his damage. This is the conventional requirement for causation, laid down in *Bonnington Castings* v. *Wardlaw*[15] and approved in *Wilsher*.[16] The leading English case is *Graham & Graham* v. *Re-Chem International Ltd*.[17] The claimants in this case (decided before *Hunter* v. *Canary Wharf* cast doubt on whether nuisance was a suitable vehicle for personal injury claims) were farmers who alleged that their health had been affected, their land contaminated, their livestock damaged and their business destroyed by toxic chemicals emitted from the defendant's hazardous waste incinerator. The main question at trial was whether the state of the defendant's property had actually caused the claimant's damage. The hard,

[12] *Fairchild* v. *Glenhaven Funeral Services* [2003] 1 AC 32.
[13] *Shotts Iron Co. Ltd* v. *Inglis* (1882) 9 R (HL) 78 (85).
[14] *Hanrahan* v. *Merck, Sharp & Dohme* (Ireland) *Ltd* [1988] ILRM 629.
[15] *Bonnington Castings* v. *Wardlaw* [1956] AC 613.
[16] *Wilsher* v. *Essex Area Health Authority* [1988] 1 All ER 871.
[17] *Graham & Graham* v. *Re-Chem International Ltd* [1996] Env LR 158.

scientific evidence provided by the defendant held sway in court. Forbes J found the less scientific, more anecdotal evidence given by the claimant to be 'very confused and confusing, contradictory and riddled with inconsistencies'.[18]

On the other hand, clear evidence from the claimants was sufficient in *Blackburn* v. *ARC Ltd*.[19] The claimant kept a detailed diary of events over a period of eight years, which the judge acknowledged to be reasonably accurate, even though it was not a scientific observation. The claimant was also able to provide evidence from the county council that the defendant had persistently flouted the terms of its operating licence. In addition, evidence which supported the claimant's case was provided by lay people living in the area, though they had not immediately witnessed the events. This evidence altogether was preferred to that of the defendant's expert witnesses, and, furthermore, the defendant's attempt to discredit the claimant's credibility was frowned upon by the judge. The judge's approach to the complicated causation issues in that case and his balanced evaluation of all the evidence is quite enlightened and should offer wisdom to the future development of the law.[20]

Finland

There must be a 'probable cause' link between the activity of the defendant and the damage, which must be proven by the victim. The standard of proof is something less than 'full' evidence, but is clearly more than 50 per cent probability. Finally, the court evaluates all available evidence independently *in casu*.

France

The plaintiff has the burden of establishing the causal link between the damage and the tortious acts; however, it will likely result in years of litigation because each party will ask for experts' reports and counter-reports on the effects of the polluting activity on human health (Article 232 of the new Code de procédure civile (Code of Civil Procedure). Causation will only be established if *B* (or *B's* beneficiaries) can show that there is no probable cause of cancer other than *A's* activities. For

[18] *Ibid*. [19] *Blackburn* v. *ARC Ltd* [1998] Env LR 469.

[20] See also the discussion by K. Morrow, 'Nuisance and Environmental Protection', in J. Lowry and R. Edmunds (eds.), *Environmental Protection and the Common Law* (Hart Publishing, 2000), p. 139 (143 *et seq*.).

instance, if *B* is/was a heavy smoker, *A* would surely not be liable. For decades, former military personnel, who served in the Sahara or Mururoa nuclear weapons test centres, failed to prove that their cancer was caused by exposition to radioactive effects of the tests.[21]

However, in some instances, victims are more successful. In cases involving asbestos, private employers were found liable for having failed to fulfil a safety obligation[22] and the state was condemned for its failure to take appropriate measures to prevent the risks inherent in exposure to asbestos.[23] Decree No. 2001-963 of 23 October 2001 (implementing Article 53 of Law No. 2000-1257 of 23 December 2000, on social security financing) created an Indemnity Fund for victims of asbestos, and the Board of the Indemnity Fund, as of 21 January 2003, has adopted an objective compensation scale.

However, recently, a pensions tribunal ruled that the French state was liable for nuclear tests-related injuries caused to a member of the French navy who served near the Fargataufa atoll (an island in French Polynesia where nuclear weapons' tests were carried out) and who was contaminated by radioactivity. The tribunal stressed that there was *prima facie* proof (*fortes présomptions*).[24] In another case involving a former serviceman who was irradiated in the Sahara in 1962, an administrative court ruled that the French state bore the burden of proof on the issue of causation.[25]

Germany

I. Liability under § 1 UmweltHG attaches when *A* is the owner of an installation listed under Appendix 1 UmweltHG. Nevertheless, the basic causality presumption of § 6(1) sentence 2 UmweltHG applies: the injured party must establish the propensity of the installation to

[21] Their actions were brought before a special administrative tribunal which has jurisdiction over victims of war and of military operations. Strict liability for damage resulting from nuclear energy applies only to civilian nuclear installations.

[22] P. Bechmann, 'L'indemnisation des victimes de l'amiante. Note relative aux arrêts de la Cour de cassation du 28 février 2002', *Environnement*, vol.II, 2003, No. 2, p. 8.

[23] Cour administrative d'appel, Marseille, *Ministre de l'emploi et de la solidarité*, 18 October 2001, *Juris-Classeur environnement*, fascicule 752; See Christelle Durand, 'Droit de la santé publique et protection des travailleurs: le cas de l'amiante', *Droit de l'environnement*, No. 96, 2002, p. 54.

[24] Tribunal départemental des pensions militaires, Toulon, 12 November 2002, *Jaunas* v. *Ministry of Defence*, www.aven.org/main/jurisprudence.htm.

[25] Cour administrative d'appel, 18 March 2003, *Spouses Duterde*, *ibid.*; see also: Cour régionale des pensions militaires, Chambéry, 28 September 2001, *Secretary of State for War Veterans and War Casualties* v. *Mr Ruet*, *ibid.*

cause the concrete harm incurred,[26] but not the actual causality. Essentially, this provision eases the plaintiff's burden by creating a type of rebuttable presumption against the owner of the installation, but not a full reversal of the burden. If, however, the operator can establish that the installation has been operated in accordance with the pertinent regulations (all duties fulfilled and no disturbances), then the presumption does not operate to the benefit of the injured party, and the plaintiff will be required to establish the actual causality (§ 6(2) and (3) UmweltHG). Furthermore, the presumption is also inactive under § 7 UmweltHG, if there is another circumstance that would be equally likely to cause the damage sustained.

II. For a claim under § 22(2) sentence 1 WHG, a claimant also bears the burden of establishing causality ('damage thereby incurred').[27]

III. Section 14 sentence 2 BImSchG governs installations (that require official approval) whose legally protected operating approval for emissions has become unchallengeable by the claimant. Relevant installations are defined by § 3(5) BImschG (Federal Immission Control Regulation), and it may be assumed that any installation which can cause cancer is such an installation. Moreover, it seems clear that an installation requiring official approval within the meaning of § 14 BImschG would also be involved here.[28] As a neighbour to the installation (in the affected area), *B* can only require precautionary measures against the harmful emissions. If such measures are not technically feasible according to the state of the art or economically unviable, compensation may only be claimed for the actual damage suffered.[29]

IV. In light of the *Cupola Furnace* decision, the emitter (generally, the plant operator) is under a duty of discovery and a duty to take all necessary measures for the containment of the emissions. Under § 823(1) BGB, the injured party must establish causality; however, the court may in its discretion allow facilitation of the burden of proof. Nevertheless, any such procedures will not require the defendant to establish a lack of causality between the environmental impact and the violation of a legal interest (as would be required where necessary notification has not been carried out or pollution limits have been exceeded).[30] The injured party, rather, must establish which substance caused the harm, that the defendant's installation emitted this substance and

[26] Oehmen, *Umwelthaftung* (1997), n. 240.
[27] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 27.
[28] Jarass, *Bundesimmissionsschutzgesetz* (7th edn, 2007), § 14 n. 11. [29] *Ibid*., § 14 n. 20.
[30] BGH 25.1.1983, NJW 1983, 2935 (drinking water containing nitrates); BGH 18.09.1984, BGHZ 92, 143, 146 *et seq*. (cupola furnace).

that the causality is sufficiently probable, given the geographical distance from the installation to the site of the harm.[31]

V. Evidential difficulties also arise within penal environmental law (liability under § 823(2) BGB in conjunction with § 229 StGB). Circumstantial evidence is admissible to the extent that any case is decided on the basis of all evidence, according to the current state of technical knowledge. Thus, a party initially needs only establish general causality in order to bring it before the court for a free evaluation of evidence.[32]

Greece

In order to sue *A* for damages, *B* must prove a causal link between *A's* culpable and illegal act and the damage sustained. In the field of environmental law, such proof is difficult to establish because (i) the damage may be the result of the behaviour of various persons or (ii) it cannot be proved to what extent/degree the behaviour of the tortfeasor has contributed to the result or, finally, (iii) because a relatively long period of time may have elapsed between the tortfeasor's behaviour and the environmental damage.[33] For these reasons, the burden of proof is reversed (according to the 'principle of the origin of risks' or the 'principle of the fields of influence' and the application, by analogy, of Article 925 AK) not only for the proof of culpability (see the answers to Cases 1 and 9) but also for the proof of causation. For *B* to obtain damages, he must prove that he has, for example, sustained damage to his health (cancer) as well as that the cause of the cancer derives from *A's* activities (a 'minimum causality' proof). For 'industrial illnesses', the proof of the 'industrial provenance' of the illness is the 'minimum causality' necessary for the establishment of a claim for damages.[34] In order to avoid liability, *A* must prove that the cause of the damage lies outside the field of his responsibility, that he has taken all measures of care and providence imposed by specific regulations and general principles of law and, therefore, that no causal link exists between the damage and his activity.

The difficulty (sometimes impossibility) for the plaintiff in proving culpability and the causal link is due to the difficulty of penetrating the industry (the source of the environmental risk) to illuminate their operational mechanisms, methods of substance destruction or the elements that were the cause of the environmental degradation.

[31] Medicus, JZ 1986, 778, 781. [32] Kloepfer, *Umweltrecht* (3rd edn, 2004), p. 484.
[33] I. Karakostas, *Perivallon kai Astiko Dikaio*, p. 126; *ibid*., p. 297. [34] *Ibid*., p. 127; *ibid*., p. 298.

Therefore, in cases of environmental liability, the principle of '*prima facie* proof' should be adopted by the Greek courts, as has already been done in cases of product liability.[35] The '*prima facie* proof' principle is an evaluation of probabilities to determine whether a causal link exists, based on facts that present a chain of events and are derived from a fully proven cause (emission of polluting waste into the atmosphere, the ground or water), as far as is known through current science, common experience and logic (indirect proof).[36] The *prima facie* proof principle also works the other way round, reasoning from a (fully) proven particular result (an environmental accident) to the conclusion that the environmental conditions of care and providence have been violated. The judge must be fully convinced (standard of proof) before he accepts that there is a causal link or that there has been harm done to the environment.

Ireland

Question (a)

The burden of proof is on the plaintiff, who must prove every aspect of the case.

In a case of alleged negligence, the *res ipsa loquitur* rule may apply, allowing the court to infer from the logical progression of facts or the lack of any other explanation for the facts that the defendant must have been negligent. In the case of *Hanrahan* v. *Merck Sharpe and Dohme*,[37] Henchy J formulated the rule thus:

> [I]n the tort of negligence, where damage has been caused to the plaintiff in circumstances in which such damage would not usually be caused without negligence on the part of the defendant, the rule of res ipsa loquitur will allow the act relied on to be evidence of negligence in the absence of proof by the defendant that it occurred without want of due care on his part. The rationale behind the shifting of the onus of proof to the defendant in such cases would appear to lie in the fact that it would be palpably unfair to require a plaintiff to prove something which is beyond his reach and which is peculiarly within the range of the defendant's capacity of proof.[38]

[35] The German jurisprudence has applied the principle of *prima facie* proof in cases of environmental liability.

[36] I. Karakostas, *Perivallon kai Dikaio*, pp. 299, 300.

[37] [1988] 1 ILRM 629.

[38] This restatement of the rule by Henchy J is not strictly binding, however, because the case was decided as a nuisance case rather than as a negligence case.

In *Hanrahan*, thus, Henchy J suggested that the object of the *res ipsa loquitur* rule is to transfer the burden of proof to the defendant in relation to facts which are peculiarly within the defendant's control. The court said, however, that there was no need to reverse the burden of proof in a case alleging that the emission of pollutants from a chemical factory was causing damage.

Question (b)

The standard of proof is based on the balance of probabilities. If it is more likely than not that *A's* activity caused *B's* illness, causation is established.

In *Hanrahan*, the court held that causation was proved by the plaintiff's showing that:

(a) there were smells from the factory, some of them of a sharp, burning character;
(b) the factory incinerator has worked for long periods at a temperature which was too low to destroy harmful substances;
(c) there was visible damage to plant life;
(d) the first plaintiff had suffered ill health;
(e) his medical specialist was of the opinion that this was due either to asthma or to environmental pollution, and this evidence was uncontroverted;
(f) the first plaintiff's ill health ceased after the smells ceased;
(g) the plaintiff's cattle had suffered ill health at the time of the smells, and their veterinary surgeons were of the view that this was due to environmental emissions;
(h) the plaintiff's cattle had been thriving before the smells commenced; and
(i) the ill health of the cattle was too extreme to be accounted for by poor farm management.

On the other hand, the court did not accept the claims of another plaintiff that she had suffered ill health as a result of the emissions because there was no medical evidence attributing her gynaecological problems to the emissions.[39]

What was most interesting about the case was that the court did not require the plaintiff to show that a particular substance had been used, that it had been emitted from the defendant's factory, or that it had been found in the plaintiff's cattle. Instead, the court was prepared to

[39] This was in spite of the fact that there was evidence of similar problems in the reproductive systems of the cattle, a fact on which the court did not comment.

accept that evidence of poor management of the factory, evidence of smells, and evidence of damage, together with some uncontradicted medical evidence, as proof of causation on the balance of probabilities. In effect, the court was prepared to infer causation without strict scientific proof. It was enough that the emissions and damage were contemporaneous and that there was corroborating medical evidence.

Italy

According to Article 2697 CC,[40] *B* bears the burden of proof on the issue of causation. Italian law does not provide for a specific standard of probability. Instead, the Code of Civil Procedure establishes the principle of 'the free convincing of the judge',[41] in the sense that the judge, being *peritus peritorum*, can independently evaluate the results of experts and witnesses and even make findings contrary to what expert witnesses may indicate in their testimony or reports.[42]

With regard to the specific case at hand, the burden of proof on *B* is very heavy because he must prove that *A's* activity is the cause of *B's* illness. Direct causal linkage must be established, and, because in this case *A* is not carrying out a 'dangerous activity', fault must also be proven.[43]

The Netherlands

Question (a)

Generally speaking, the injured party – the plaintiff in a tort case – must prove a causal connection between the wrongful act of the defendant and the damage that occurred. The general rule for the allocation of the burden of proof in Dutch law can be found in Article 150 Rv (Wetboek van Burgerlijke Rechtsvordering) (civil right of action), which reads: 'Upon the party who invokes the legal effects of the facts or the rights furnished by them, rests the burden of proving those facts or rights,

[40] Article 2697 CC (burden of proof) states: 'One who asserts a right in judicial proceedings must prove the facts on which the right is based. One who asserts the invalidity of such facts, or claims that the right has been modified or extinguished, must prove the facts on which the defence is based.'

[41] See Article 116 of the Code of Civil Procedure. For a comment on this provision and for case law on the issue, see Carpi-Taruffo, *Commentario Breve al Codice di Procedura Civile* (Padua, 1999), pp. 498 *et seq*.

[42] See Monateri, *Le fonti delle obbligazioni* p. 353.

[43] For a wider literature on the problems of causation, see Pozzo, *Danno ambientale ed imputazione della responsabilità*, pp. 315 *et seq*.

unless a different distribution of that burden of proof ensues from a specific rule or from the requirements of reasonableness.' Under this general rule, *B* would bear the burden of proof in this case.

Establishment of liability (Article 6:162(1) BW) is distinguishable from establishment of the element of causation (Article 6:98 BW). First, it must be determined whether the defendant's act or omission was a necessary condition (*conditio sine qua non*) for the loss to occur. If so, the next question is whether the link between the conduct of the defendant and the loss suffered is not too remote. Holding a defendant liable for acts or omissions that lie beyond the scope of his personal responsibility must be avoided. The judge is free to assess and interpret the evidence given (Article 152(2) Rv). In other words, the rule of evidence tends towards 'free evaluation of evidence'.

Question (b)

Notwithstanding the general rule, courts tend to shift the burden of proof to the defendant, particularly in situations of 'danger creation'. There are also two general procedural techniques often used by the courts to reduce the plaintiff's burden of proof. The first one is the rule of *res ipsa loquitur* ('the thing speaks for itself' or 'speaking facts').[44] The other technique is to impose the duty on the defendant to furnish evidence in his possession and/or state sufficient reasons for his denial of the plaintiff's allegations. In other words, facts that have occurred in the particular domain of the defendant are to be put forward by the defendant, despite the fact that it is generally the plaintiff's obligation to establish them. The latter technique can sometimes also be considered as a duty to cooperate with the plaintiff in furnishing evidence (for example, details of discharges, measurements and other data). This procedural development can be favourable to a plaintiff, in an environmental trial, who is confronted with a technically complicated constellation of facts and is seeking redress for damages caused in the distant past.[45]

By applying the judgments of the Hoge Raad to this particular case, then, *B* could argue that he need only prove that *A's* behaviour was unlawful, that the behaviour created or increased a risk of damage, and that this risk materialised,[46] thus establishing the causal

[44] Bauw and Brans, *Milieuprivaatrecht* (2003), pp. 223–224.
[45] Van Dunné, *Environmental Liability* (1993), pp. 248–9.
[46] See e.g. HR 25 June 1993, NJ 1993, 686, note Stein (Cijsouw I); HR 24 December 1999, NJ 2000, 428 note Snijders (Gouda/Lutz).

connection between *A's* polluting activities and the damage (*B's* cancer). Defendant *A* may escape liability, however, if he can prove that the cancer would also have developed in the absence of his behaviour; that is, *A's* activities were not a *conditio sine qua non* of the damage. *A* could also rely on the doctrine of 'reasonable attribution' (Article 6:98 BW), according to which reparation can only be claimed if the damage, which is related to the event giving rise to liability, can be imputed to the defendant as a result of this event.

Recent case law[47] would probably give *B* the benefit of the doubt, considering that losses may be attributed to the defendant, if the defendant's unlawful behaviour (breach of contract or tort related to a specific standard) created a *specific* risk and *this* risk materialised as a result of which damage occurred. In these cases, it is presumed that there is a causal link between the unlawful behaviour and the damage caused, unless proof to the contrary will be provided.[48] However, the scope of this relatively new rule (the so-called *omkeringsregel*) is not yet entirely clear, though the rule may be very important for environmental cases.[49]

Portugal

Question (a)

One of the problems of the present Portuguese system of environmental law relates to establishing the chain of causation. No specific rule exists on this issue. One possible solution would be the application of a general rule, shifting the burden of proof to the defendant to the standard of 'adequate causality' (Article 563 Código Civil). As is well known, this standard requires that the court establish two kinds of causality:

(i) an *empirical* proof of a naturalistic kind, arrived at by establishing that the harm caused could not have come about but for the occurrence of a given fact;
(ii) a *normative attribution of liability*, which requires that the fact or action could, in theory, be a possible cause of the given harm.

[47] HR 26 January 1996, NJ 1996, 607, HR 21 February 1997, NJ 1999, 145, HR 27 February 1998, NJ 1998, 417, HR 29 November 2002, NJ 2004, 304 and 305, HR 19 March 2004, NJ 2004, 307, HR 9 April 2004, NJ 2004, 308, HR 7 May 2004, NJ 2004, 422, HR 9 July 2004, C03/081, HR 24 September 2004, RvdW 2004, 110, HR 14 October 2005, RvdW 2005, 114 and 117.

[48] Proof to the contrary only in the sense of 'convincing'.

[49] Bauw and Brans, *Milieuprivaatrecht* (2003), pp. 224–7.

However, the application of adequate causality to environmental and ecological harm gives rise to thorny problems, such as proving the chain of causation (which is frequently indirect and circular) linking the *conditio sine qua non*.

Question (b)

There is no Portuguese jurisprudential consensus as to how to solve causation problems within the framework of the existing legal system. Nonetheless, *inter alia*, the following proposals have been made:[50]

(a) adopting the doctrine of normative causality as a substitute for that of adequate cause;
(b) replacing *conditio sine qua non* proof with a criterion of verisimilitude or probability;
(c) making the criterion of attribution of the burden of proof to the defendant a case-by-case determination on the circumstances of the case, considering any abnormality of fact.

In the present case, the best solution might be the second – abrogating the requirement of the *conditio sine qua non* proof. However, it should be noted that such a position is not, by any means, uniformly held among scholars in the Portuguese legal system. No case law exists on this.

It should also be noted that the judge can apply a rule of free evaluation of evidence. Furthermore, under the LAP, the judge has at his or her disposal supplementary discretionary powers in the gathering of evidence, such that the judge may compensate for the plaintiff's difficulties or otherwise ease the plaintiff's burden in demonstrating causality (Article 17 LAP).

Scotland

Question (a)

Scots law imposes a heightened duty of care on persons engaged in activities that are recognised as abnormally hazardous.[51] The precise category of abnormally hazardous activities is, however, determined on a case-by-case basis, and the mere fact that pollution of some kind exists may not be sufficient to place *A's* activity in this category. In any event,

[50] A. Menezes Cordeiro, *Tutela do ambiente e direito civil*; and J. Menezes Leitão, *Instrumentos de direito privado para a protecção do ambiente*, RJUA, No. 7, p. 53.
[51] See the answer to Question 2(a).

regardless of whether a heightened duty of care is imposed, the burden of proving causation rests upon the pursuer.

Question (b)

Where the harm suffered is of a kind, such as industrial disease, which may have more than one cause and the circumstances are such that it is almost impossible to identify exactly which of those causes was responsible, it is enough if the pursuer can prove that the factor attributable to the defenders 'materially' increased the risk of the harm occurring. In a recent English case in the House of Lords, the Scots judge on the bench, Lord Rodger of Earlsferry, expanded this 'material increase in risk' rule by explaining that it applies where: (1) the causal link could only ever be established by scientific investigation and the current state of the relevant science leaves it uncertain exactly how the injury was caused; (2) there was a material risk of injury specifically to the claimant himself or herself; (3) the defendant's conduct was capable of causing the claimant's injury; (4) the claimant can prove that the injury was caused by the eventuation of the kind of risk created by the defendant's wrongdoing (this usually means that the claimant must prove that the injury was caused, if not by exactly the same agency as was involved in the defendant's wrongdoing, at least by an agency that operated in substantially the same way); and (5) the other possible source of the claimant's injury is a similar wrongful act or omission of another person, but the rule can also apply where the other possible source of the injury is a similar, but lawful, act or omission of the same defendant.[52]

Spain

Question (a)

It is the claimant who bears the onus of proving the causal link, since causation is one of the *prima facie* elements of his legal action (Article 217 LEC).[53] Article 1902 CC does not actually specifically say so, but it is sometimes construed as if it did.[54] Moreover, the degree of certainty

[52] *Fairchild* v. *Glenhaven Funeral Services* [2003] 1 AC 32 at para. 170, citing *McGhie* v. *National Coal Board*, 1973 SC (HL) 37. For an example, see *Reay* v. *British Nuclear Fuels* [1994] 5 *Medical Law Reports* 1, in which the mother of a dead child failed to establish that paternal pre-conception irradiation, when the father had worked at a nuclear plant, was a material contributory cause of cancer.

[53] See also, among others, SSTS 4.2.1999 [RJ 1999/748], 13.4.1999 [La Ley 1999/5656] and 8.2.2000 [RJ 2000/1235].

[54] STS 23.9.1996 [RJ 1996/6720].

that has to be attained seems to be very high, since many decisions adopt a strict position, requiring an absolute certainty (e.g. STS 28.6.1979 [RJ 1979/2553]) or a qualified probability (STS 26.7.2001 [RJ 2001/8426]). For this reason, attempts to demonstrate causation based strictly on mere conjectures, deductions or probabilities are rejected as overly speculative and therefore inadequate.[55] Many decisions take into consideration the fact that there was no other possible cause of the damage;[56] by contrast, one claim was dismissed where it was not sufficiently proven that a toxic spill caused the death of fish in a neighbouring property.[57]

Question (b)

Although some scholars have suggested that a legal presumption of causation would improve the existing law,[58] it would not, as a matter of fact, radically change it. The court can freely admit and analyse evidence (Article 218.2 LEC). Likewise, proof of a causal link by means of presumptions (*prueba de presunciones*) may already be possible, provided that the polluting activity is sufficient to produce the damage. Only a precise and direct link with the presumed fact, based on common logic and experience, is required (Article 386 LEC).[59] However, it must be remembered that the courts do not usually reverse the burden of proof in this area of the law.[60] Moreover, a rebuttable presumption already exists for cases of harm caused by medicines to a trial subject (Article 62.3 Medicine Act).[61]

The Draft Bill attempted to introduce a new legal presumption of a causal link. In principle, the claimant would only need to bring evidence as to the 'mere relation of [potential] physical causation between

[55] SSTS 26.7.2001 [RJ 2001/8426] and 20.2.2003 [RJ 2003/1174].
[56] E.g. SSTS 29.12.1980 [RJ 1980/4760] and 13.2.1999 [RJ 1999/1236].
[57] STS 27.10.1990 [RJ 1990/8053]. Commented on by M[a] Ángeles Parra Lucán, 'Responsabilidad de los daños producidos como consecuencia de la contaminación de las aguas. Relación de causalidad', *Poder Judicial* 1991, pp. 107–12.
[58] For instance, María Carcaba, 'Defensa civil del medio ambiente', RDU y MA, 1999, No. 171, 141–83, p. 173.
[59] See Cordero, in Ortega, *Lecciones de Derecho del medio ambiente*, p. 446, and Santos Morón, in Cabanillas *et al.*, *Estudios jurídicos*, p. 3020.
[60] See SSTS 30.6.2000 [RJ 2000/5918]; 8.2.2000 [RJ 2000/1235]; 27.11.1999 [RJ 1999/8437]. In legal doctrine, see Yzquierdo, *Sistema de responsabilidad civil*, p. 213; de Ángel, *Tratado de Responsabilidad Civil*, p. 784; Encarna Roca Trías, *Derecho de Daños* (4th edn, Valencia, Tirant lo Blanch, 2003), p. 154.
[61] Ley 25/1990, de 20 de diciembre, del Medicamento (BOE No. 306, 22 December 1990, pp. 38228 *et seq.*).

the action or omission of the liable person and the damage or impairment of the environment' (Article 3.1). This relation or link would then be presumed, unless the activity was carried on in accordance with the standards established in environmental legislation (Article 3.2). Some scholars have compared this provision to the legal presumption existing under German law (see §§ 6 and 7 UmweltHG).[62]

On the other hand, however, some court decisions deviate from the trend just described and reject any single theory of causation. The judge, it is said, should in any particular case have regard only to the circumstances of that case and decide the issues in accordance with the rules of sound reasoning.[63] Similarly, it is sometimes said that one should deal with the issue of causation from a pragmatic point of view,[64] and that the perspective of the courts should be a realistic one.[65] The costs of the legal uncertainty which this position could promote are simply disregarded.

As a result, an overview of case law highlights some contradictions and casts important doubts upon the apparently straightforward position of the Tribunal Supremo (who take the main view described above). For instance, a number of decisions state that the burden of proof cannot be reversed in relation to causation (*inter alia*, SSTS 30.7.2000 [RJ 2000/5918] and 25.7.2002 [RJ 2002/7864]), while other decisions actually sacrifice elementary requirements of coherence and legal certainty on the altar of moral compassion towards victims, seemingly, whenever the Tribunal Supremo finds it proper.[66] Not only do some decisions use the theory of adequacy in order to impose liability when causation has not actually been proven,[67] but some cases even impose

[62] See Poveda/Vázquez, *Noticias UE* (2001), p. 66.

[63] SSTS 22.10.1948 [RJ 1948/1212], 12.11.1993 [RJ 1993/8760] and, again, 3.7.1998 [RJ 1998/5411].

[64] Eugenio Llamas Pombo, *La responsabilidad civil del médico* (Madrid, Trivium, 1988), p. 241.

[65] See Antonio Cabanillas Sánchez, *La reparación de los daños al medio ambiente* (Pamplona, Aranzadi, 1996), p. 89.

[66] See critically Fernando Pantaleón, *Comentario del Código Civil*, II (Madrid, Ministerio de Justicia, 1991), p. 1984; Lucía Gomis Catalá, *Responsabilidad por daños al medio ambiente* (Pamplona, Aranzadi, 1998), p. 164; Luis F. Reglero Campos, in Reglero (coord.), *Tratado de responsabilidad civil* (3rd edn, Cizur menor, Aranzadi, 2006), p. 346; and Albert Ruda, '*Fairchild* v. *Glenhaven Funeral Services Ltd and others*. Spanish Case Note', *European Review of Private Law* 2004/2, 245–58, p. 52.

[67] See Santiago Cavanillas Múgica, 'Comentario a la Sentencia de 11.3.1988', CCJC 17/1988, p. 384. The widow of a worker who was killed by electrocution recovered damages, although she had not proved how the accident happened; the lack of safety measures was deemed an adequate cause of the death, STS 25.2.1992 [RJ 1992/1554].

liability on a person for harm to which he has not contributed. The paradigm of this is the decision in the rapeseed oil case.[68] Although it was proven that the oil sold by the defendants had caused severe harm to the health of the claimants, it was impossible to identify what the harmful ingredient was. Moreover, although all the persons who had suffered the harm had consumed denaturalised rapeseed oil, not all the persons who had consumed the oil had suffered the harm. The court bridged the evidentiary gap and decided that the Spanish state had to pay as a subsidiarily liable party (approximately €3 billion), on the ground that a customs official accidentally intervened. The Court even resorted to the doctrine developed by the German Bundesgerichtshof in its *Lederspray* decision[69] and held that, although the specific way in which the product caused the harm could not be identified, causation was present as long as the causal link between the consumption of the product and the harm could be proven, and as long as it was possible to exclude the possibility of other causes.

It is generally considered that this was a borderline case from which no general doctrines should be inferred.[70] At the same time, however, the case illustrates just how flexibly the Tribunal Supremo may be willing to interpret the causation requirement in a hard case. Interestingly, this is not an isolated case. Subsequently, the Audiencia Provincial de Guipúzcoa held that, although it was not known exactly how a drug called 'Roacután' had caused diabetes to the claimant, the lack of such knowledge was irrelevant, provided that it *had* effectively caused it (SAP Guipúzcoa 17.1.1998 [*Aranzadi Civil* 1998/4186]). In another case, a worker died in a mine, and it was impossible to determine the cause of the accident. The employer was shown to be in breach of safety laws, lacked the necessary administrative authorisations to operate the mine, and had concluded the contract with his worker in breach of labour law provisions. Thus, the Tribunal Supremo found for the claimant in spite of the causal uncertainty in this case.[71] Strictly speaking, the burden of proof of causation was not reversed,[72] but the

[68] As Pablo Salvador Coderch, 'Causalidad y responsabilidad', *InDret* 03/2002, www.indret.com, p. 1, puts it.
[69] NJW 1990, 2560.
[70] See Miquel Martín Casals and Josep Solé Feliu, 'Defectos que dañan. Daños causados por productos defectuosos', *InDret* 1/2000, www.indret.com, p. 1.
[71] STS 22.1.1996 [RJ 1996/248]; see also STS 11.12.1988 [RJ 1988/8789].
[72] But see Calixto Díaz-Regañón García-Alcalá, 'Comentario a la Sentencia de 22.1.1996', CCJC 41/1996, p. 724.

causal link was inferred from the wrongful conduct of the mine operator. In another leading case, the owner of a dead cow had to pay damages to the claimant, who had contracted an illness after removing the body of the animal from the defendant's ground. In fact, the illness was not caused by the animal but by a reaction to an anti-rabies vaccine that the victim had had as a preventive measure before disposing of the animal.[73]

Proof 'by presumptions' has been applied in other cases.[74] In one such case, a tractor which had not been serviced in the previous four years was used to harvest corn. The court presumed that the fire that erupted in the crop field must have been caused by a spark given off by the exhaust pipe of the tractor (STS, 2ª, 12.5.1986 [RJ 1986/2452]). In a different case, a fire started on property after workers had finished working with a circular saw, cutting bars and rails. The workers had locked the premises when leaving. The Tribunal Supremo presumed that the cause of the accident was that the workers had been operating the machine (STS 26.1.2000 [RJ 2000/227]).[75]

Other court decisions simply lower the threshold needed to prove causation.[76] One of the most recent cases before that the Tribunal Supremo showing that the Court does not take its own doctrine as *veritas aeterna* is STS 23.12.2002 [RJ 2003/914], which openly reversed the burden of proof on the basis that it was easier for the defendant gynaecologist to prove that she had not caused the foetal suffering and consequent serious injuries to a newborn baby. In fact, the new legal regime on civil procedure (2001) requires the courts to take into account which party can more easily bring evidence when they determine which party should bear the burden of proof (Article 217.7 LEC). Considering the fact that fault as an element of liability is already in retreat in jurisprudence, more flexibility, for example in shifting the burden of proof, might ultimately lead to a situation where the victim would only have to prove her damage in order to establish liability.

[73] STS 10.2.1959 [RJ 1959/1483].

[74] See, for example, Martín, Ribot and Solé, in Koch and Koziol, *Compensation*, p. 258 No. 69.

[75] See also the 'haystack fire' case, where the court actually reversed the burden of proof (STS 14.3.1978 [RJ 1978/815], commented on by Carlos Rogel Vide, ADC 1979-I, pp. 267–80.

[76] It is sometimes said that a mathematical exactitude is not required in order to appreciate that a causal link exists (STS 25.9.1999 [RJ 1999/7275]), or that a direct and conclusive proof is not required (STS 4.2.1999 [RJ 1999/748]).

Finally, several authors suggest that the burden of proving causation should be reduced, in particular, in the field of environmental liability.[77] However, whether a legal presumption of causation is convenient or even desirable remains doubtful in light of the German experience. It is well known that § 6 UmweltHG is seldom helpful to for the victim.[78] In any event, a wider use of proof by presumptions would make this legal device redundant.

Sweden

In all civil litigation, the claimant (here, *B*) has the burden of proof. The burden entails identification of *A* as the defendant engaged in the activity, which must then be linked to the damage or injury suffered. The standard of proof of causation has been set by case law and is now codified: the evidence must establish by a preponderance of probability that the defendant caused the damage.[79]

[77] See María J. Reyes López, 'La responsabilidad civil ambiental', in Reyes (coord.), *Derecho ambiental español* (Valencia, Tirant lo Blanch, 2001), p. 196; see also Manuel García Cobaleda, 'Libro Blanco sobre responsabilidad civil ambiental', *Revista Mensual de Gestión Ambiental* 19/2000, 14–20, pp. 15–16.

[78] Critically, see, H. Lange and G. Schiemann, *Schadensersatz* (3rd edn, Tübingen, Mohr Siebeck, 2003), p. 163.

[79] Environmental Code, Ch. 32 § 3, para. 3, and NJA 1981 s 622. For general comments on evidence in environmental tort law cases, see P. H. Lindblom, *Miljöprocess Del II* (2002), pp. 352 *et seq*.

Case 12 Increase in leukaemia rate

A engages in a polluting activity. Following exposure to the polluting effects, the community where *A's* site is situated suffers an increase in the leukaemia rate of more than 50 per cent.

a) Is *A* liable for the damage if medical studies attest that the pollutants emitted from *A's* site can lead to leukaemia? What is the plaintiffs' burden of proof on the issue of causation? Who is entitled to damages and to what extent?
b) Who has legal standing and who can be awarded damages, given the fact that the cost of therapeutic treatment is borne by social insurance, or by public authority?

Comparative remarks

1. Comparison

(a) Statistical evidence

Statistical evidence alone is usually not sufficient to establish causation. It would be sufficient only if the degree of probability shown by the evidence meets the level of certainty required by the relevant jurisdiction, be it a high probability burden close to certainty, as in Austria, Germany and Spain, or preponderance of evidence, as in the Scandinavian and the common law countries. Another problem of statistical evidence is that, in tort law, the causal link between the individual tortfeasors and the plaintiffs must always be established. Statistical evidence that shows only the relationship between one possible tortfeasor and a group of harmed persons fails to meet this requirement, if the harm can also be attributed to a natural cause. Similarly, the link is not established when a plaintiff can show only that the damage incurred

was caused by one of several persons, without being able to indicate the one responsible.[1] In order to meet the requirements of tort law for the establishment of causation, therefore, statistical evidence must usually be supplemented by further evidence.

Statistical evidence that a polluting activity has increased the cancer rate in a community, as described in Case 12, will only make the operator liable to an individual plaintiff under tort law if further evidence shows, to the satisfaction of the court, that the activity was the cause of the plaintiff's illness. Several countries, such as Austria, Germany and Spain, require a very high level of probability close to certainty in this regard. If it is probable that the tortfeasor has caused the damage, Austrian and German courts will lighten the burden of proof by applying *prima facie* evidence. Austrian scholars even suggest reversing the burden of proof in such cases by analogy to § 12(1) AtomHG and §§ 79d and 79k(4) GTG, which provide for a presumption of causation. The presumption of causation provided for in § 6 of the German UmweltHG, however, can only be applied to installations that are listed in Annex I thereto. The presumption is rebutted, according to § 7(2) UmweltHG, if the defendant can show with at least a 50 per cent probability that the plaintiff's disease was caused by another factor, such as personal disposition or exposure to emissions from other sources. According to the ruling in the *Kupolofen* case, courts may also lighten the proof of fault and causation under general tort law. In Spain, the Tribunal Supremo does not follow a general rule, but decides on a case-by-case basis, thus leaving open broad possibilities. In Greece, the plaintiff is obliged at least to establish the 'minimum causality' that the industrial activity is prone to cause the illness from which the plaintiff is suffering. However, in order to use Article 29 of Law 1650/1986 as the legal basis for the claim, the plaintiff must establish the full proof of causation. In addition, he or she must prove that the right to use things common to everyone (e.g. the atmosphere) has been violated to the extent of danger to life or health.

In Belgium and France, it is theoretically possible that victims may obtain partial compensation according to the theory of loss of a chance ('*perte d'une chance*'), if epidemiological evidence shows that emissions from an installation create an increased risk of cancer for the

[1] This principle was decided by the Californian Supreme Court in the case of *Sindell* v. *Abbot Laboratories*, 607 P 2d 924 (Cal. 1980), and has inspired a lively academic discussion of market share liability worldwide.

neighbourhood. Victims, in essence, may be compensated for their loss of the chance not to contract this disease. They only need to show it is certain they lost the chance to avoid illness in order to obtain compensation. According to this theory, they do not need to establish causation, since the loss of this chance is already compensable. Compensation can be assessed either on the basis of a percentage of the damage corresponding to the increase of the cancer rate in the community or by equity. This theory of '*perte d'une chance*' is generally accepted by the courts, but, as the Belgian reporter stresses, has not yet been applied to damage caused by pollution.

The Dutch Hoge Raad granted compensation on the basis of statistical evidence in the *Des* case.[2] In this case, the court held jointly and severally liable all the producers of a drug that caused a certain disease, even though the plaintiffs were not able to show causation by an individual producer.

In England, Ireland, Finland, Scotland and Sweden, liability will be established if the plaintiff is able to establish a probable link between the activity and the damage. In Finland and Sweden, the scope of probability must be clearly more than 50 per cent. In England, Ireland and Scotland, the plaintiff has to prove that, on the balance of probabilities, the pollutant made a material contribution to the damage. Although this seems to be more manageable than in countries requiring a very high level of certainty to establish causation, such proof will still be difficult to obtain if there are several competing factors. Epidemiological evidence alone is usually not sufficient. Moreover, all these countries traditionally follow an all-or-nothing approach which does not allow the courts to grant the victim partial recovery. In Sweden, however, this may change, since a new rule allows class action lawsuits. In England, one has also to bear in mind that liability can only be established if the damage was foreseeable to the defendant at the time he acted.

(b) Claims by social insurance

In several countries, expenses incurred by *social insurance* are reimbursed to the relevant agency by subrogation (Austria, Belgium, France, Germany, Greece). In Spain, social insurance is, according to Article 83

[2] HR 9 October 1992, NJ 1994, 535 (*Des-dochters*).

of the General Health Act, entitled to claim its expenses from any person who is under a duty to incur them and also from the tortfeasor, according to Article 127 of the Social Security Act. English law, however, only provides for such claims in specific statutes. Although a common law action is conceivable, it has not yet been brought before the court. In Ireland, the entitlement to claim the costs always stays with the injured person. If the costs are borne by the injured person's health insurance, the injured person can recover the health costs, which are then repayable to the insurer. On the other hand, if the public health services pay the costs, the entitlement to costs lies with the state. Dutch law does not provide for subrogation, but rather grants an autonomous right of action to the entity that bore the loss. The fact that parts of the loss are compensated by the state or by social insurance will also be taken into account by the court when assessing the plaintiff's compensation. In Scotland, section 150 of the Health and Social Care (Community Health and Standards) Act 2003 allows the National Health Service to regroup the cost of hospital treatment from a person liable to pay compensation for injury, and, before the final amount of damages for the plaintiff is fixed, a deduction is made to account for social security payments likely to be made for a period of five years from the date of the accident. The Finnish and Swedish jurisdictions do not grant subrogation rights. In these countries, social insurers have no right to claim compensation for their expenses. The victim can recover both from social insurance and from the tortfeasor, with a certain reduction and coordination regarding compensation for costs in order to reduce double-payment.

Some countries (e.g. France, Ireland, the Netherlands, Portugal) even recognise an autonomous tort action. In France, it is necessary that the agency establish the causal link between the defendant's act and the victim's harm. In Ireland, the social security agency will probably be entitled to sue for the costs incurred, even if the pollution only caused a significant increase of a certain disease in a neighbourhood, such as leukaemia or asthma. According to the Irish reporter, there is no reason why the state that provides for health services and is obliged to bear such costs should be denied legal standing. In Sweden, an autonomous action by an agency is, from a legal point of view, not wholly impossible; however, in the reporter's opinion, it is rather improbable that the courts will accept it. For compensation for personal injury and loss of life, see Case 18.

2. *Conclusions*

Question (a) discusses the effects of statistical evidence on liability claims. Although the answers given by the national reporters are very complex, it seems to be common opinion that statistical evidence alone does not justify full compensation. In this regard, most authors point out that the plaintiff will be obliged to produce further evidence in order to establish causation. In Belgium and France, however, the plaintiff who can show actual damage might be entitled to partial compensation according to the theory of *perte d'une chance* (loss of a chance).

Question (b) explores the scope of compensable damages with respect to personal injury damage and the right of social insurance or other public entities to claim their expenses from the tortfeasor. Here the national reports draw a very incoherent picture, describing solutions ranging from an autonomous right of action of the relevant agency, through subrogation, to the total exclusion of reimbursement claims. The availability of compensation for personal injury and loss of life is further analysed in Case 18.

Discussions

Austria

Question (a)

The plaintiffs will be required to prove that the polluting effects of *A's* activity have caused their illness. The fact that the cancer rate has increased in the community where *A's* site is situated provides a strong indication that *A's* activity might be the cause of the damage. Causation, however, will only be established if a plaintiff can show with very high probability (beyond reasonable doubt) that *A's* activity, in fact, caused the illness. Therefore, the plaintiffs will have to offer further evidence, such as intense personal exposure to *A's* polluting effects or the absence of other risk factors, to establish causation. Under these circumstances, it is possible that the court will try to ease the burden of proof for the plaintiffs by the application of *prima facie* evidence. In the literature, it is suggested that the burden of proof be shifted to the defendant if his or her activity was capable of causing the damage.[3] The same idea is the basis for the presumption of causation in § 12(1) AtomHG and §§ 79d

[3] See [Gimpel-]Hinteregger, *Grundfragen* 191.

and 79k(4) GTG, and it is possible that these presumptions would be analogously applied by the courts in other cases.

Question (b)

The persons with leukaemia are the ones entitled to damages. They may claim the costs of medical treatment, compensation for loss of earnings, and damages for pain and suffering (§ 1325 ABGB). The social insurance agency that bears the costs of medical treatment is only entitled to claim the incurred costs by *ipso iure* subrogation according to § 332 ASVG.[4]

Belgium

Question (a)

There is no general strict liability rule for air pollution or leukaemia. In the event that the disease is work-related, the legislation on occupational diseases[5] provides compensation in fixed amounts by the Occupational Diseases Fund to workers who, during their employment, have been exposed to the risk of contracting certain listed diseases. The legislation on occupational diseases at the same time extinguishes, except in the case of intent, the possibility of any other liability suit against the employer or against co-workers of the victim. Here, it is assumed that the disease is not work-related and that there is a basis for liability, such as fault, nuisance or liability for defective things.

To obtain compensation, the injured party, in general, must establish damage in causal relationship to the defendant's activities. The damage must be personal and certain. Future damage is compensable only if it is the continuation or future development of a presently existing condition.[6]

In answering the present question, a distinction should be made between community members who have contracted leukaemia and those who have not. If the claimant has been exposed to factors potentially causing leukaemia but has not contracted the disease, he will not be able to establish certain personal health damage. It is, however, conceivable that he suffers the mental anguish of anticipating

[4] Allgemeines Sozialversicherungsgesetz [General Social Security Insurance Act, ASVG] BGBl 1955/189, as amended by BGBl I 2006/532.

[5] Coordinated by R. D. 3 June 1970.

[6] J. Ronse, L. De Wilde, A. Claeys and I. Mallems, 'Schade en schadeloosstelling', APR, 1988, No. 30, 91–118; D. Simoens, *Schade en schadeloosstelling* (Kluwer Rechtswetenschappen, 1999), p. 51.

contraction of the disease. There is actually little case law on the subject.[7] In one case, a policeman bitten by a drug courier reportedly infected by HIV was awarded BF250,000 for mental anguish and related relational problems.[8] A burn victim was awarded the same amount for fear of developing skin cancer.[9] In one pollution case, a family was awarded BF100,000 per parent and BF50,000 per child, as compensation for the fear of developing an asbestos-related disease after the family's house was polluted by dust from cleaning the asbestos tiles of the neighbours' roof. On appeal, the Court of Appeal decided that the exposure had been temporary and limited, and therefore it refused to award moral damages for 'uneasiness' of mind as opposed to mental anguish.[10] If mental anguish is recognised, claimants should also be eligible for compensation for expenses related to increased preventive medical treatment/examinations.[11] Moreover, where the exposure is of some seriousness, the victim is entitled to reserve his or her right to sue for compensation for future physical damage.

Where a claimant has actually developed leukaemia, it will, no doubt, be nearly impossible to provide direct evidence that the defendant's activities, rather than genetic factors, food or previous exposures to emissions from other sources, caused the damage.[12]

The use of epidemiological data showing an increased incidence of certain diseases in a given region has received attention in the legal literature.[13] On the basis of statistical data alone, however, no liability will be imposed.[14] Causation must be established for the specific damage suffered by the victim and not for damage that one may suffer in the normal course of events.[15] In the event statistics show a general increase in the incidence of the disease, the judicial scrutiny

[7] See E. De Kezel, 'Enkele problemen inzake de vergoeding van schade ten gevolge van een blootstelling aan asbes', TMR, 2000, 343–8.
[8] Corr. Liège, 20 September 1991, Journ. Proc., 1991, No. 201, 30, quoted by De Kezel, 'Enkele problemen'.
[9] Brussels, 20 February 1996, RGAR, 1997, No. 12822, quoted by De Kezel, 'Enkele problemen'.
[10] Brussels, 20 September 2002, 1999/AR/2981 and 1999/AR/3035, unpublished.
[11] De Kezel, 'Enkele problemen', 347.
[12] M. Faure, *(G)een schijn van kans: beschouwingen over het statistisch causaliteitsbewijs bij milieugezondheidsschade* (Antwerp, Maklu, 1993), p. 10 and references.
[13] *Ibid*.
[14] T. Vansweevelt, *De civielrechtelijke aansprakelijkheid van de geneesheer en van het ziekenhuis* (Antwerp, Maklu, Brussels Ced. Samson, Brussels, Bruylant), pp. 388–90; Cousy and Vanderspikken, 'Causation under Belgian Law', 34.
[15] Bocken and Boone, 'Causaliteit', 10.

of the causality will most likely be more severe than if this were not the case.[16]

In cases where the causal relationship between damage actually suffered and a possible cause thereof remains uncertain, the victim may gain an advantage through the theory that the loss of a chance (to be free from the disease)[17] by itself constitutes compensable damage, provided the chance was serious and the loss thereof certain.[18] The damage award resulting from the loss of a chance is generally a percentage of the damage claimed, had the causal link been established, and more often compensation is determined on an equitable basis.[19] With respect to the case where no disease was actually contracted, but there is an increased risk thereof due to pollution, it has been argued that pollution reduced the victim's chances of not contracting the disease as a result of other carcinogenic factors.[20] However, there appears to be no decisions where this reasoning was actually followed. Probably the claim would be rejected, as, to date, the theory of the loss of a chance is only applied to cases where damage was actually suffered (the loss of the chance was certain).

If liability for health damage is established, the claimant is entitled to compensation for medical expenses, additional costs of personal assistance, loss of income and diminution of earning capacity. Compensation for non-pecuniary damages is possible for pain and

[16] Cousy and Vanderspikken, 'Causation under Belgian Law', 34. In one case, a city was held liable for the lead-induced blindness developed by one of the inhabitants from repeated consumption of tap water. The city had failed sufficiently to warn the inhabitants that the characteristics of the water were such that there was an increased risk of lead contamination in houses with lead piping (Rb Verviers, 16 January 1968, RGAR, 1968, 8099 and Liège 8 October 1969, RGAR, 1969, 8341; see Bocken, *Het aansprakelijkheidsrecht*, p. 121). Etiological data (etiology is the theory of the causes of diseases) were used to establish causation. As there were no other plausible causes for the affection, these cases are to be distinguished from the hypothesis discussed here (Faure, *(G)een schijn*, p. 27).

[17] We should, however, mention the decision of 1 April 2004 of the Cour de cassation (Hof van cassatie) which rejects the award of damages for loss of a chance in a case where the injured party had claimed compensation for the loss itself. I. Boone interprets this decision as a rejection of the theory of the loss of a chance. The position of the court will become clear when a case is dealt with where compensation is claimed for the loss of a chance rather than for the underlying damage itself.

[18] Cass. 22 June 1988, Arr. Cass., 1987–8, 1397. Bocken and Boone, 'Causaliteit', 43–5 and references; Simoens, 'Schade en schadoloosstelling', 55; Cousy and Vanderspikken, 'Causation'., 33. Thus, a person who has his leg amputated may hold the doctor liable for negligence (where he was indeed negligent) even where it was not certain that proper treatment would have prevented the amputation. The damages awarded will not correspond to the actual loss, but to a proportion thereof.

[19] Cousy and Vanderspikken, 'Causation'., 33.

[20] Faure, *(G)een schijn*, p. 27.

suffering, disfigurement, loss of enjoyment of life, impairment of sexual activities, loss of a partner or relative and also for the pain resulting from witnessing the suffering of a relative. Heirs can *ex haerede* claim compensation for moral and economic damages suffered by the victim before his or her death and, in their own right, for funeral expenses. Survivors for whom the deceased provided or would have provided support can claim compensation for loss of support, as well as moral damages for loss of affection.

An association of Belgian judges has established a non-binding but influential scale to assess the amount of moral damages,[21] and the amounts are generally low. Moral damages for the death of a husband or wife, for example, are set at €10,000; for one day of hospitalisation with severe pain, a claimant receives €40.

Question (b)

Health insurers, industrial accident insurers and the fund for occupational diseases have a claim against the liable party based on subrogation.[22] Subrogation, obviously, will only be effective to the extent that the injured plaintiff himself can establish damage and causation. If this is not proven/established, the third party payer will have no recourse.

England

Question (a)

The answer to the first part of Case 12 depends on the rules of foreseeable damage laid down in *Cambridge Water* (see Cases 1 and 11 above). Whether the action is brought in negligence, nuisance or under the rule in *Rylands* v. *Fletcher*, *A* will be liable only if, at the time of the activity, it was known that the pollutant could cause leukaemia. A sudden increase in leukaemia cases alone would not meet this requirement. Even if the risk were known, the claimants would still have to prove, again on the balance of probabilities, that the pollutant made a material contribution to their damage. This is always a problem because there are so many competing factors. Even if medical studies attest that the

[21] See De nieuwe indicatieve tabel. Een praktisch werkinstrument voor de evaluatie van menselijke schade (M. Van den Bossche (ed.), *Larcier* (2001); B. De Temmerman and E. De Kezel, *Normering in België*: de *indicatieve tabel. Tijdschrift voor vergoeding personenschade* (2002), p. 103.

[22] Health insurance law of 14 July 1991, Article 136; Industrial Accident Law of 10 April 1971, Article 47, Occupational disease legislation, coordinated by a royal decree of 3 June 1970; Simoens, 'Schade en schadeloosstelling', 329 *et seq*., Article 51.

pollutants can cause leukaemia, it may not be sufficient on the balance of probabilities to prove that they caused this particular damage.

All of the claimants would be entitled to sue in negligence and under the rule in *Rylands* v. *Fletcher*. If an action in private nuisance could be brought (see the difficulties following *Hunter* v. *Canary Wharf*), then only those claimants with an interest in the affected land can bring such an action. It is unlikely that there would be any action in public nuisance, unless the claimants could show that they had suffered 'special damage'. As they all have cancer, such a showing of damage looks unlikely.

The English approach to damages for all torts is 'all or nothing'. If the action succeeds, then the claimants would receive compensation for any damage to land, property or health, but not for pure economic loss.

Question (b)

All the claimants have standing to bring an action in negligence or under the rule in *Rylands* v. *Fletcher*. Again, a private nuisance claim could be brought only by claimants with an interest in the affected land.[23] Since damages are awarded on an 'all or nothing' basis, it makes no difference whether the cost of treatment is borne by the state or the individual. If the actions are successful, claimants with leukaemia would be awarded their total damages; if unsuccessful, they get nothing at all.

Whether public authorities can recover for services provided as a result of the tortfeasor's actions is currently a matter of discussion, given the need for funding for the National Health Service.[24] Where the state currently recovers damages for services rendered, this is often only under statutory authority. For instance, the Road Traffic (NHS) Charges Act 1999 allows the National Health Service to recover specified amounts with respect to road accidents, and there are recoupment provisions in the Social Security (Recovery of Benefits) Act 1997. In principle, there could be a common law action, but this would be rather novel and not likely to succeed.

[23] See Questions 1(a) and 3(f) above.

[24] Law Commission, Consultation Paper, *Damages for Personal Injury: Medical, Nursing and Other Expenses*, Law Com. No. 144, and Report, *Damages for Personal Injury: Medical, Nursing and Other Expenses*, Law Com. No. 262.

Finland

Question (a)

The victim has to prove that the link between the activity of the defendant and the damage incurred is 'probable'. The standard requires probability of clearly more than 50 per cent. Those who have already suffered damage (for example, illness) can claim damages therefor.

Question (b)

Those who have suffered personal injuries can obtain damages. Personal injuries include, in some cases, also physical pain and suffering. Public authorities can claim reimbursement for the costs of restricting environmental damage. Public authority, as a social insurer, has no separate right to claim compensation for its costs of therapeutic treatment.

France

Question (a)

The same rules apply as in Case 11. Causation will only be established if the plaintiffs can show that there is no probable cause of leukaemia other than *A's* activities. Members of the community presently affected by leukaemia (or their beneficiaries) are entitled to damages. Mere membership of the community exposed to the risk of leukaemia does not give a legal standing.

Question (b)

Generally, only victims or their beneficiaries may bring an action before courts; however, insurers may have a subrogation right against the liable party, but only if they can establish damage and causation.[25]

Social security institutions (which are 'semi-public persons', i.e. bodies supported by the state but managed by private persons) may claim damages under Articles L.376-1 *et seq.* and L.454-1 Code de sécurité sociale. In a case concerning an action against SEITA (the former French tobacco monopoly), brought by the family of a man and a woman who died from lung cancer, a civil court granted a social security institution standing and awarded compensation to it for bearing the costs of the medical treatment.[26] However, this decision was overruled by both a court of appeal and the Cour de cassation, on the ground that the two

[25] See Yvonne Lambert-Faivre, *Droit des assurances* (11th edn, Dalloz), p. 506.
[26] TGI Montargis, *Spouses Gourlain* v. *SEITA*, 8 December 1999, *Dalloz*, 2000, p. 15.

dead smokers knew the risks of smoking.[27] In the case of a victim who was unaware of the risks involved by a polluting activity and who did not contribute to his or her contamination (unlike the smokers case), the solution would certainly be different. Thus, it is conceivable that a social security institution would bring suit for reimbursement in a leukaemia case.

Germany

Question (a)

I. Leukaemia constitutes a 'health impairment' under § 823(1) BGB. Thus, the question becomes whether the increase of the cancer rate by 50 per cent can satisfy the causality requirement for liability. It will normally not be possible to establish causality with diseases such as leukaemia that only manifest themselves after a longer period of time and which may be attributable to multiple causes. In such instances, liability may be determined statistically, evaluating the number of persons within a group of victims for whom causality is a statistical certainty,[28] so that anyone who actually contracts the disease can demand a proportion of his damage to be compensated corresponding to this statistical probability. This is, however, an inadequate solution, usually, for individual victims whose damage conceivably does not match the statistical rate. Comparable considerations apply to § 823(2) BGB, in conjunction with § 229 StGB.

II. Any claim pursuant to § 1 UmweltHG must involve an installation within the meaning of Appendix 1 to the UmweltHG. Where the statute applies, a local resident who contracts a disease can rely on the causality presumption of § 6 UmweltHG. The presumption allows the claimant to establish only that the emitting installation has the propensity to cause the damage sustained, as may be presumed from the clinical reports. However, the presumption could be overcome pursuant to § 7(2) UmweltHG, if, in the circumstances, another cause has an equal propensity to cause the damage.

III. Where the damage involves a body of water whose properties are negatively affected by the emissions, § 22(2) sentence 1 WHG is applicable. The burden of proof of causality is on the claimant,[29] and there is no easing of the evidential burden.

[27] CA Orléans, *SEITA* v. *Spouses Gourlain*, 10 September 2001, JCP, 2002, II, No. 10133, note B. Daille-Duclos; Cass., Civ. II, *Spouses Gourlain* v. *SEITA*, 20 November 2003, *Jurisclasseur Responsabilité civile & assurances*, chroniques, No. 5, p. 10 *et seq.* note Christophe Radé.

[28] Medicus, JZ 1986, 778, 781.

[29] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 27.

Question (b)

Claims for the costs of medical treatment, but not all claims for damages, are assigned to the social insurance institutions by the claimant pursuant to § 116(1) SGB X (Social Security Code, 10th Part).[30] If the costs of therapeutic treatment are covered by the public purse, then a public law claim may be available, or, alternatively, a civil debt claim against the injured party for assignment of his claims against the defendant (§ 255 BGB).

Greece

Question (a)

Defendant *A's* activity causes pollution, and, therefore, *A* will be considered strictly liable for damages, according to Article 29 of Law 1650/1986. The plaintiffs will have to prove only that:

(i) the right of use of common things (atmosphere) has been violated;
(ii) the violation entails a danger to life and health; and
(iii) the damage is due to the particular source of danger.

Moreover, *A's* polluting activity may be considered a source of increased danger, as, according to the findings of the medical studies, the pollutants emitted from *A's* site increase the possibility of contracting leukaemia. A finding of increased danger, however, is irrelevant to liability under Article 29 of Law 1650/1986, since the broad scope of the Article[31] holds anyone who causes pollution liable, even if his activity is not a source of increased danger. Characterising *A's* polluting activity as a source of increased danger would be of importance only under the majority view of scholars, who read Article 29 of Law 1650/1986 restrictively as attaching liability only when the polluting activity may be considered a typical source of increased danger (see also the answer to Question 9(a)). In any event, *A* would be liable under either construction.

Another legal basis for liability against *A* is the responsibility derived from Article 914 AK, which regulates civil liability for an illegal act. This liability is principally based on fault, the existence of which must be proven by the plaintiffs, though damages may be granted, nevertheless (without proving fault), by applying the 'principle of the origin of risks'

[30] 18.8.1980, BGBl. I p. 1469.
[31] The broad scope of Article 29 of Law 1650/1986 has been severely criticised by scholars. See also the answer to Case 1.

or the 'principle of the fields of influence' and, by analogy, Article 925 AK (see Case 1 above).

If Article 914 AK is chosen as the legal basis for civil liability, the burden of proof for causation also lies on the plaintiffs. But, in the field of environmental law, reversal of the burden of proof (according to the 'principle of the origin of risks' or the 'principle of the fields of influence' and analogous application of Article 925 AK) is applied both for the proof of culpability and for causation (see also the answers to Cases 9 and 11 above). The plaintiffs have to prove that they have developed leukaemia and that the cause of the leukaemia derives from *A's* activities (the 'minimum causality' in this case), which is fulfilled by proof of the 'industrial provenance' of the illnes (because the leukaemia can be considered an 'industrial illness'). The same applies if Article 29 of Law 1650/1986 is used as the legal basis.

All residents of the community that have suffered damage to health are entitled to damages. Article 929 AK requires that in case of injury to the body or the health of a person, compensation shall, in addition to covering medical expenses and the damage already accrued, extend to loss of future earnings and to additional expenses occasioned by the plaintiff's increased needs. There arises also an obligation to compensate the third party, who, being entitled by law to claim the performance of services by the victim, is now deprived of those services because of the tort committed against the victim. In the case of death, the liable person shall pay the medical and funeral expenses to the person with whom the obligation of bearing such expenses lies. The liable person is also obliged to compensate the person entitled by law to claim either the performance of services or maintenance by the victim (Article 928 AK). The compensation for future damages under Articles 928 and 929 shall be made by means of payment of an annuity in monthly instalments. However, instead of an annuity, the court may, on a request by the claimant, award a lump sum if serious cause exists (Article 930(1) AK). The reparations may cover not only damages for the pecuniary loss, but also damages for moral or non-pecuniary harm which the plaintiff has suffered as a consequence of the unlawful act. Moral damages may include money for pain and suffering (Article 932 AK).[32]

[32] The translations of the Articles of the AK into English are taken from Ph. Christodoulou, 'Law of Obligations', in *Introduction to Greek Law*, and have occasionally been slightly amended.

Question (b)

According to the explicit provision of Article 930(3) AK, a claim for compensation shall not be barred by the fact that another person is liable to pay compensation or to furnish maintenance to the injured party. Thus, if the cost of therapeutic treatment is borne by social insurance or by a public authority, the members of the community that have suffered the illness will still have legal standing and may be awarded damages.[33]

Ireland

Question (a)

Defendant *A* may be liable to a plaintiff who can show that *A's* activity caused emission of the pollutant, that the plaintiff was exposed to the pollutant, that the pollutant causes leukaemia, that the plaintiff has developed leukaemia, and that there is no other relevant factor, which would have been likely to cause the plaintiff to develop leukaemia. The court may presume that there was no other relevant probable cause, unless *A* can produce some evidence to the contrary. For instance, *A* could introduct evidence that the plaintiff was exposed to some other cause of leukaemia or that the plaintiff was genetically likely to develop leukaemia anyway. The decision in *Hanrahan* (above) is interesting in that the Supreme Court was prepared to infer causation from the mere fact that there was an emission and that animals were dying in unusual numbers.

As with Case 11, the plaintiff must prove, on the balance of probabilities, that the defendant's act caused the leukaemia.

Any person who has contracted leukaemia as a result of the discharge will have a cause of action and will be entitled to recover damages for the pain and suffering of a serious illness, for the shortening of lifespan and for the consequential emotional distress. Damages will also be recoverable for the cost of treatment and loss of earnings during treatment. The measure of damages will be substantial.

The dependants of any person who contracted leukaemia and died will also be entitled to recover the capitalised value of the support they

[33] On the relationship between the compensation paid by the tortfeasor under Article 929 AK and the compensation paid by social insurance, and on whether they are paid cumulatively or not, see, *inter alia*, Ap. Georgiades, in Georgiades-Stathopoulos, Article 930, Nos. 26–31.

would have received from the deceased, as well as damages for distress and emotional suffering.

If the state health services are obliged to bear a large cost to meet the health needs of those infected by the pollution, it may be able to bring its own action for damages to recover those costs. At present, the Irish state is suing a number of tobacco companies for the costs of health care for those affected by smoking-related diseases. The outcome of this case will set a seminal precedent in this area. In principle, there is no reason why the state should not be able to recover damages in a case of this nature.

Question (b)

Any person who has suffered injury or financial loss as a result of *A's* actions has standing to bring a case and may recover damages. If the costs are borne by the injured person's health insurance, the injured person may recover the health costs, but must then reimburse the insurer. If the costs are borne by the state's free health services, the state has suffered a loss and may be able to recover it in the courts.

Italy

There is no specific statutory provision, nor any case law, on these specific issues.

The hypothetical situation has, in fact, been studied in a comparative law context by scholars, but the findings and reports (unfortunately) did not have any impact on Italian legislation or jurisprudence.[34]

The Netherlands

Question (a)

This particular case shows that proving causation in environmental cases is often complex, especially when multiple tortfeasors are involved. It is uncertain whether *A*, whose activities, it has been proved, could possibly lead to leukaemia, is the only cause for the increased rate of leukaemia in the community. To hold *A* liable for the resulting damage (the leukaemia) under one of the following two provisions, it must be proved that *A* caused not only part of the increase in the rate of

[34] See Pozzo, *Danno ambientale ed imputazione della responsabilità*, pp. 315 *et seq*. Villa, 'Nesso di causalità e responsabilità civile per danni all'ambiente', in *Per una riforma della responsabilità civile per danno ambientale*, a cura di P.Trimarchi (Milan, 1994), pp. 93 *et seq*.

leukaemia, but could, in reality, also be the cause of the total increase of 50 per cent in that specific community.

The Burgerlijk Wetboek has a number of specific provisions regarding alternative causation (Article 6:99 BW) and multiple tortfeasors (Article 6:102 BW). Article 6:99 BW introduces the rule of alternative causation, applicable in cases where multiple tortfeasors are involved but not all can be identified.[35] On the other hand, Article 6:102 BW applies to the situation where the damage is caused by more than one tortious act. Under Article 6:102 BW, the plaintiff is entitled to claim compensation for his entire damage from any one of the defendants, regardless of the contribution of that defendant to the loss. The defendant, then, under Article 6:102 BW read in conjunction with Article 6:10 BW, who was held liable for the entire damage has a right of contribution against his co-tortfeasor(s) for their proportional liability for damages.

The *Des* case[36] is an example of how the rules of alternative causation and multiple tortfeasorship have been interpreted by the Hoge Raad in a product liability context. This ruling can be analysed in an analogous way to environmental law in this case, where causation is likewise complex. The Hoge Raad in the *Des* case held all the producers of a defective medicine called 'Des' jointly and severally liable for having unlawfully put this drug into circulation. Although the victims were able to relate their damage to the drug, they could not prove which of the many producers caused their damage.

In Case 12, there is a similar difficulty. It has been held that, under certain circumstances, courts should, by analogy to product liability law, apply joint and several liability where there are emissions that pollute and cause damage, but where it is not possible to relate the damage to one individual source, such as *A*.[37] Under the ruling in the *Des* case any producer could be required to pay for the entire damage suffered by many victims (Article 6:99 BW). Applying the *Des* ruling to the leukaemia case, the court may hold *A* liable for all the plaintiffs' entire damage, as long as it can be proved that *A* would have been able to cause the entire damage. Essentially, under this alternative liability

[35] HR 17 January 1997, NJ 1997, 230 and HR 31 January 2003, NJ 2003, 346.

[36] HR 9 October 1992, NJ 1994, 535 (*Des* dochters). It is uncertain whether the Hoge Raad will also introduce proportional liability in an environmental law case now as he did in an employment law case in 2006 (compare HR 31 March 2006, IAR 2006, 100 – *Nefalit BV/Karamus*).

[37] Betlem, *Civil Liability for Transfrontier Pollution* (1993), pp. 473–7.

system, it is up to *A* to prove his innocence. If he can prove that he is only one of several polluters and that he has caused only part of the entire damage, he cannot be held alternatively liable under Article 6:99 BW for the whole damage.[38] However, *A* might nevertheless be held liable under Article 6:102 BW, since the damage was caused by more than one tortious act.

Question (b)

A victim suffering from leukaemia will be entitled to damages; therefore, in general, he or she will have legal standing. However, if an insurance company pays compensation to the victim, the insurance company is only entitled to claim the incurred costs by subrogation.

It might be possible for an event to create both damage and benefit to the victim. In such a situation, the issue is to what extent the benefits should affect the determination of the compensation. Article 6:100 BW sets out the following general rule: 'Where one and the same event has created both damage and benefit for the victim, the benefit must, to the extent that this is reasonable, be computed in determining the damage to be repaired.'[39] In other words, although benefits may reduce the amount of compensation awarded, the rules of legal standing and the question of who is entitled to compensation are not affected.

In cases of personal injury or death which arose out of an event for which another person is liable, the damage is often, in the first instance, almost entirely compensated by social insurance or by a public authority. In those situations, the statutes that govern the consequences of disease and incapacity for work ('social insurance') are relevant, although there are continuing debates on their often changing content.[40] In all these statutes, it is obligatory to compute the benefit in determining the compensation, so the judge will take into account the social benefits paid or to be paid to the victim because of his or her

[38] Cf. HR 30 November 2001, No. C00/016HR.

[39] Article 6:100 BW.

[40] The most important (partly obsolete) statutes concerning social insurance are: the Sickness Benefits Act (de Ziektewet (ZW)), the Invalidity Insurance (Self-Employed Persons) Act (Wet Arbeidsongeschiktheidsverzekering zelfstandigen (WAZ)), the Disability Benefits (Handicapped Young Persons) Act (Wet Arbeidsongeschiktheidsvoorziening Jonggehandicapten (WAJong)), the Disablement Benefits Act (Wet Arbeidsongeschiktheidsverzekering (WAO)), the Compulsory Health Insurance Act (Ziekenfondswet (ZFW)), the Exceptional Medical Expenses Act (Algemene Wet Bijzondere Ziektekosten (AWBZ)) and the Surviving Dependants Act (Algemene Nabestaandenwet (ANW)). See also Article 7:629 BW.

personal injury.[41] The governmental institutions that pay these social benefits have a right to recover their payments from the actual tortfeasor. This should not be considered a subrogation right, but rather as an individual right given by law.[42]

Portugal

Question (a)

In this case, the answer to Case 11 applies.

Question (b)

The fact that the cost of therapeutic treatment can be borne by public authority does not exclude the legal standing of affected persons to claim compensation for damages not repaired by 'public' treatment and/or for the *total* amount of damage, if the plaintiff chooses to get private treatment. Furthermore, the public authorities could sue *A* for the cost of the treatment of leukaemia.

Scotland

Question (a)

The answer here is the same as for Case 11 above: whether or not there is an increased duty of care on *A*, the injured parties will have to demonstrate that, on the balance of probabilities, the illness was causally linked to the pollution. The fact that the leukaemia rate has increased is a significant, but not a completely sufficient, element in the evidence.

If the causal link can be established, anyone who has contracted the illness in this way may make a claim in damages. The categories of claims would include: compensation for the illness itself and for any derivative economic loss stemming from it, such as pain and suffering due to illness; loss of earnings; loss of future earnings; and, if appropriate, the cost of maintenance, nursing and medical care in the future.

If an injured person dies before successfully pursuing a claim through the courts, then that person's executor[43] may sue on behalf of the deceased's estate.[44] The executor may claim damages for earnings lost

[41] See Articles 52 ZW, 61 ANW, 89 WAO, 83a ZFW, 68 WAZ, 60 WAJong, 65b AWBZ and 6:107a BW.

[42] Spier (ed.), *Verbintenissen uit de Wet en Schadevergoeding* (2000), pp. 213–17.

[43] The term used for the person appointed to administer a deceased person's estate, typically a member of the close family.

[44] Damages (Scotland) Act 1976, ss. 1A, 2 and 2A.

due to the illness prior to the date of death, and also for 'solatium', or pain and suffering attributable to the disease. If an action is successful, the damages awarded then form part of the deceased's estate, to be distributed according to his or her will or the laws of intestacy.

If any person has died from the leukaemia, the deceased's relatives may also be entitled to damages. The relatives would be obliged to prove causation, just as the deceased would have, and if the deceased would not have succeeded (e.g. because of the absence of a duty of care or proof of causation), then the relatives will likewise not succeed. The range of family members who may sue include the spouse, civil partner, the cohabitee, children (including illegitimate and stepchildren) and the parents.[45] These family members may claim damages for: loss of support derived from the deceased; distress or anxiety suffered as a result of the deceased's illness and subsequent death; loss of the deceased's society; and funeral expenses.

Question (b)

Anyone who contracted leukaemia and brought a successful action against *A* would be entitled to damages for to medical expenses and long-term care, as detailed above, insofar as a charge will have been made for this. The Health and Social Care (Community Health and Standards) Act 2003, section 150, allows the National Health Service to recoup the cost of hospital treatment from a person liable to pay compensation for injury, and, before the final amount of damages for the plaintiff is fixed, a deduction is made to account for social security payments likely to be made for a period of five years from the date of the accident.[46]

Spain

Question (a)

As has already been explained, courts often hold that the causal link must exist to an absolute certainty or a qualified probability. For this reason, mere conjectures, deductions or probabilities are generally deemed insufficient. In the case discussed, the only certain thing is that the pollutants emitted from *A's* site can lead to leukaemia, but not that they actually led to it, which makes a substantial difference.

[45] Damages (Scotland) Act 1976, s. 1 and Schedule 1.
[46] Social Security (Recovery of Benefits) Act 1997.

It is foreseeable that the Spanish courts will apply here the prevailing theory of 'adequate causation'.[47]

Moreover, Spanish law generally adopts an 'all or nothing' approach with regard to causation. This is not to say that a proportional liability – as has been suggested by economic analysts of Spanish law and discussed in other countries – is completely unknown to Spanish law. Indeed, the Air Navigation Act (LNA),[48] for example, provides that, whenever there is a collision between several aircraft and fault is either common to all or cannot be determined, or the accident was caused by *caso fortuito*, each operator will be liable in proportion to the weight of the aircraft (Article 123.2 LNA). Some scholars have suggested that a similar approach should be adopted in the field of product liability, in the form of a market-share liability,[49] or in the field of environmental liability, in the form of a pollution-share liability.[50] These authors would probably adhere to a flexible approach in this case. Essentially, the victim would be able to obtain compensation in proportion to the probability that a causal link existed between *A's* polluting emissions and the leukaemia. Moreover, this approach would probably be the most efficient economic solution and would not even require actual damage, but rather a mere increase in risk.[51] In practice, in Spain, no court decision has gone so far. Thus, the more likely approach to Case 12 would lead either to a full admission or to a full dismissal of the claim. However, the fact that the Tribunal Supremo has applied exceptional solutions in hard cases makes the outcome of this case rather unforeseeable. It

[47] See Martín, Ribot and Solé, in Koch and Koziol, *Compensation*, p. 258 No. 69, with further references.

[48] Ley 48/1960, de 21 de Julio, sobre normas reguladoras de la navegación aérea (BOE No. 176, 23.7.1960).

[49] Marín, *Daños por productos*, pp. 100–6; Luis Martínez Vázquez De Castro, 'La protección civil del medio ambiente', *Actualidad Civil* 2000, p. 22, and Cabanillas, *La reparación*, p. 174.

[50] See Ricardo De Ángel, 'Actuación dañosa de los grupos', *Revista Jurídica de Catalunya* 1997, p. 85 note 54; De Ángel, BIMJ 1991, p. 2896; similarly, de Miguel, in SEAIDA, *Estudios sobre la responsabilidad civil*, p. 350; de Miguel, *La responsabilidad civil por daños al medio ambiente*, p. 172, according to whom market share liability would be appropriate for damage caused by acid rain.

[51] See Fernando Gómez Pomar, 'El papel de la responsabilidad civil en la protección del medio ambiente: una valoración crítica', *Iniuria* 8/1995, 13–55, p. 32; Gómez Pomar, *Iuris* 1999, No. 30, p. 41.

should be noted that Spanish law lacks a general legal basis for imposing liability in proportion to the probability of causation, and the current climate towards such expansive views is still hostile.[52] For further details on the rules of evidence, please see the answer to Case 11.

Question (b)

As has already been noted, the generalisation of the social security scheme in Spain has led to few claims being brought for personal injury against polluters. With regard to a possible recourse action by the social security scheme against the tortfeasor, two norms must be taken into account.[53] The first is general in scope, and establishes that, whenever there is a third person who has the duty to pay, 'the public bodies that have provided services to the users will have the right to claim the cost of the services that they have provided from the third person who is responsible' (Article 83 of the General Health Act (LGS)).[54] The other norm refers specifically to the person who is liable in tort for the personal injuries giving rise to social security payments, and establishes that the social security scheme and its cooperating entities will be 'entitled to claim from the person liable in tort or, eventually, from the person who legally or contractually is subrogated in his or her obligations, the cost of the health services that they have provided' (Article 127 Social Security Act (LGGS)).[55] Among the persons who may be entitled to this right of recourse, Annex II RD 63/1995 mentions insurance companies acting in the framework of compulsory liability insurances as well as 'any other public or private first party insurances or third party insurances for the personal injuries or diseases caused to the person that has been treated'.[56]

[52] See Albert Ruda, 'La responsabilidad por cuota de mercado a juicio', *InDret* 03/2003, www.indret.com; Albert Ruda, 'Entre todo y nada. Una visión crítica de la responsabilidad por cuota de mercado', *Revista de la Asociación Española de Abogados Especializados en Responsabilidad Civil y Seguro* 2003/5, pp. 13–29.

[53] See Martín, Ribot and Solé, in Koch and Koziol, *Compensation*, pp. 238–9.

[54] Ley 14/1986, de 25 de abril, General de Sanidad (BOE No. 102, 29 April 1986).

[55] Real Decreto Legislativo 1/1994, de 20 de junio, por el que se aprueba el texto refundido de la Ley General de la Seguridad Social (BOE No. 154, 29 June 1994).

[56] Real Decreto 63/1995, de 20 de enero, sobre ordenación de prestaciones sanitarias del Sistema Nacional de Salud (BOE No. 35, 10 February 1995, p. 4538).

Sweden

Question (a)

See Case 11 on burden of proof and evidence issues, and Case 1 on the definition of 'surroundings' and the possibilities of a class action mechanism.

Question (b)

All personal injury above the costs of therapeutic treatment may be claimed by the person suffering from injury. In Sweden, personal injury includes the cost of care, loss of income (as well as loss of future income) and non-pecuniary damage. In case of death, funeral costs and loss of support can be awarded.[57]

[57] See the general Tort Law Act, Ch. 5.

Case 13 The dying forest

A, *B* and *C* are running three independent industrial sites. Pollutants emitted from these sites contaminate the air and cause damage to *D's* forest. Although the causal link between the pollutants and *D's* damage can be established, *D* is not able to apportion the damage among the defendants.

a) Is *D* entitled to claim full damages from *A*? Will *A* be entitled to sue *B* and/or *C* for contribution in paying damages if *A* has satisfied *D's* claim? What is the extent of their liability?
b) What is the extent of liability if it can be shown that each of the substances, in and of themselves, were not polluting, but that damage only occurred because of their interaction?

Comparative remarks

1. Comparison

Causation by multiple tortfeasors will subject them to joint and several liability, if the plaintiff can show the causal link between each activity and the damage, despite being unable to *apportion* the damage among the defendants. In all European countries, the plaintiff is, thus, entitled to claim full damages from any of the defendants. In Austria, this is generally provided by § 1302 ABGB. With regard to damage to forests and damage caused by licensed water installations, however, specific regulations provide for the apportionment of damages in equal parts (§ 53(2) ForstG, § 26(5) WRG). Nevertheless, before imposing joint and several liability or equally apportioning damages, the court is obliged to estimate each defendant's share. Only if such estimation is impossible will joint and several liability according to § 1302 ABGB, or the equal division of damages according to § 53(2) ForstG or § 26(5) WRG, be

permissible. In Germany, joint and several liability can be established according to §§ 830(1) and (2), 840(1) and 426(1) BGB, which also apply to liability based on the UmweltHG or other rules of strict liability. Similarly to Austria, joint and several liability will only be applied if courts are unable to apportion the shares equitably under § 287 ZPO, which allows for the free estimation of damages. In Greece, the relevant rule is Article 926 Astikos Kodikas; in Italy, it is Article 2055 Codice Civile, and, in Portugal, this is provided by Articles 490 and 497 Código Civil. In Ireland, joint and several liability of concurrent tortfeasors is provided by Part III of the Civil Liability Act 1961. Although Article 1137 of the Spanish Código Civil provides for separate liability as the general rule, the Tribunal Supremo usually applies joint and several liability in tort cases, due to a narrow interpretation of Article 1137 Código Civil and specific tort legislation (so-called *solidaridad impropria*). In the Netherlands, Article 6:102 Burgerlijk Wetboek provides for joint and several liability regardless of the individual contribution of each tortfeasor.

The defendant who has compensated the victim has a right of *recourse* against the other defendants. In most countries, apportionment among tortfeasors depends on factors such as predominance of causation or fault (e.g. Austria, Belgium, England, Finland, Germany, Greece, Italy, The Netherlands, Sweden, Spain), and only in the absence of such factors will liability be equally apportioned. The French reporter, however, indicates that the damage will always be equally apportioned among the tortfeasors.

In all countries, except Portugal, it makes no difference that the harm occurred only because of the *interaction* of two non-polluting substances.[1] Each of the substances presents a necessary condition for the damage, according to the principle of equivalence. The English, Italian and Scottish reporters, however, stated that it would be much more difficult to prove either fault or foreseeability where the substances were non-polluting in themselves. Under Dutch law, the fact that one substance alone is harmless can make a difference with regard to the basis of the tort claim, since strict liability according to Article 6:175 § 1 Burgerlijk Wetboek is only applicable to substances that are dangerous by definition under Article 6:175 § 1 and § 6 Burgerlijk Wetboek.

[1] See Question 13(b).

2. *Conclusions*

The answers to Case 13(a) show a high degree of consensus among the jurisdictions analysed. If damage is caused by several tortfeasors, all the countries grant the victim the right to full compensation from any of the defendants (joint and several liability), even if the plaintiff is not able to apportion the damage among the defendants. The defendant who has compensated the victim is then generally entitled to claim reimbursement from the other defendants.

The same applies to the answers to Question (b) investigating a special case of cumulative causation. Here again, the answers are rather similar, clearly establishing causation.

Discussions

Austria

Question (a)

If *D* is not able to apportion the damage among the defendants, he or she is entitled to claim full damages from each defendant (§ 1302 ABGB). *A*, *B* and *C* are jointly and severally liable for *D's* damage. Joint and several liability also applies for joint perpetration (§ 1301 ABGB).

The case described, however, deals with damage to a forest. A special regulation, § 53(2) ForstG, applies to damage to a forest and provides that damages be apportioned in equal parts. The same applies with regard to damage caused by a licensed water installation according to § 26(5) WRG. However, before a court applies joint and several liability or equal apportionment of damages, it is obliged to try to estimate each defendant's share.[2] Only if such estimation is not possible can joint and several liability (§ 1302 ABGB), or equal division of the damages (§ 53(2) ForstG or § 26(5) WRG), be assessed against the defendants.

Question (b)

In this case, each activity was a *conditio sine qua non*, a necessary condition, for the damage. Defendants *A*, *B* and *C* are, therefore, jointly and severally liable for the damage according to § 1302 ABGB.

[2] OGH 14.12.1988, 3 Ob 591/87, JBl 1989, 578.

Belgium

Question (a)

As indicated above, Belgian courts apply the theory of equivalence of conditions.

If it is not possible to apportion the losses among the defendants, and the causal link between the entire damage and the pollutants released by *A*, *B* and *C* has been established, then *A*, *B* and *C* are liable *in solidum* for *D's* whole damage.[3] The defendant who compensates *D* has recourse against the other liable parties for contribution. In apportioning the losses in the context of the recovery (contribution) action, the judge may take into account the causal relevance of the fact giving rise to liability, as well as the gravity of fault, if fault liability is involved.[4]

Belgian law does not reverse the burden of proof where one member of a group has caused the damage, but which specific member it is cannot be identified. Liability will only be imposed on all members of the group if they participated in a common negligent activity that was a cause of the damage.[5]

Question (b)

Here, the release of each of the substances satisfies the 'but for' test and is to be considered a cause of the damage; i.e. the damage would not have occurred without one of the substances (see (a) above).

England

Question (a)

Again, it must be noted that fault must be established for all three defendants, and the damage must have been foreseeable at the time the defendants acted before any action in court will succeed. (Both factors are therefore assumed here to be established.)

D is entitled to claim full damages from *A*. This is an issue of genuine 'joint and several' liability. Because all defendants are at fault, the damage is foreseeable and the causal link can be established, each defendant is liable without addressing factual causation. The claimant may then recover from *A*, *B* or *C* or any combination of them, but only collectively to the extent of his total assessed damages, not the total

[3] Bocken and Boone, 'Causaliteit', 18. [4] *Ibid*., 15 and references.
[5] *Ibid*., 42 and references. Cousy and Vanderspikken, 'Causation', 35.

amount individually from all three. The tortfeasors can apportion the damage among themselves via the doctrine of contribution.

Question (b)

The answer is the same as the answer to Question 13(a), but it would be much more difficult to prove either fault or foreseeability.

Finland

Question (a)

All the operators are jointly and severally liable. Plaintiff *D* is entitled to claim full damages from *A*. Defendant *A* is entitled to sue defendants *B* and/or *C* to contribute in paying damages. Responsibility for compensation is divided among *A*, *B* and *C*, according to their potential to prevent the damage, contribution/cause of liability and other circumstances.

Question (b)

Liability is also joint and several in this kind of case.

France

Question (a)

Defendants *A*, *B* and *C* could be obligated *in solidum* to compensate *D*. The defendant who has compensated beyond his proportional obligation has recourse against the other liable parties.[6] If it appears not scientifically possible to determine the share of responsibility each polluter has in the pollution, the respective part of *A*, *B* and *C* is equally apportioned at one-third of the total amount. If it is technically possible to determine a precise share of responsibility for each (e.g. 50 per cent for *A*, 30 per cent for *B*, and 20 per cent *C*), each polluter will be liable to the extent designated by the judge (who, of course, relies on scientific expert appraisal).

Question (b)

According to the 'integral causation' theory, each party is responsible for the entire damage. Only the contributory fault of the victim (rather unlikely in this case) is a defence.[7]

[6] See Malaval, 'Development Durable', p. 83.
[7] Cass., civ. II, 18 December 1978, *Juris-Classeur environnement*, fasc. 1010.

Germany

Question (a)

The given facts provide no indication of how the individual substances have caused the harm sustained. However, there are the alternative possibilities of total or cumulative causality (*summierte Kausalität* or *kumulative Kausalität*).

I. The violation of the property interest is a possible basis for a claim under § 823(1) BGB. The requirements of causality, unlawfulness and fault are satisfied here. However, since the extent of liability for each defendant is indeterminable, liability cannot be established under § 823(1) BGB for *A*, *B* and *C*.

II. For a claim under § 830(1) sentence 2 BGB, defendants *A*, *B* and *C* must be involved in the activity causing the pollution such that they would otherwise have been liable individually for the alleged tortious act. The section may also be applicable in the assessment of partial liability, as the purpose of the provision is to ensure that the injured party is compensated even though he cannot establish causality.[8] This is applicable to the case here, where a single act or a number of acts (cumulative causality) have caused the damage, yet each individual act could also have caused the damage.[9]

Accordingly, the defendants are jointly and severally liable (§§ 840(1), 830(1) sentence 2, 421 BGB), allowing *D* to claim full damages from *A*. The compensation is governed by § 426(1) sentence 1 BGB, which requires jointly and severally liable parties to share the liability equally. Thus *A* can claim redress from *B* and *C* if he has already satisfied the compensatory claim towards *D*. Section 830(1) sentence 2 BGB is also applicable to risk factors giving rise to liability, as § 2(1) HaftPflG (Legal Liability Act) is theoretically.[10]

III. Penal law principles are relevant for a claim under § 823(2) BGB in conjunction with §§ 229, 324 *et seq*. StGB. The causal responsibility of each individual perpetrator must be established. In the case of alternative causality (as well as cumulative causality), each perpetrator is criminally responsible.[11] However, the shares of the individual defendants are in doubt, so that § 830(1) sentence 2 BGB is also applicable to this particular tortious act (see above on this).

IV. Section 6 UmweltHG is particularly important for a claim under § 1 UmweltHG. Although the liability of multiple defendants, where shares of liability are not established, is not separately regulated

[8] Staudinger/Belling/Eberl-Borges, BGB (13th edn, 1997), § 830, n. 68, 73.
[9] Palandt/Sprau, BGB § 830 n. 9.
[10] 4.1.1978, BGBl. I p. 145; Staudinger/Belling/Eberl-Borges, BGB § 830 n. 73.
[11] Haft, *Strafrecht Allgemeiner Teil*, (8th edn, 1998), p. 65.

under § 6 UmweltHG, it does provide that, where a cause is involved that cannot be attributed to any defendant, joint and several liability fails. The causality presumption would likewise fail with regard to the extent of the damage.[12] However, where the shares of causality are distinguishable, the court makes an assessment of shares pursuant to § 287 sentence 1 ZPO (Code of Civil Procedure Rules).[13] An analogy to § 830(1) sentence 2 BGB might also be possible and is also intended to apply to risk factors,[14] yet is not excluded under § 6 UmweltHG.[15]

V. A claim under § 6 USchadG should be considered. Environmental damage pursuant to § 2 No. 1(a) USchadG in conjunction with § 21a(3) BNatSchG probably exists. However, the necessary particulars are not given to answer this question definitely. According to § 6 USchadG, the person responsible must take the required measures for the limitation of damage (No. 1) and for decontamination pursuant to § 8 USchadG (No. 2). Pursuant to § 8 USchadG, the person responsible must take the required measures for decontamination pursuant to the relevant special law. The competent public authority determine the type and extent of the measures required for decontamination pursuant to the special law. According to § 9(1) USchadG, the responsible person typically bears the costs of preventive measures, the costs of limitation of damage and the costs of decontamination. In this case, three responsible persons exist. The question is answered by § 9(2) USchadG: multiple responsible persons have reciprocal claims for compensation among themselves independently of their joint and several liability. In the absence of other factors, the liability and amount of compensation depend predominantly on the extent of the danger or damage caused by one or the other party; § 426(1) s. 2 BGB applies (Gesamtschuld, joint and several debt).

Question (b)

I. Only causality giving rise to liability is in question for § 823(1) BGB. Since none of the actions alone was of a type to cause the damage (cumulative causality, total emissions), dispensing with any of the actions against *A*, *B* or *C* would cancel out the concrete outcome. Thus, all acts are causal as being *conditio sine qua non*.[16] This means that each participant is liable within the general rules, or liable proportionately to its partial causality, which is estimated pursuant to § 287 ZPO.[17] Where such an assessment is not possible, the defendants are jointly and severally liable pursuant to § 840(1) BGB.[18] Plaintiff *D* can elect to

[12] Kloepfer, *Umweltrecht* § 6 n. 91 with further references. [13] 12.9.1950, BGBl. p. 533.
[14] Palandt/Sprau, BGB § 830 n. 14. [15] Staudinger/Kohler, BGB § 6 UmweltHG n. 16.
[16] Palandt/Heinrichs, BGB Vorbem § 249, n. 86. [17] Medicus, JZ 1986, 778, 782.
[18] BGH 13.02.1976, BGHZ 66, 70, 77 (compensatory claims arising out of the interaction of several emissions).

bring a compensatory claim against any of the defendants (or a combination thereof), but may only collect damages once under § 421 sentence 1 BGB.

The comments relating to § 823(1) BGB apply to § 823(2) BGB in conjunction with § 229 StGB.[19]

II. For a claim under § 1 UmweltHG, the presumption of causality under § 6(1) UmweltHG is still applicable in this situation, and it is not rebutted by a reliance on cumulative causality.[20] All three defendants are jointly and severally liable pursuant to § 421 BGB.[21]

III. Again, a claim under § 6 USchadG should also be considered. The question therefore may be answered as before.

Greece

Question (a)

According to Article 926 AK: 'If an act made in common by several persons has caused a harm or if several persons are equally responsible for one and the same harm, each of them shall be liable for the whole harm. The same rule shall also apply if in the case of several persons having acted concurrently or successively it is not possible to ascertain whose act has caused the harm.'[22] The facts presented in this case clearly fall under this Article. There is damage caused by the independent activities (acts or omissions) of *A*, *B* or *C*, acting simultaneously or at different times and causing damage, and it is not possible to determine whose act or omission has actually caused the damage. From the moment the causal link between the pollutants and *D's* damage can be established, *D* has a claim and is not obliged to apportion the damage among *A*, *B* and *C*. The AK gives him the right to claim full damages from any one of the tortfeasors, as *A*, *B* and *C* are jointly and severally liable to *D* for the damage.[23]

According to Article 927 AK, which regulates the liability relationship among the tortfeasors, the co-authors of the harm are liable to one another according to the degree of their respective fault, which degree

[19] However, § 830(1) sentence 2 BGB is not applicable here as none of the emissions had the propensity to cause the entire damage (cumulative causality). Staudinger/Belling/Eberl-Borges, BGB § 830 n. 86; Medicus, JZ 1986, 778, 782.

[20] Kloepfer, *Umweltrecht* § 6 n. 91.

[21] Salje and Peter, *Umwelthaftungsgesetz*, 2005, § 1/3 n. 133; cf. the book review by Möllers, NJW 1994, 844.

[22] The translation of the article into English is taken from the translation of the Greek Civil Code into English by C. Taliadoros, Athens-Komotini 2000, and is slightly modified.

[23] I. Karakostas, *Perivallon kai Astiko Dikaio*, p. 129; I. Karakostas, *Perivallon kai Dikaio*, p. 302.

is determined by the court. Consequently, *A* has a recourse against *B* and *C*, if he has satisfied *D's* claim.

As mentioned above, *A*, *B* and *C* will be liable to one another according to the degree of their respective fault. If the degree of fault cannot be ascertained, the harm shall be divided and borne by all equally, which means that *A*, *B* and *C* are liable for one-third of the damage each. As *A* has satisfied *D's* claim in whole, he can claim the other two-thirds of the total payment from *B* and *C*, one-third from *B* and one-third from *C*.

Question (b)

If it can be shown that each of the substances by itself was not polluting and that damage only occurred because of their interaction, liability would be no different from that above under Articles 926 and 927 AK, which explicitly regulate the liability of several persons when it is not possible to ascertain whose act has caused the harm.

Ireland

Question (a)

D is entitled to recover full damages, and it is irrelevant whether he or she recovers damages from *A*, *B* or *C* or sues all three. It will be up to the court to determine, on the evidence, to what extent, if any, each party is responsible for the injury.

The matter is governed by Part III of the Civil Liability Act 1961. Where two or more people are responsible for damage, they are treated as concurrent wrongdoers and each is responsible to the injured person. In general, each liable party pays in accordance with his or her share of liability. Legally, however, each defendant is liable to the plaintiff for the full amount, so that, if one defendant fails to pay, the others must pay that defendant's share and then seek to recover the amount from the defaulting defendant. The principle is that the plaintiff should not have to concern him- or herself with apportioning liability. This can work unfairly, however, where one defendant has no money, and another solvent defendant who is only 10 per cent responsible ends up paying 100 per cent of the damage (see *kenny* v. *Iarnrod Eireann*).

In the present case, *A*, *B* and *C* are together liable to *D*, and *D* should sue all three. *D* could choose to bring separate actions if he or she wished, but this would enable each defendant to claim that the others were liable.

Question (b)

If it is shown that each substance is not by itself polluting, this should not affect the defendants' status as concurrent wrongdoers. All defendants should be liable, since each one must accept the condition of *D's* land as it is when the pollutant is emitted to it. Therefore, each one must accept that *D's* land is particularly vulnerable to his or her pollutant, since it is already contaminated by substances which, when taken together, will cause damage. It will be no defence for any one defendant to say that, at the time that that defendant's pollutant was emitted, none of the other pollutants was present and that the liability therefore rests with the other defendants (unless the discharge of one pollutant ceased long before the discharge of the others commenced).

Italy

Question (a)

Given the fact that *D* has already proven a causal connection, the situation is governed by Article 2055 Codice Civile, with regard to apportionment of liability among multiple tortfeasors.

Again (but see also above), this provision states that 'if the act causing damage can be attributed to more than one person, all are liable *in solido* for the damages'. Thus, *D* is entitled to claim full damages from any one of or a combination of the three polluters. Defendant *A*, as 'the person who has compensated for the damage', in the sense of Article 2055, will be entitled to sue each of the others in proportion to the degree of fault of each and the consequences arising therefrom. Where it is not possible to establish exactly 'the degree of fault attributable to each, [it] is presumed to be equal'.[24]

Question (b)

There is neither statutory provision nor case law on this specific issue.[25] It could be presumed that, if none of the different parties knew of the possibility of interaction, it would be impossible to find negligence, and thus it would be difficult to establish liability.

[24] Cf. Monateri, *La responsabilità civile*, pp. 192 *et seq.* For the case law, See Cassazione 16.8.1988, n. 4950; Cassazione 9.5.1987, n. 4296; Cassazione 25.7.1981, 4809.

[25] But the case has been studied by comparative law scholars. See Pozzo, *Danno ambientale ed imputazione della responsabilità*, p. 317.

The Netherlands

Question (a)

This case is a classic example of alternative causation, which is governed by Article 6:99 BW. This Article reads as follows: 'Where the damage may have resulted from two or more events for each of which a different person is liable, and where it has been determined that the damage has arisen from at least one of these events, the obligation to repair the damage rests upon each of these persons, unless he proves that the damage is not the result of the event for which he himself is liable.'[26]

In this case, it is certain that the *entire* damage to *D's* forest has been caused by any one or more of the several polluting acts committed by *A*, *B* and *C*, although the specific liability of which one is indeterminable. The ruling in the *Des* case is instructive here. In that case, the court ruled that any of the producers of the defective '*Des* drug' could be held liable for the entire damage suffered by a large number of victims. It was then up to the liable producer(s) to recover from the other producers that part of the damages that exceeded their contribution to the damage.

In this particular case, the rule of alternative causation (Article 6:99 BW) relaxes the burden of proof for *D* in the event that he claims full damages from *A*. Plaintiff *D* would no longer be obliged to establish the causal link between his damage and *A's* polluting act. It is *A* who must prove that his act did *not* cause the full damage in order to recover from *B* and/or *C* the part of the damages that exceeded his share. In the event that *D* is fully compensated by *A* for his damage, he will then no longer be entitled to sue *B* and/or *C* for the same damages.

Since, in theory under Article 6:99 BW, *B* and *C* could also be held fully liable for the damage to *D's* forest, it is also possible for *A* to start so-called 'third party proceedings'. *A* could, under the rule of Article 6:99 BW, start these proceedings against any of his two potential co-tortfeasors. It has been held that the procedural complexities caused by third party proceedings could offset the advantage of joint and several liability. It is argued, however, that, depending on one's litigation strategy, it can be useful to attempt to invoke these third party proceedings, instead of settling for 'ordinary' partial liability.[27]

[26] Article 6:99 BW. [27] Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 477.

Question (b)

Under Article 6:175(1) BW, generally the person that professionally uses a dangerous substance can be held liable in the event of damage. Plaintiff *D* must therefore prove that each of the three substances emitted by *A*, *B* and *C* by themselves were to be considered 'dangerous substances' as defined in Article 6:175(1) and (6) BW. Even though the substances did not, in effect, pollute in the case in hand, it is likely to be seen that nevertheless they could have polluted *D's* forest because of their dangerous nature. Each polluter *A*, *B* or *C*, using the substance in carrying out his business, can be held strictly liable under Article 6:175 BW.

If a dangerous substance is formed as a result of an unintended interaction of substances, the professional user of the substances (e.g. a pharmacist) will be held strictly liable under Article 6:175 BW.[28] In this particular case, the damage to *D's* site was caused by more than one tortious act. Article 6:102(1) BW states that 'two or more persons who are each obliged to repair the same damage, are solidarily liable', only where it is known that the damage was caused by more than one identified person. Therefore, *A*, *B* and *C* are jointly and severally liable; *D* is entitled to claim compensation for his entire damage from any one of the aforementioned defendants, regardless of the contribution of that defendant to the loss. The defendant that was held liable for the entire damage (i.e. for more than his share) has the right of recourse against the other two defendants.[29]

Portugal

Question (a)

Concurrent attribution of liability is another area in which the Portuguese legislature has not established any generally applicable rule for specific issues of environmental and ecological harm. However, in this case, the cause of the harm is cumulative; therefore, the regime of Portuguese law of joint and several liability could govern this case (Articles 490 and 497 Código Civil). Accordingly, *D* can claim damages to the full amount from *A*, and *A* can claim redress from *B* and *C* for the amount in excess of his liability.

[28] Spier (ed.), *Verbintenissen uit de Wet en Schaderergoeding* (2000), p. 105.

[29] Betlem, *Civil Liability for Transfrontier Pollution* (1993), pp. 471–2, Bauw and Brans, *Milieuprivaatrecht* (2003), p. 232, HR 24 December 1999, NJ 2000, 351.

The liability could also be based on Article 23 LAP, if the industrial sites were considered dangerous, or on Article 22 LAP, if fault is established.

Question (b)

The regime of joint and several liability, based on Articles 490 and 497 CC, does not apply if the isolated action of *A*, *B* or *C could not have caused the damage*. In other words, if the damage resulted from the interaction of the three emissions, as in this case, there is no joint and several liability.

Scotland

Question (a)

Detailed information would be required to answer this question with certainty. Scots law does recognise the principle of joint liability, whereby two or more persons who have contributed to the commission of a delict are each held jointly and severally liable for the damage caused. Thus, *D* can sue any one of *A*, *B* or *C* or, alternatively, more than one of them, for the whole damage arising from their combined wrongdoing. Whichever of the parties has paid the damages will have a right of relief against those who have not. The matter of the extent of the liability of *A*, *B* and *C* is for the court to decide, as a question of fact.[30] However, the principle operates only where each of the parties has made a material contribution to the *same* delict. If, in *D's* case, the damage can be shown to be the cumulative result of *A's*, *B's* and *C's* pollutants, then the principle may readily apply, although the court will still require sufficient evidence to determine the contribution made by each. Plaintiff *D* will not meet the requisite standard of proof, if the evidence obtained by *D* merely shows that damage has been caused by pollution of some kind, rather than showing (on the balance of probabilities) that the damage was caused specifically by *A*, *B* or *C*, or a combination thereof. The possibility of damage being caused by other agents must be excluded. Plaintiff *D* must also be able to show that *A*, *B* and *C* were individually at fault in the process by which the pollutants escaped into the atmosphere.

[30] Law Reform (Miscellaneous Provisions) Act 1940, section 3(1).

Question (b)

In principle, if the damage was caused by a genuine interaction, joint liability may arise, as discussed above. However, liability is fault-based, and fault will be established if the state of scientific knowledge is such that *A*, *B* and *C* could reasonably have foreseen that the release of an otherwise harmless substances (by themselves) could cause harm. While *A*, *B* and *C* may be expected to have knowledge of the properties of their own products, *D* will have to show that the defendants were aware of the emissions from neighbouring plants, and that the consequences of an interaction among them were reasonably foreseeable.

Spain

Question (a)

According to the Spanish Civil Code, joint and several liability should not be presumed in the case of plurality of debtors or of creditors (Article 1137 CC). Therefore, separate liability is the general rule unless joint and several liability is expressly established. This provision is part of the general regime of the law of obligations, so it could be applied theoretically to any obligation, independently of what its source was.

Nevertheless, the Tribunal Supremo has traditionally construed Article 1137 very narrowly.[31] According to the Court's point of view, this provision is only applicable to obligations deriving from a contractual act.[32] Thus, the legal presumption of no joint and several liability would not apply to obligations derived from mistaken payment, unjust enrichment (STS 10.11.1981 [RJ 1981/4471]) or tort (e.g. STS 8.2.1991 [RJ 1991/1157]). Moreover, special legislation in the field of tort law establishes that multiple tortfeasors will be jointly and severally liable.[33] Likewise, the Código Penal (Criminal Code (CP)) follows this rule with relation to liability in tort for criminal acts (Articles 116.2 and 212 CP). Pursuant to Article 116.2 CP, 'if two or more persons are responsible for

[31] See Jorge Caffarena Laporta, in *Comentario del Código Civil*, II (Madrid, Ministerio de Justicia, 1991), p. 119.

[32] See the criticism by Mariano Yzquierdo Tolsada, *Responsabilidad civil contractualy extracontractual* (Madrid, Reus, 1993), p. 68; Mariano Yzquierdo Tolsada, *Aspectos civiles del nuevo Código Penal* (Madrid, Dykinson, 1997), pp. 188–94; Mariano Yzquierdo Tolsada, *La responsabilidad civil del profesional liberal* (Madrid, Reus, 1989), p. 167.

[33] Article 27.2 of the Ley 26/1984, de 19 de julio, general para la defensa de los consumidores y usuarios (Consumers Act (LGDCU), BOE No. 175 and 176, 24.7.1984); Article 7 LRPD; Article 35.1(b)LC; Article 12 2nd para. of the Código de navegación aérea (Air Navigation Code, BOE No. 1, 1.1.1948); Article 123 LNA; and Article 52.2 LEN.

a crime or a misdemeanour, the judge or the court will establish the share of liability that corresponds to each of them', and, subsequently, according to the second subsection, 'the authors and the accomplices, each of them within his respective group, will be jointly and severally liable among them for their respective shares, and subsidiarily liable for the shares corresponding to the other persons held responsible'.[34]

Some scholars believe that joint and several liability in the case of indeterminate defendants could be based as a matter of principle on the special provisions above.[35] The courts seem to concur by holding defendants liable under 'improper joint and several liability' (*solidaridad impropia*),[36] referring to those situations where joint and several liability has been neither contractually nor legislatively established. The rule is applied in cases of alternative causation, as well as when both defendants have contributed to the damage but it is not possible to define the degrees of the causal contribution by each.[37]

Occasionally, the Tribunal Supremo has held the contrary view. For instance, in STS 19.6.1980 [RJ 1980/2410], the court found for the defendant because the oil pollution from the facilities belonging to the claimant could have been caused by others. This decision is very controversial,[38] but, as the decision itself remarked, the defendant could not have actually caused the damage to the claimants for physical reasons (the wind brought the oil from a spill elsewhere to the damaged facilities).

Joint and several liability will also be established, without any hesitation, in the case of cumulative causes (or 'concurrent' causes, in the terminology of the Tribunal Supremo), where 'two causal courses of different origin contribute[d] simultaneously to the production of the damaging event when any of the two would have been sufficient to produce it with the same characteristics and in the same circumstances'.[39]

[34] Ley Orgánica 10/1995, de 23 de noviembre, del Código Penal (BOE No. 281, 24 November 1995).

[35] See Díez-Picazo, *Derecho de daños*, p. 167; and F. Peña López, in Rodrigo Bercovitz (coord.), *Comentarios al Código Civil* (Pamplona, Aranzadi, 2001), p. 2124.

[36] SSTS 26.11.1993 [RJ 1993/9142], 2.11.1999 [RJ 1999/7998], and 12.12.1998 [RJ 1998/9889].

[37] STS 7.11.2000 [RJ 2000/9911].

[38] For instance, de Ángel, BIMJ 1991, p. 2889 and Huerta and Huerta, *Tratado de Derecho ambiental*, p. 1061.

[39] For example, Miquel Martín Casals and Josep Solé Feliu, 'Multiple Tortfeasors under Spanish Law', in W. V. H. Rogers (ed.), *Multiple Tortfeasors* (The Hague, Kluwer Law International, 2004), pp. 189–213, at p. 192 No. 8; see also SSTS 18.6.1998 [RJ 1998/5066] and 7.11.2000 [RJ 2000/9911].

Finally, the decisions of the Tribunal Supremo also apply the rule of joint and several liability to cases of additional causation, defined as those cases where two negligent acts together cause the damage, though it is not possible to determine the extent to which each of them contributed, but the damage would not have taken place with only one of the acts;[40] and even to cases of autonomous causal courses, cases in which one cause simply worsens the damage extant from another cause.[41] Causes which only contribute to the harm to an insignificant degree are not to be taken into account.[42]

Here, *D* would be entitled to claim full damages from *A* on 'improper' joint and several liability. Then, the legal regime of joint and several liability allows *A* to sue *B* or *C*, once *A* has paid *D*, for their share (plus interest for their share which *A* originally paid) (an action of recovery).[43] Case law considers that this provision applies also to obligations arising from tort for which no specific provision exists.[44] The share or amount of contribution that a co-debtor is entitled to recover is established in the judgment according to the participation of each co-debtor in the causation of the damage. When the contribution of each of the multiple tortfeasors is not explicitly established, they are presumed to have contributed in equal shares (Article 1138 CC).[45]

Question (b)

The decisions of the Tribunal Supremo apply joint and several liability as a general rule, even if the persons contributing to causing the damage have not acted as co-authors (i.e. as persons who are acting with common intent) and even though the behaviour of each of them would not have been sufficient, by itself, to cause the whole damage.[46] Therefore, *A*, *B* and *C* would nevertheless be held jointly and severally liable.

[40] STS 18.11.1987 [RJ 1987/9989].

[41] In this sense, see, *inter alia*, SSTS 18.11.1987 [RJ 1987/9989]; 26.12.1988 [RJ 1988/9817]; 21.12.1999 [RJ 1999/9747]; 7.3.2002 [RJ 2002/4151]; 27.6.2001 [RJ 2001/5087]. See also Martín and Solé in Rogers, *Multiple Tortfeasors*, p. 192, Nos. 8, and 9, and p. 199, No. 27; Cabanillas, in Área de Derecho Civil de la Facultad de Derecho de la Universidad de Zaragoza, *Estudios de Derecho civil*, p. 216; Egea, *Acción negatòria*, p. 130 (supporting a proportional liability) and Moreno, in Gómez, *Derecho del medio ambiente*, p. 53.

[42] See, for instance, Huerta and Huerta, *Tratado de Derecho ambiental*, p. 1063.

[43] Articles 1140 *et seq.* CC.

[44] SSTS 11.3.2002 [RJ 2002/1885] and 12.4.2002 [RJ 2002/2607].

[45] SSTS 4.1.1999 [RJ 1999/132] and 11.3.2002 [RJ 2002/1885].

[46] See, for example, Pantaleó, *Comentario del Código Civil*, p. 2001; Asúa, in Puig Ferriol *et al.*, *Manual de Derecho Civil*, p. 476 and Martín and Solé, in Rogers, *Multiple Tortfeasors*, p. 209.

Sweden

Question (a)

The civil liability scheme in the Environmental Code is applicable here, and provides for joint and several liability, if the causation cannot be apportioned or if liability is not mitigated towards one or more of the tortfeasors for some other reason.[47] Each can be held liable for the full amount and may sue in a recourse action against the other tortfeasors. If nothing else has been agreed among the tortfeasors, the general rule is that each defendant will bear its part of the damages, if reasonable; otherwise, the shares of some of the tortfeasors may be mitigated by taking into account economic circumstances, the potential for them to prevent the damage (before it occurred) and the basis of liability (intent, fault, neglect, etc.).[48]

Question (b)

The joint and several liability rule, as outlined above, will apply.[49]

[47] Environmental Code Ch. 32 § 8.
[48] Hellner, *Skadeståndsrått* (2000), Ch. 14.3; see also B. W. Dufwa, *Flera skadeståndsskyldiga* (1993). For case law, see e.g. NJA 1937 s 264 and 1993 s 727.
[49] Hellner, *Skadeståndsrått* (2000), pp. 214 *et seq*.

Case 14 Fish kill

In the river 'Flumen' that runs through an industrial area, a tremendous amount of fish are suddenly killed. Chemical analysis shows that the river contains high amounts of two chemical substances that have accumulated in the inner organs of the fish. One of the substances originates from plant *A*, the producer of household detergents, and the other one from plant *B*, the manufacturer of industrial solvents.

a) Who is liable if the fish kill was caused by both substances?
b) What is the extent of liability if it can only be shown that the fish kill was caused either by the industrial solvent or by the chemical used in the detergent production?
c) What is the extent of liability if it can be shown that the industrial solvent would have caused the death of the fish if the fish had not already been killed by the other chemical?

Comparative remarks

1. Comparison

The solution of concurrent causation is similar in all the European countries. This was explored by Case 14, which describes a fish kill. If two substances originating from different sources killed the fish, all jurisdictions provide for joint and several liability of the tortfeasors (*cumulative causation*).[1] When one cause has taken effect before the other (*intervening causation*),[2] nearly all reporters point out that only the person who caused the damage first is liable. Liability of the person who, in the absence of the first cause, would have caused the damage is clearly rejected (Belgium, England, Finland, France, Germany, Greece,

[1] See Question 14(a). [2] See Question 14(c).

Ireland, Scotland, Sweden). Only the Portuguese and the Spanish reporters considered joint and several liability in such a case. In Austria, the majority opinion favours the sole liability of the first tortfeasor. Some scholars, however, suggest that the subsequent intervening cause should be considered. Depending on the details of the case, joint and several liability of both tortfeasors, apportionment of damages, or even total exculpation of the first injurer, may be justified.

In most countries (Austria, Finland, Germany, Greece, Ireland, the Netherlands, Sweden, Spain), joint and several liability will apply if the fish kill was caused either by substance A or by substance B (*alternative causation*).[3] Although the French and the English reporters also came to this conclusion, they were rather hesitant to do so. The French reporter stated that the court might be less strict than in cases of cumulative causation, and the English reporters, refering to a split in case law, explained that the outcome of such a case would likely be joint and several liability. In Portugal, the problem has not yet been resolved, but scholars favour joint and several liability. The only authors who clearly denied joint and several liability were the Belgian and the Scottish reporter, who explained that none of the defendants will be liable if the plaintiff is not able to establish causation.

With regard to the questionnaire example of fish in a river, several authors (England, Germany, Scotland) indicated that, under their jurisdictions, fish in rivers belong to the category of wild unowned animals, and thus legal standing in tort would be a problem. Many authors further pointed out that a clean-up obligation, provided by public law, would be imposed upon the polluters. This area of law is now being reshaped by the 2004 EU Environmental Liability Directive and the national laws implementing the Directive.

2. *Conclusions*

Case 14 investigates three situations of concurrent causation that have some importance for environmental liability cases. A clear common core exists with regard to Question (a), the cumulative causation case, where all the reporters establish joint and several liability of both tortfeasors, and Question (c), the case of intervening causation, where liability of the second defendant was rejected by the overwhelming

[3] See Question 14(b).

majority. The answers to Question (b), which explores the solution with respect to alternative causation, vary, although a certain preference for joint and several liability of both defendants can be observed.

Discussions

Austria

Question (a)

This case presents the issue of cumulative causality, and it is common opinion that both *A* and *B* are jointly and severally liable for the dead fish.[4] The relevant provision is § 1302 ABGB.

Question (b)

This question presents a case of alternative causality, which, by application analogous to § 1302 ABGB, also leads to joint and several liability between *A* and *B*.[5]

Question (c)

In this case (intervening causation), courts are usually of the opinion that the person who caused the damage first is wholly liable. An exception is only made in personal injury cases where the action of the tortfeasor caused the onset of a disease that the victim would have developed later, due to his or her personal disposition. The defendant would thus only be liable for the loss until the point in time at which the victim would have contracted the disease anyway.[6] Several authors,[7] however, suggest considering the liability of the first tortfeasor with due regard to the actions of the second tortfeasor in all cases of intervening causation. The result may be a total or partial exculpation of the first injurer, or, under certain conditions, joint and several liability.

[4] Koziol, *Haftpflichtrecht* I[3], nn. 3/51 *et seq.*; Reischauer, in Rummel, ABGB II[2] § 1302 n. 13; Harrer, in Schwimann, ABGB VI[3] § 1302 n. 45.

[5] Koziol, *Haftpflichtrecht* I[3], nn. 3/26 *et seq.*; Reischauer, in Rummel, ABGB II[2] § 1302 n. 12; Harrer, in Schwimann, ABGB VI[3] § 1302 n. 26 *et seq.*

[6] Koziol and Welser, *Bürgerliches Recht* II[13], 336.

[7] See Koziol, *Haftpflichtrecht* I[3], nn. 3/58 *et seq.*

Belgium

Question (a)

There is no specific strict liability provision for water pollution. Liability would, depending on the specifics of the case, have to be based on fault, liability for defective things, or a specific strict liability rule.

It is likely that both polluters, *A* and *B*, will be held liable. If the interaction of both substances was necessary to kill the fish, *A* and *B* will be liable *in solidum* (see Case 13). The hypothesis that each of the substances was separately lethal is dealt with below under (b) and (c).

Question (b)

In order to establish causation in accordance with the theory of equivalence of conditions, it must be shown that the injured party would not have suffered the damage as it actually occurred, but for the act of the defendant giving rise to liability.

If each of the substances by itself was sufficient to kill the fish, and both substances were released simultaneously or within a very brief interval, the 'but for' test would be insufficient. It is likely that the courts will impose joint and several liability and complement the 'but for' test by the rule that, when two sufficient causes are simultaneous, both lead to liability.[8]

If, however, it remains uncertain which of the two releases has killed the fish, no liability will be imposed (the causal relationship is not established). As indicated above, the solution would only be different if both producers acted in concert and participated in a common illegal enterprise. In that case, there would be joint and several liability.

Question (c)

In this hypothesis, the operator who released the solvent could not be liable, as it is clear that the release of the solvent was not a necessary condition for the death of the fish. It is irrelevant that the release would have killed the fish had they not yet been dead. Compensation can only be obtained for damage actually caused by a defendant. No compensation is possible on the basis of a purely hypothetical causal link and certainly, in this case, the hypothesis clearly does not correspond to reality.[9]

[8] Cousy and Vanderspikken, 'Causation', 35; Bocken and Boone, 'Causaliteit', 39, note 150.

[9] In establishing the hypothetical legitimate alternative necessary to determine whether the damage would have occurred had the defendant not acted as he did, the (other) facts of the case may not be changed. Bocken and Boone, 'Causaliteit', 10–11.

England

Question (a)

It must be assumed that the fish actually belong to someone, as, in English law, there is no one who may bring an action concerning wild animals. If there is ownership, then the owner could bring an action in negligence, nuisance or under the rule in *Rylands* v. *Fletcher*. If there is no ownership, then it is possible that the Environment Agency may be able to enforce section 4(1) of the Salmon and Freshwater Fisheries Act 1975 which protects waters containing fish and the spawning grounds of fish. However, the Act governs only criminal liability, although the Environment Agency would also be able to invoke its clean-up powers under sections 161 and 161A of the Water Resources Act 1991.[10]

The negligence action would succeed, if fault can be established, and the damage was foreseeable. The nuisance action would depend on whether the use was 'reasonable' (a negligence standard would be applied) and whether the damage was foreseeable. The action under the rule in *Rylands* v. *Fletcher* would depend on whether either *A's* or *B's* activity was considered to be a 'non-natural' use of the land and whether the damage was foreseeable. In all three tort theories, *A* and *B* would be jointly liable. There would be no action in public nuisance.

Question (b)

The preconditions in (a) must be met. This type of 'multiple factual causes' issue is a problem under English law. Under the rules of causation, the claimant must prove, on the balance of probabilities, that the defendant's activity made a material contribution to his damage, which is determined from the 'but-for' test. 'Would the damage have occurred regardless of whether the defendant had engaged in the wrongful conduct?' Since the claimant here could not answer affirmatively, he would be unable to prove his case against *A* or *B*.

There are two different approaches that have been taken when the courts have been faced with this problem. The first is to treat the causes as 'cumulative', the second is to treat them as 'discrete'. In *McGhee* v. *National Coal Board*,[11] the claimant worked in a brick factory and was constantly exposed to brick dust. His employer failed to provide showering facilities so the claimant suffered extra exposure from the time he finished his shift until he was able to shower at home – approximately

[10] See Question 1(a). [11] *McGhee* v. *National Coal Board* [1973] 1 WLR 1.

30 minutes per day. The House of Lords found that the legitimate exposure during his working shift and the extra, negligent exposure at the end of it were cumulative causes of his damage. It was impossible to attribute his damage to one or the other, but it was held that the extra exposure must have 'materially increased his risk' of contracting dermatitis.[12] In *Wilsher* v. *Essex Area Health Authority*,[13] the claimant, a baby born prematurely, was negligently fed oxygen through an artery rather than a vein. The baby went blind, but it was accepted that there were five other (non-negligent) possible causes of his blindness. The 'cumulative' causes argument in that case was rejected. Each of the possible causes of damage was considered to be 'discrete'. It was therefore impossible to satisfy the rules on causation, that is, to show that, on the balance of probabilities, the negligent action by the doctor made a material contribution to the baby's damage. With five other competing causes, it was more likely on the balance of probabilities that the negligent act made no contribution at all.

In the scenario in Case 14, the causes are definitely 'discrete', but it is possible that the approach taken in *Fitzgerald* v. *Lane*[14] may also be taken here. In that case, the claimant stepped into the road and was hit by an oncoming car driven negligently. The impact forced him into the path of a car driving negligently in the opposite direction that also hit him. There was no evidence as which defendant actually caused the damage, and it was impossible to so determine. Lord Pearson had said, in the earlier case of *Baker* v. *Willoughby*, that the defensive argument based on the application of the 'but for' test was 'formidable. But it must not be allowed to succeed, because it produces manifest injustice.'[15] The House of Lords in *Fitzgerald* v. *Lane* clearly had this in mind when they refused to accept the ridiculous result of the 'but for' test (both defendants would have been not liable) and held both drivers jointly liable.[16] This is probably because both acts were tortious.

It is likely that an argument under a *Fitzgerald* v. *Lane* approach would apply in this case because the question assumes that both defendants, *A* and *B*, are at fault. (One caveat: although *Fitzgerald* v. *Lane* was heard in the House of Lords after *Wilsher*, this *Wilsher* reasoning was not the prevailing law at the time the case first came to court. However, the House must have been aware of the decision in *Wilsher* and could have

[12] *Ibid.* [13] *Wilsher* v. *Essex Area Health Authority* [1988] 1 All ER 871.
[14] *Fitzgerald* v. *Lane* [1989] AC 328. [15] *Baker* v. *Willoughby* [1970] AC 467.
[16] *Fitzgerald* v. *Lane* [1989] AC 328.

allowed the reasoning to affect their decision. It clearly did not.) The House of Lords has, however, since applied the *Fitzgerald* reasoning in *Fairchild* v. *Glenhaven Funeral Services*.[17] Although the House was keen to stress that *Fairchild* was limited to its own facts and did not set an overarching precedent for future cases, it must be regarded as an extension of the existing law. If the approach is successful in the Case 14 situation, then the likely outcome would be that *A* and *B* would each be liable for one half of the damages.

Question (c)

Again, the preconditions in (a) must be met, but only *A* would be liable under the (c) hypothetical. English law would apply the 'but for' test, and it would only find *A* liable. Defendant *B* could not be liable under the test. The Environment Agency, nevertheless, would be able to invoke its clean-up powers (which include restocking the river with fish) under sections 161 and 161A of the Water Resources Act 1991.[18]

Finland

Question (a) and (b)

In both of these instances, defendants *A* and *B* will be jointly and severally liable for the damage.

Question (c)

In this case, because *A's* action actually caused the death of the fish, *A* is liable for the damage.

France

Question (a)

According to Article L.432-2 of the Code de l'environnement, direct or indirect (even when not intentional) pollution of a river is a criminal offence punishable by two years' imprisonment and a fine of €18,000. An administrative authorisation to discharge substances into water is not a

[17] [2003] 1 AC 32. The claimant had been exposed to asbestos from two different sources. The exposure by one of the defendants had certainly caused his death, but it was impossible to determine which. The House of Lords held both defendants equally liable even though causation could not strictly be proved.

[18] See Case 1 above.

defence,[19] except in the case where *A* and *B* acted properly according to their licence, and an act of God created the situation such that pollution (which was otherwise unforeseeable) occurred.[20]

If the interaction of both substances was necessary to kill the fish, *A* and *B* will be liable *in solidum* to compensate the *lucrum cessans* of professional fishers (if the fish were not a protected specie), or moral damages to riparian towns, fishing societies[21] and associations for the protection of nature. They may also be obliged to compensate in kind, for example by repopulating the river with the same kind of fish[22] or by remediating the river.[23]

Question (b)

Here, roughly the same rule of joint liability applies, but judges could be less strict than they would in the case above.

Question (c)

Given that the fish were already dead when *B* released its solvent into the river, *B* would not be liable, provided that the solvent did not cause any negative effect on flora, fauna or human health (if such is the case, *B* could be condemned, on the basis of Article L.216-6 Code de l'environnement, to two years' imprisonment and to a fine of €75,000).

Germany

Question (a)

I. The death of the fish could constitute property damage within the meaning of § 823(1) BGB, if they are the property of another. However, under § 960(1) BGB, fish are generally ownerless movables, and therefore no one has standing to sue.

The water that is contaminated would have to be legally protected within the meaning of § 823(2) BGB for a claim under § 324(1) StGB

[19] Cass., crim., 15 March 1998, *Revue juridique de l'environnement*, 1998, p. 479; see Guihal, *Droit répressif*, p. 120.

[20] Cass., crim., 25 November 1999, *Droit de l'environnement*, 1999, p. 34.

[21] In 1966, TGI Belfort allocated FF1,000 to members of a fishing community to compensate them for the deprivation of the amenity caused by the pollution: see Michel Despax, *Droit de l'environnement* (Litec, 1980), p. 406.

[22] CA Pau, 25 February 1970, JCP, 1970 II, No. 16532. According to the Court of Appeal, the damage included three components: the cost of repopulation, the loss of enjoyment caused to the fishermen during the time they had to wait for the reconstitution of livestock, and the *prejudice d'agrément* of the fishermen.

[23] Cass., civ. II, 17 February 1972, *Bulletin* II, 1972, No. 50, p. 36.

(which govern, respectively, the interest in the environment in general[24] and the relative purity of water) to succeed. Section 2 EGBGB, on the other hand, which is necessary for a claim under § 823(2) BGB, is intended to protect individual property rights and does not refer only to the general public. Since only general legal interests are concerned here, there is no protective law in the sense of § 823(2) StGB.

Inasmuch as each action was by itself a potential cause of the total damage, but it cannot be established which action actually caused the damage, § 830(1) sentence 2 BGB applies, and both defendants are jointly and severally liable under § 421 BGB.

II. Because a river is a body of water within the meaning of § 1(1) no. 1 WHG, there is a claim under § 22(1) sentence 1 WHG if either *A* and/or *B* has introduced or discharged (depending on whether the chemical substances were solid or fluid, respectively) the substances into the water.[25]

If, on the other hand, *A* and *B* did not introduce or discharge substances, § 22(2) sentence 1 WHG will apply. Since the concept of an installation is very broad,[26] it may be assumed that the defendants' factories constitute such installations. Both factories have the propensity to alter the condition of the water and to produce risk-creating substances. In the case of joint causality (several activities which cause damage only by way of interaction with each other), all the polluters are deemed to be legally responsible[27] and have the duty to compensate. However, only those parties who have sustained direct damage are entitled to compensation.[28]

III. Installations producing household detergents (No. 45 p Appendix 1) and producing industrial solvents (no. 53 Appendix 1) fall within the meaning of § 1 UmweltHG. Thus, there is potential liability under § 1 UmweltHG. The dissemination in the water constitutes an environmental impact within the meaning of § 3(1) UmweltHG. The presumption under § 6 UmweltHG applies in these cases of alternative causality pursuant to § 7(1) UmweltHG.[29]

IV. A claim under § 6 USchadG must be considered. Environmental damage pursuant to § 2 No. 1(b) USchadG in conjunction with § 22a(1) No. 1 WHG exists. An occupational activity pursuant to § 3(1) No. 1 USchadG in conjunction with Appendix 1 No. 3 also exists. *A* and *B* must therefore take the required measures for decontamination and bear the costs pursuant to §§ 8 and 9 USchadG. Again, § 9(2) should be consulted because there are two persons responsible.

[24] Wessels and Hettinger, *Strafrecht* BT/I (27th edn, 2003), n. 1019.
[25] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 7. An 'interference', being neither an introduction nor a discharge, is not present, so that no change in the condition of the water is required. Czychowski, *Wasserhaushaltsgesetz* § 22 n. 18.
[26] *Ibid*., § 22 n. 43. [27] Palandt/Heinrichs, *BGB Vorbem* § 249 n. 86.
[28] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 22. [29] Kloepfer, *Umweltrecht* § 6 n. 95.

Question (b)

This case constitutes *alternative* causality, and § 830(1) sentence 2 BGB will apply because the factual situation meets the factual requirements.

With regard to § 6 USchadG, the question may be answered as above.

Question (c)

This case again constitutes a case of *alternative* causality, and liability is incurred under § 830(1) sentence 2 BGB. Specifically, this case shows *hypothetical* causality, where an action has already infringed a legal interest (dead fish), and a second action occurs subsequently which would also cause the damage. In these cases, the first defendant (in time) is liable for the 'objective' damage, and the second defendant is liable for property damage that would have resulted from the hypothetical harmful occurrence under § 823(1) BGB. It is necessary, however, that the first harmful occurrence has actually happened; the mere possibility that the household detergent earlier caused the death of the fish is not sufficient for this liability scheme.

With regard to § 6 USchadG, the question may be answered as above.

Greece

Question (a)

If the fish kill was caused by both substances, Article 926 AK applies. Defendants *A* and *B* are jointly and severally liable. Similarly, the application of Article 29 of Law 1650/1986 would lead to the same result.

Question (b)

Defendants *A* and *B* are jointly and severally liable according to Article 926 AK, even if it is not possible to ascertain whose act has caused the harm, so long as it can be shown that the fish kill was caused either by the industrial solvent or by the chemical used in the detergent production. If the specific substance responsible for the damage can be ascertained, the producer or manufacturer of the other substance will be excluded from any liability.

Question (c)

Article 926 AK also covers the case of *cumulative causality*, where the damage was caused by the acts of two or more persons, but each act

was capable of producing the harm independently.[30] Even here, *A* and *B* will be jointly and severally liable if it can be shown that the industrial solvent would have caused the death of the fish, regardless of whether the fish were already dead from the other chemical.

Ireland

Question (a)

If the fish kill was caused by both substances, the operators of plants *A* and *B* will be liable together for the full damage. The percentage liability of each party will be assessed by the court on the facts of the case. The amount awarded will not exceed the damage suffered.[31]

Question (b)

If it can be shown that one of the substances caused the entire damage, the operator of the plant that caused the damage will be liable for the full amount of the damage.

If it can be shown that the fish kill was caused by only one of the substances, but it cannot be established which one, then it is presumed that, if only one of the substances had been present, the fish kill would still have occurred. Thus, either of the substances by itself was sufficient to cause the fish kill, and both defendants would therefore be held equally liable for causing the kill. A plaintiff would be entitled to recover 100 per cent of the damage suffered, and the defendants would be liable to the plaintiff for 100 per cent. As between themselves, each defendant would probably be 50 per cent liable.

Question (c)

The two tortfeasors here are regarded as concurrent wrongdoers, and liability may be apportioned between them, so long as the plaintiff recovers the full amount of damage suffered. If the kill was caused by one determinable substance, it is irrelevant that it is also possible to

[30] For the notion of *cumulative causality*, see, *inter alia*, Ap. Georgiades, in Georgiades-Stathopoulos *Civil Code*, Article 926, No. 10.

[31] Probably the only entity that will be able to recover damages is the local fisheries board, which could recover the cost of restocking the river. This cost is recoverable under the Fisheries Acts as if it was an ordinary contract debt. In reality, there is no contract, but it is a convenient device to enable a public body exercising a police power to recover environmental protection costs from a polluter. The only real possibility for a private individual to sue over the dead fish would be if the individual owned fishing rights on the river that were damaged as a result of the fish kill.

establish that the second substance would have killed the fish if they had not already been dead. The discharger of the second substance will be able to show that his or her act did not cause the damage (it was the first substance) and will thereby avoid liability.

Italy

Questions (a), (b) and (c)

The legal regime in Italy governing water has recently been reformed. The case is now governed by a lengthy Decree of 1999,[32] which establishes a specific disposition for damage caused by the emission of substances into waters.[33]

The governing rule (Article 58) states that, whoever, by way of act or omission, violates a specific provision of the Decree, and causes damage to the waters, the ground or other environmental goods, must restore the area to its existing state before the damage occurred, and/or pay damages to the state, if the replacement is not sufficient to eliminate the negative effects of the pollution. Practically all types of emissions (and, specifically, those related to chemical substances) into waters are now regulated by the Decree. There is as yet no case law on the relevant provisions.

In this particular case, therefore, if the emission was the result of the violation of a specific disposition of the Decree under Article 58, liability would be imposed on *A* and/or *B*.

The Netherlands

Question (a)

As discussed under Questions 12(a) and 13(b), in situations where it is known that the damage was caused by more than one identified person, Article 6:102 BW (multiple tortfeasors) applies. To establish liability under this Article, it must be established that the entire damage may have resulted from the actions of any one of the defendants, which does appear to be the case here.

[32] Decreto legislativo n. 152, 11.5.1999 (Disposizioni sulla tutela delle acque dall'inquinamento e recepimento della direttiva 91/271/CEE concernente il trattamento delle acque reflue urbane e della direttiva 91/676/CEE relativa alla protezione delle acque dall'inquinamento provocato dai nitrati provenienti da fonti agricole) and specifically by Article 58 of the Decree. The Decree contains more than sixty Articles and Appendices.

[33] On the particular issue, see Pozzo, 'Una nuova ipotesi di danno ambientale nell'Article 58 del Decreto legislativo 11 maggio 1999, n. 152', *Rivista Giuridica dell'Ambiente*, 2000, pp. 979 *et seq.*

According to section 1, 'two or more persons who are each obliged to repair the same damage, are solidarily liable'. In applying this rule to this case, the owner of plant *A*, and the owner of plant *B*, are jointly and severally liable for the fish kill. The plaintiff (probably the state) is entitled to claim compensation for all the damage from either defendant, but whoever pays the entire damages has a right to claim that part of the damages from his co-tortfeasor for which he was not solely liable (Article 6:102 BW in conjunction with Article 6:10 BW).

Alternatively, under specific circumstances, it could also be argued that Article 6:166 BW on group liability might apply. Section 1 of this Article reads: 'If a member of a group of persons unlawfully causes damage and if the risk of causing this damage should have prevented these persons from engaging in their collective conduct, they are solidarily liable if the conduct can be imputed to them.'[34] Although this Article is often applied in cases of damage caused by a group of rioters/hooligans, it could, on some occasions, also be applied in the environmental context, although what defines a 'group' might be difficult to determine here. It has been argued that a group exists where more than one factory uses the same discharge pipe or channel.[35] However, the facts in the present case do not allow a clear conclusion in this respect.

Question (b)

This situation can be compared with the famous hunters' case, where several hunters fired their guns at exactly the same moment and unlawfully hit a third person. It was not known whose bullet hit the third person, but each bullet could have, by itself, been sufficient to cause the total damage, so all actors were liable.[36]

Again, in these situations, the rules of alternative causation apply. Article 6:99 BW states that:

> [W]here the damage may have resulted from two or more events for each of which a different person is liable, and where it has been determined that the damage has arisen from at least one of these events, the obligation to repair the damage rests upon each of these persons, unless he proves that the damage is not the result of the event for which he himself is liable.

[34] Article 6:166 BW.

[35] Van Dunné, *Beantwoording* rechtsvraag (217) onrechtmatige daad (1992), p. 642, HR 20 April 1990, NJ 1991, 53, M&R 1991, p. 362 note by Kottenhagen-Edzes (Van Heek-Scholco).

[36] Kottenhagen-Edzes, *Onrechtmatige* (1992), p. 222.

By applying this rule to the present case, it is certain that the fish kill was caused by either or both of the two tortious acts, although it cannot be proven by which one. This evidentiary problem often arises in environmental law. In these situations, it is up to the defendant to prove (Article 6:99 BW) that his emission did not cause the damage, but, if he cannot do so, he is liable.[37] Therefore, the owner of plant *A* and the owner of plant *B* must both prove that their individual acts did not cause the fish to die, but, if they fail to prove their innocence, a plaintiff (the owner of the fish) need not establish the causal link between the damage and the acts of the defendants, but either defendant will be liable for the total damage.

Question (c)

This situation is similar to the classic 'seat of fire' case, where two independent fires started at the same moment in two different places in a building and completely destroyed the building. Investigations have proven that each fire would have been sufficient to produce the same result. Again, Article 6:99 BW is applicable, and, here, the plaintiff (the owner of the fish) does not have to establish the causal link between his damage and plant *A's* or plant *B's* emissions, but may sue either one for the total damage.

Portugal

Question (a)

If the killing of the fish constitutes a damage to property, the answer to Question 13(a) applies to any claim by the owner.

On the other hand, the 'tremendous amount of fish' being killed could constitute ecological damage, if the impairment of the area affected the functional ecological capacity and the capacity for human exploitation as recognised by the environmental law regime. This public damage could be claimed by the state under Article 73 DL 268/98 of 1 August 1998. Under Article 73(4), the regime of joint and several liability[38] could also be applicable.

[37] Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 477.

[38] The effect of this principle is that each of the defendants is answerable to the injured party for all of the harm suffered by that party, without prejudice to their reciprocal right to sue one another for the return of excess damages that they may have paid.

Question (b)

As shown in the answer to Case 11, the issue of causality is not clear in the Portuguese legal system. However, some authors defend a regime of joint and several liability in the cases of *alternative* causality, such as this case.[39]

Question (c)

If the two harmful actions actually occurred, it is possible to apply the principle of joint and several liability, even though one caused the damage. It should be noted, however, that this is a general rule of the Portuguese liability system.

Scotland

There is a preliminary, fundamental issue here regarding standing to sue. Fish, as wild animals, are regarded as ownerless. Once they are captured and kept within an enclosed area, such as a fish farm, or pool with no egress, then they come into the ownership of their keeper. In this instance, one must consider damage to fish swimming in a flowing river. No matter what the ownership of the river itself, the fish are likely to be ownerless (unless they are in some way penned in). There is a possible argument that, if the owners are accustomed to exercising fishing rights over their river, the damage to the (ownerless) fish causes the owners economic damage.[40] However, it seems doubtful that the fishing rights in a river running through an industrial area would be regarded as being of value, even before this incident. For the sake of argument, it is assumed here that the owner of the relevant section of water also owns the fish, and therefore has title to sue *A* and *B*.

Similar difficulties attach to ownership of the water. Although the riverbed itself may be owned, the actual water flowing over it is ownerless. Moreover, whether or not the riverbed itself may be privately owned is determined by whether or not it is tidal.[41] Tidal rivers belong to the Crown, whereas non-tidal rivers may be privately owned. If ownership of the riverbed can be established, there is common law authority

[39] J. Menezes Leitão, 'Instrumentos de direito privado para a protecção do ambiente', RJUA, n. 7, p. 53.

[40] See *The Laws of Scotland: Stair Memorial Encyclopaedia*, vol 18, para. 116(4); *Mull Shellfish Ltd* v. *Golden Sea Produce Ltd*, 1992 SLT 703.

[41] *Wills Trustees* v. *Cairngorm Canoeing and Sailing School Ltd*, 1976 SC (HL) 30.

to the effect that pollution may be actionable by its owner as a nuisance[42] or under the doctrine of common interest.[43] It should be added, however, that pollution is most often dealt with as a matter of public, rather than private, law.

Whichever basis of liability is used to make a claim against *A* and *B*, whether in delict for damage done to the fish, nuisance or common interest for pollution of the water, fault will have to be established.

Question (a)

As in Case 13 above, *A* and *B* may be jointly and severally liable, but only to the extent that (a) they can be shown to be at fault in the process by which the chemical escaped into the river and (b) a causal connection can be found between the pollution damage suffered and the noxious effects of *A's* and *B's* products.

Question (b)

If the cause of the pollution cannot be established on the balance of probabilities, then, normally, neither party can be held liable for the death of the fish. However, one should note the House of Lords case of *Fairchild* v. *Glenhaven Funeral Services*[44] (involving personal injury rather than property damage), in which an employee was unable to establish exactly which employer had exposed him to the asbestos that caused his terminal illness. The House of Lords ruled that, where it was not possible to show whether the illness was due to a single exposure or to the cumulative effect of exposure in various workplaces, the court could 'formulate a different causal requirement'.[45] Thus, it found that each employer might be found liable – but only where 'the state of scientific knowledge makes it impossible for the victim to prove on the balance of probabilities that his injury was caused by the defenders' or defendants' wrongdoing'.[46]

An alternative approach to this may, however, be for the owner of the relevant stretch of river to sue in nuisance for pollution damage, since it is possibly more straightforward to establish that both *A* and *B* are responsible for the nuisance in some measure.

[42] See *The Laws of Scotland: Stair Memorial Encyclopaedia*, vol 18, para. 298, and the cases mentioned therein.
[43] See *ibid*., para 299. [44] [2003] 1 AC 32.
[45] Lord Hoffmann at para. 62. [46] Lord Rodger at para. 153.

Question (c)

The fact that the industrial solvent would have caused the death of the fish if the fish had not been killed by the other chemical is irrelevant. In determining the matter of civil liability for the death of the fish, the only relevant question is what actually caused the death of the fish. What might otherwise have killed the fish will not be considered, liability in delict arising only where harm has, in fact, been caused. Again, however, suing the other party in nuisance for pollution damage is possible.

Spain

Question (a)

It has already been explained that the Tribunal Supremo has made joint and several liability the rule in cases of multiple tortfeasors (see the answer to Case 13). Whenever the court cannot individualise the conducts or establish the degree of participation in the causation of each, liability of all defendants (*A* and *B*) will be joint and several. As a matter of fact, many decisions of the Tribunal Supremo impose joint and several liability, despite having established the shares of responsibility of each of the multiple tortfeasors. Most decisions reiterate that the identification of shares of liability usually only occurs as between joint and several tortfeasors; when one has already paid the compensation in whole, he may bring a recourse action against the other tortfeasors (SSTS 18.6.1998 [RJ 1998/5066]; 12.4.2002 [RJ 2002/2607]).[47] Several public law Acts provide that persons liable for an administrative infraction will also be jointly and severally liable to restore the natural environment and pay the corresponding damages award whenever it is impossible to determine the degree of causal participation of each of them (e.g. Article 37 of the National Parks Act, Ley 4/1989, de 27 de marzo, de conservación de los parques nacionales y de la flora y fauna silvestres (LCEN)).

Question (b)

Spanish tort law lacks a general regulation of the indeterminate defendant situation, where damage is caused by one, unspecified member of a group. Because of this, case law has played a major role in developing this field of the law. The doctrine on *improper joint and several liability* has

[47] This possibility is also admitted by legal doctrine. See, for example, Pantaleón, *Comentario del Código Civil*, p. 2001 and Martín and Solé, in Rogers, *Multiple Tortfeasors*, p. 199.

developed this area of law, as well as in the area of construction law (see the answer to Question 13(a)). Similar difficulties often arise when trying to apply liability for the collapse (*ruina*) of buildings (Article 1591 CC), since, after the building has collapsed, it is not always possible to say which of the participants in the process of construction behaved negligently. Case law thus considers that there is no need to prove how each participant contributed to the collapse, requiring a *diabolica probatio* (STS 26.11.1993 [RJ 1993/9142]). Instead, all participants are held jointly and severally liable.[48] Eventually, this rule was codified by the legislature (Article 17.3 first part of the Ley 38/1999, de 5 de noviembre, de Ordenación de la Edificación (Organisation of Construction Act, LOE)).[49]

The Código Civil and statutes do not generally refer to the indeterminate defendant situation, though Article 33.5 second part LC is quite clear, and states that 'in the case of hunting with weapons, if the author of the personal injury is not known, all members of the hunting party shall be jointly and severally liable'. In one case,[50] several persons went hunting in an inhabited area. The guns were fired, and a child was hurt as a result. The Tribunal Supremo held all the hunters jointly and severally liable because there were no other hunting parties in the vicinity, although it was not possible to establish which hunter actually fired the injurious shot.[51] A similar rule was applied in a nuisance law case,[52] where both the installation owner and the technician in charge of an industrial facility were held jointly and severally liable for the excessive emission of gas and dust which had caused harm to the neighbouring property.[53] Moreover, Article 35.1(b) of the Hunting Regulation (Reglamento de la Ley de Caza (RC)), which develops the Hunting Act, makes the holders of adjoining game reserves jointly and severally liable for the damage caused by animals originating therein, even though it was not possible to say from which reserve they originated. Strictly speaking, this provision does not refer to damage caused while hunting, but by hunted animals (usually wolves) which escape

[48] For further detail, see Francisco Lucas Fernández, in Manuel Albaladejo (ed.), *Comentarios al Código Civil y Compilaciones Forales*, XX, vol. 2 (Madrid, Edersa, 1986), p. 350.
[49] BOE No. 266, 6.11.1999. [50] STS 8.7.1988 [RJ 1988/5681].
[51] STS 8.7.1988 [RJ 1988/5681]. [52] STS 15.3.1993 [RJ 1993/2284].
[53] STS 15.3.1993 [RJ 1993/2284]. In favour of this approach, see also Cabanillas, *ADC* 1993, p. 1988.

from the place where they are kept.[54] Nevertheless, the rationale is the same as in Article 33.5 LC and Article 17.3 LOE, in that all the potential tortfeasors who could have alternatively caused the damage are held jointly and severally liable.

It should be noted that case law does not usually base its decisions on a doctrine of alternative causation but rather on policy. For example, when several children cause harm to a third bystander in the course of play, throwing sharp little metal pieces at each other, the argument for holding the parents of each child jointly and severally liable is that the protection of the victim would be severely impaired if all the parents could avoid liability because it was not possible to determine which child's metal piece actually hit the plaintiff's eye.[55] Similarly, later decisions in cases of medical malpractice link the joint and several liability of all the potential tortfeasors with the need to preserve the social interest of protecting the impaired.[56] Recently, the Tribunal Supremo rejected a claim based on what the Court called 'hypothetical alternative causation' because the claimant had not proven that one of the defendants could have caused the damage (STS 26.11.2003 [RJ 2003/8354]). Although technical concepts are used in a non-technical way, the Court was right in that none of the defendants had been proven to have behaved wrongfully.[57] In summary, this area of the law is not fully certain.

It should be noted that some decisions adopt a mechanical approach to joint and several liability and refer to the doctrine of the indeterminate defendant, even where the defendant is known, as when it was proven that both defendants had fired an air gun injuring a third person (STS 11.4.2000 [RJ 2000/2148]). However, a legal basis for making the indeterminate defendant liable still appears to be lacking in Spanish tort law. Since a decision based merely on fairness would only shift the injustice from the claimant to the defendants, and Article 33.5 LC should not be extended to other factual situations, it seems that the only solution is either legal reform or very generous evidentiary presumptions.

[54] See José Esteve Pardo, 'La protección de la fauna: el caso de los llamados animales dañinos', in R. Gómez-Ferrer Morant (coord.), *Libro homenaje al Profesor José Luis Villar Palasí* (Madrid, Civitas, 1989), p. 383.

[55] STS 8.2.1983 [RJ 1983/867]. See a similar case in STS 13.9.1985 [RJ 1985/4259].

[56] SSTS 26.11.1993 [RJ 1993/9142] and 12.12.1998 [RJ 1998/9889].

[57] See the comment on this decision by Miquel Martín Casals and Albert Ruda, 'Comentario a la Sentencia de 26 de noviembre de 2003', CCJC 2004, No. 65, 843–59.

Question (c)

The lack of specific rules dealing with multiple tortfeasors results in a lack of certainty with regard to which criteria are to be applied to hypothetical causation under Spanish law. However, it has been suggested that courts tend to presume that the causation link exists and rule that multiple tortfeasors are jointly and severally liable.[58]

Sweden

Question (a)

See Case 13. Both *A* and *B* will be held liable.[59]

Question (b)

Again, see Case 13. If a distinction cannot be made as to which substance actually caused the damage, both defendants, *A* and *B*, will be held liable.

Question (c)

According to general principles of tort law, plant *A* will have to answer for the full damage since its emissions actually killed the fish ('you cannot kill twice').[60]

[58] See Martín and Solé, in Rogers, *Multiple Tortfeasors*, p. 198 No. 25.
[59] The principles in case law for environmental liability are based on NJA 1911 s 574.
[60] Hellner, *Skadeståndsrått* (2000), pp. 214–22.

PART C · REMEDIES AND LEGAL STANDING

Case 15 Contaminated land

A is the operator of a facility that is used for the proper treatment of hazardous chemicals. An explosion occurs and large amounts of chemicals contaminate the soil of the surrounding land.

a) Who has standing to bring legal action as a result of the damage? What is the remedy?
b) Plaintiff *B* is one of the owners of the contaminated land. To what type of claim is *B* entitled, if the land can be restored to its original condition?
c) Immediately after the incident, public authorities took costly emergency measures in order to prevent further damage. Does *A* have to pay these costs? What happens if these emergency measures cause property damage to *C*? Does *A* have to pay these costs, too?
d) The neighbour *C* has not been directly affected by the disaster. He/she, however, finds that the market value of his/her land has dropped because of the incident. The property is now unsaleable, or at least seriously devalued, by the proximity to the contaminated site. Does *C* have a right to sue *A* for damages?
e) Would it make any difference if it could be shown that *A* was negligent?

Comparative remarks

1. Comparison

(a) Legal standing

Contamination of land usually qualifies as property damage. In all European states, if such damage occurs, the owner of the land is entitled to claim damages according to tort law. In Austria, Germany, Greece, the Netherlands, Portugal and Scotland, a person who can show a qualified legal interest in the property (e.g. a servitude) or a leasehold

interest is similarly entitled to sue. In England, legal standing under negligence depends on whether the plaintiff is able to show that the defendant owed him or her a duty of care. Although this seems to be a comparatively broad concept, recovery for pure economic loss is rather restricted. In nuisance, only the owner of the land can sue for damages, and, even under the rule in *Rylands* v. *Fletcher*, recent case law requires the plaintiff to show an interest in the land. In Belgium, France and Spain, legal standing does not depend on an infringement of a subjective right. In order to have legal standing, it is sufficient that the plaintiff can show a personal and actual interest in the claim. This is the case if the plaintiff has suffered damage, such as death or personal injury, physical damage to immovable or moveable goods, nuisance in the enjoyment of such goods, or economic loss. Economic loss is also compensable, if it is not connected to damages to persons or property. Under Belgian, French, Italian and Spanish law, consequently, even pure economic loss can be compensated. In Sweden, the right to sue for damages caused by contamination is also defined rather broadly. Persons who have a legal interest in the land, as well as persons who hold a qualified right to a natural resource, are entitled to sue. For example, hotel owners who rely on a nearby public beach for their business, or professional fishermen, are entitled to sue for their losses when the beach is contaminated.

In the Netherlands, legal standing is also extended to public authorities.[1] This evolved from case law, and is now explicitly provided by the Burgerlijk Wetboek. According to Article 3:303 Burgerlijk Wetboek, it is no longer necessary to show the infringement of an individual right in order to have legal standing in civil law matters. The plaintiff only has to show a sufficient interest. Furthermore, Article 3:305b Burgerlijk Wetboek provides that public authorities are entitled to sue in order to protect the general interests entrusted to them, either for injunction or for damages. Under Article 75 of the Soil Protection Act, the state is even entitled to sue the owner of contaminated land for the remediation costs. Jurisprudence now holds the opinion that the pollution of the soil is considered unlawful as regards the state's interests because the state is in charge of the clean-up.

[1] With regard to the legal standing of environmental organisations, see also the Dutch report to Case 4, Question (d).

(b) Scope of damages

In all countries, the plaintiff can sue for restitution in kind, or to recover the costs of *restoring* the land to its original condition. This claim also covers compensation for the lost uses during the restoration, such as the rental costs for another residence during the clean-up period or the loss of rental income. In Austria, monetary compensation for the costs of restoration can only be claimed if restitution in kind by the defendant is not possible or is unreasonable. Since the claimant determines the possibility of restitution, actions for the restoration of damage to land will usually cover monetary compensation for the costs of restoration. The same applies in Spain. Although legal doctrine gives priority to restitution in kind, monetary compensation is generally the rule. In Greece, it is the other way round. The primary legal rule is monetary compensation, and this can only be set aside if special circumstances call for restitution in kind, provided that it is not contrary to the interests of the creditor. In many countries, courts will only award costs that are in some reasonable proportion to the value of the land (e.g. Austria, Belgium, Germany, Greece, Italy, the Netherlands, Scotland and Sweden). If the costs are disproportionate, and the land can be used for another purpose, damages will only cover the diminution in value of the land, which may be significantly less than the restoration costs (Austria, Belgium, England, Germany, Greece and Italy). With regard to land, however, such a 'proportionality' test must be applied very carefully, since land is a precious and limited good. For this reason, in Austria, the Act on Gene Technology and the Nuclear Liability Act provide that the injured person is entitled to recover compensation for the costs of reinstatement, even if such costs exceed the value of the harmed property (§ 11(2) AtomHG, §§ 79b and 79k(2) GTG). A similar solution is provided by Belgian law under the Act on the Protection of the Marine Environment of 20 January 1999, which states that the reasonableness of restorative measures must be evaluated according to the objectives of the protection of the marine environment, rather than on mere economic values. Moreover, in the Netherlands, according to case law, courts are allowed to award restoration costs that exceed the reduced value of the harmed property, if this can be justified by the specific circumstances of the case.

The defendant will also be obliged to pay for the costs of restoration, if full clean-up is required by public authorities according to administrative law, or if this is necessary in order to prevent further damage. In such a case, the claimant will be obliged to spend the money for the

restoration of the land. There is no such obligation if the claimant only receives compensation for the diminution in value of the land.

In many European countries, irrespective of the obligation under private law to remedy harm caused to the property of another, the person who caused contamination to land, or sometimes even the owner of the contaminated land, can be ordered by the *public authority* to clean up the contamination.[2] In most countries (e.g. Austria, Germany, England, Finland, Greece, Italy), however, the affected landowner or environmental organisations cannot trigger legal action in order to force the public authority to exercise its powers. Such persons may only give 'notice' to the public authorities that damage to the environment has occurred. In England, however, though such a case has not yet been litigated, it is theoretically possible for the owner of contaminated land to bring a tort action for breach of statutory duty for failure to serve a remediation notice under Part IIA of the Environmental Protection Act 1990. In Spain, there is a comprehensive right to sue public authorities (Article 7.3 Ley Orgánica del Poder Judicial 1985). In Ireland, anyone can bring an action requiring cessation of a polluting discharge under sections 56 or 57 of the Waste Management Act and under the Local Government (Planning and Development) Acts 1963–99.

(c) Preventive measures

In most European countries, *tort liability* of the tortfeasor will also cover the costs of preventive measures taken by the injured person or by public authorities. In the Netherlands, recovery of the costs of preventive measures is explicitly provided for by Article 6:96 § 2 a Burgerlijk Wetboek, provided the measures and costs were reasonable. With respect to environmental damage, compensation for the costs of preventive measures is also provided by Article 6:184 Burgerlijk Wetboek. In Belgium, the Cour de cassation (Hof van cassatie) ruled in 1978 that public authorities that were obliged by law to take preventive or remedial measures in order to respond to pollution are not entitled to recover the costs under the general rules of tort law. After having first partly changed its position in 1988, the Cour de cassation (Hof van cassatie), however, subsequently

[2] This was indicated by some reporters, although this issue was not especially addressed by the questionnaire. For example, such obligations are provided in England and Scotland by Part IIA of the Environmental Protection Act 1990, in France by Article L. 512-7 Code de l'environnnement, in Ireland by sections 56 and 57 of the Waste Management Act and the Local Government Planning and Development Act 1963, and in Sweden by the 1999 Environmental Code, Chapter 10, §§ 2 and 3.

decided this question in favour of the public authorities in 2001.[3] According to this ruling, public authorities must not be denied recovery merely because the costs of preventive or restorative measures were incurred pursuant to a legal duty. Recovery may only be excluded if the law providing for such a duty allocates the costs exclusively to the public authority. In pollution cases, however, the Belgian reporter holds the opinion that this will rarely be the case. The Dutch reporter, who also raised this question, came to the same conclusion.

In England and Scotland, private persons or public authorities will only be entitled to claim the costs of preventive measures in tort law under an action in negligence. In Italy, the costs of preventive measures are not recoverable, either in public or in private law.

In several countries, recovery of the costs of preventive measures by *public authorities* is also governed by *public law*. In the Netherlands, this is provided by Article 75 of the Soil Protection Act. In Belgium, several statutory provisions apply.[4] The most important is Article 2 *bis* of the Act of 31 December 1963 regarding civil protection, which obliges the civil protection agency and local fire brigades to recover the costs of remedial actions from the owner of the products that were the cause of pollution. In England and Scotland, section 78N of the Environmental Protection Act 1990, entitles the local authority and the Environment Agency to carry out remedial work on contaminated land in order to prevent serious harm or water pollution and, according to section 78P of the same Act, to recover these costs from the person who caused the damage. In Ireland, the public authorities have clean-up powers under the Local Government (Water Pollution) Act (section 10(4) or 13), the Air Pollution Act (section 27) or the Waste Management Act 1996 (section 56). Each of these powers gives the public authority the right to claim compensation for the costs incurred if they were necessary to prevent further damage. Spanish and Swedish public law also comprehensively cover the entitlements of the public authorities to cost recovery. In this non-homogeneous area of law the 2004 Environmental Liability Directive will provide for substantial harmonisation.

In most countries, the public authorities are also entitled to claim costs according to the laws of *unjust enrichment* or *negotiorum gestio*. In Austria, such a claim can be based on tort law or on § 1042 ABGB, a provision that is part of the law of unjust enrichment. According to this

[3] See the answer to Case 15, Question (c), of the Belgian report.
[4] See the answer to Case 15, Question (c), of the Belgian report.

rule, the person who is liable under tort law must also compensate the state or any other person for the costs of measures taken in order to prevent the damage or further aggravation of the damage. With regard to nuclear damage, compensation for preventive measures is explicitly covered by § 11 of the Nuclear Liability Act. Such costs can be recovered by any person who actually incurred them (§ 11(3) AtomHG). In Germany and Sweden, the public authority is entitled to claim compensation for expenses under the law of *negotiorum gestio*. In Greece, both compensation according to *negotiorum gestio* (Articles 730 *et seq*. Astikos Kodikas) and unjust enrichment (Articles 904 *et seq*. Astikos Kodikas), may apply.

If the preventive measures lead to a *property damage of a third party*, the person who is responsible for the situation will also be obliged to compensate this damage under most jurisdictions, according to the principles of tort law. In the Netherlands, this is explicitly stated by Article 6:184 § 1 b Burgerlijk Wetboek. Some reporters, however, stress that a tort action is only available if the damage was an inevitable consequence of the preventive measures taken by the public authority and if the occurrence of such damage was sufficiently foreseeable by the liable person. In England, the question would be whether the act of the public authority amounted to a *novus actus interveniens*, breaking the chain of causation between the act of the liable person and the damage done to the third party. Negligence by the public authority can also lead to liability of the public authority.

In Italy, Greece and Portugal, the person who caused a contamination will not be liable for the damage done to a third party if it is due to the preventive measures taken by the public authority. Responsibility for such damage rests only on the public authority.

(d) Lost profits and pure economic loss

Lost profits ensuing as a result of property damage can be claimed in Belgium, Germany, Finland, the Netherlands, Sweden and Spain. In Austria, courts accept claims for lost profits under § 364a ABGB, but in fault liability they are only compensated when the tortfeasor acted with gross negligence or caused the damage with intent to harm.

Many European countries are very hesitant to accept damage claims for the diminution in value of real property if the property was not itself contaminated, but only severely affected by the contamination of another property nearby. In Greece and Scotland, this sort of damage is not compensable, being classified as 'indirect damage' or 'secondary economic loss'. In Austrian law, strict liability and the law of the

neighbourhood clearly do not cover this indirect damage. Recovery might be available under fault liability, however, if the tortfeasor was grossly at fault, and the occurrence of the damage was clearly foreseeable. According to the Italian reporter, the answer to this question is unknown, since Italian jurisprudence has not yet dealt with the issue. In Germany and Portugal, the legal position depends on whether such damage can be regarded as a property infringement. While the Portuguese reporter declared that this position is not clear under Portuguese law, the German reporter noted that indirect damage could be compensated in Germany if the tortious act prevented or limited the use of the property for a significant period of time. According to the English reporters, recovery for such damage is very unlikely under negligence; in nuisance and under the rule in *Rylands* v. *Fletcher*, recovery is uncertain, but also rather unlikely. The Irish reporter stated that, under Irish law, the infliction of such damage does not constitute a nuisance. In negligence, the damage would be regarded as pure economic loss, which is usually not compensable. Recovery for such a loss would at least require proof that the claimant incurred an actual and not merely a hypothetical loss and that the loss was not a result of irrational fears among prospective buyers. Although there is no precedent seeking to establish liability for pure economic loss under the rule of *Rylands* v. *Fletcher* or under the Air and Water Pollution Acts, it is to be expected that the Irish courts will follow the principles applicable to negligence and, therefore, deny compensation.

In Belgium, the Netherlands, Finland, Sweden and Spain, the situation is different. In these jurisdictions, the reduced or total loss of property value is compensable. Under Belgian law, the plaintiff only has to show that the diminution in value is certain, and, in Spain, the decisive issue is the establishment of a clear causal link. In the Netherlands, pure economic loss is recoverable if it is sufficiently linked to a polluting act. The Hoge Raad, for instance, ruled that the polluter of a river was also liable for the diminution in value of houses due to the unpleasant smell in the river.[5] Under Finnish law, however, compensation can only be obtained if the damage is not minor. In Sweden, the owner can even claim redemption, if the property is rendered totally useless.

[5] See the answer to Case 15, Question (d), of the Dutch report; and the *Voorste Stroom III* case, HR 29 January 1937, NJ 1937, 570.

2. *Conclusions*

Case 15 investigates the availablity of tort law remedies in case of land contamination. It analyses the legal standing of private persons and public authorities and the scope of recoverable damage. The answers show many convergences, but also fundamental differences, as is the case for example with regard to legal standing of persons who cannot show a legally qualified interest in the land. Other important issues are whether there is priority of restitution in kind over monetary compensation or *vice versa*, the extent of monetary compensation, or the entitlement of private persons or public authorities to take preventive measures and to recover the costs thereby incurred. The answers also demonstrate a close interaction between tort law and public law remedies, for example the imposition of clean-up obligations by administrative law or the right of individual persons to initiate remedial or preventive action by public authorities.

Discussions

Austria

Question (a)

Legal standing is granted to the owner of the contaminated land, as well as to any tenants of the land or its buildings if their leasehold rights are affected by the contamination.

Question (b)

The owner has the right to claim restitution in kind according to § 1323 ABGB, and, if restoration by the injurer is not possible or reasonable, *A* will be required to pay for the costs of the restitutionary measures. Regarding nuclear damage and damage caused by genetically modified organisms, however, it is explicitly provided that the injured person is entitled to recover compensation for the costs of reinstatement, even if such costs exceed the value of the property damaged.[6] The landowner is also entitled to claim monetary compensation for the decrease in value of his land (§ 1324 ABGB) instead of compensation for the restoration costs. It is to be expected that the landowner will be forced to clean up the contamination of the land by public law (e.g. nature protection laws or laws protecting the water purity). In any case, the landowner is

[6] § 11(2) AtomHG, §§ 79b and 79k(2) GTG.

entitled to claim lost profits, if *A* is liable, according to § 364a ABGB or, if *A* acted with gross negligence or caused the damage with intent, according to § 1324 ABGB.

Question (c)

Compensation for the costs of emergency measures is generally provided by public law provisions.[7] Public authorities are, however, also entitled to claim the costs of such measures on the basis of tort law, provided that the injurer is liable in tort. Austrian law even acknowledges the possibility of compensation according to the law of unjust enrichment. It is a general rule of law that the injurer must reimburse another person who has incurred an expense the injurer would be obliged by law to take on him/herself (§ 1042 ABGB). This rule also applies to public authorities. If the state takes a measure to the benefit of the injurer in order to prevent damage or further aggravation of the damage, the injurer is obliged to compensate the state for the costs of this measure.[8]

Compensation for preventive measures for nuclear damage is explicitly codified, and permits the person who actually incurred the costs to recover them (§ 11(3) AtomHG).

Defendant *A* will also be liable for *C's* property damage. By causing the contamination, *A* also caused the emergency measures taken by the public authorities and, consequently, *C's* property damage, provided that the emergency measures were really necessary. Negligence by the public authorities can also lead to state liability (according to the AHG), concurring with *C's* claim against *A*.[9]

Question (d)

The answer to this question depends on the basis of the claim. As *C's* property is not directly affected by the negative interference originating from *A's* property, *C* is not able to recover compensation for the diminution in value of his or her property according to § 364a ABGB. The same applies to the strict liability regimes described in the answer to Question 1(a), as their goal is to protect persons and property from

[7] E.g. AWG, GewO, WRG.

[8] See [Gimpel-]Hinteregger, 'Anspruchsgrundlagen für den Ersatz von Umweltschäden', ÖJZ 1991, 145 (154). Hüttler, *Die zivilrechtliche Haftung für Altlasten unter Berücksichtigung des AHG, ALSG, AWG, ForstG, WRG und der GewO* (1993) 122 *et seq*.

[9] With regard to § 11(3) AtomHG (the special provision concerning loss of earnings caused by preventive measures or the risk of ionising radiation), see the answer to Question 8(a).

actual damage, not merely the diminution in value of real estate.[10] The outcome might be different with fault liability. If *A* was (grossly) at fault and if *A* could foresee the damage to *C*, it is possible that *A* might be held liable by the courts.

Question (e)

As described above under (d), *A's* negligence could enlarge the scope of persons entitled to damages, since legal standing under § 364a ABGB and strict liability is rather narrow. Moreover, under fault-based liability, loss-of-profit damages are only recoverable when the defendant is found to be grossly negligent.

Belgium

Question (a)

According to general principles of procedural law,[11] the plaintiff, in order to have standing, must show a personal and actual interest in the claim. In a liability claim, this means that he or she must potentially have suffered personal damage, and, to win, he must show actual damage. Standing and the fundamental conditions for liability are thus more dosely connected in damages claims than they are in claims for injunctive relief. In any event, if damage is proven, there are no standing obstacles.[12]

Damage is defined as the difference between the claimant's situation as a result of the tort and the situation he would have been in had the tort not taken place. The concept is very broad in Belgian law. The infringement of a subjective right is not required, but damage to a personal and legitimate factual interest related to one's personal integrity or assets is sufficient.[13] Losses resulting from death and personal injury, physical damage to immovable or movable goods and nuisance in the enjoyment thereof are compensable. Economic losses can be

[10] [Gimpel-]Hinteregger, *Grundfragen* 243 *et seq.*; Posch and Schilcher, 'Civil Liability for Pure Economic Loss: An Austrian Perspective', in Banakas (ed.), *Civil Liability for Pure Economic Loss* (1996) 149 (160).

[11] Articles 17 and 18 CCP require that the claimant has a direct and immediate interest.

[12] A. Carette, *Herstel van en vergoeding voor aantasting aan niet toegeëigende milieubestanddelen* (Intersentia Rechtswetenschappen, Antwerp-Groningen, 1997), 79.

[13] D. Simoens, 'Shade en schadeloosstelling', in *Beginselen van Belgisch Privaatrecht*, XI (Antwerp, Kluwer Rechtswetenschappen, 1999), 18–20; H. Bocken, 'The Compensation of Ecological Damage in Belgium', in *Harm to the Environment* (P. Wetterstein, (ed.), Oxford, Clarendon Press), 149.

compensated when resulting from damage to life, health or property, and also as pure economic loss. Non-economic consequences (pain, suffering, reduction of enjoyment, etc.) are compensated as moral damages and are relatively low. Any person suffering any of these forms of damages has standing. The main obstacle in environmental liability is that damage must be personal; there is no claim if the claimant cannot show an effect on him individually.

The objective of the liability action is to put the victim, insofar as possible, in the position he would have been in had the fact entailing liability not taken place. This objective is achieved by restoration (specific performance)[14] or a damages award. Moreover, in the event of continuing illegal and damaging behaviour, an injunction is also an option.[15] If restoration by replacement or reimbursement of the cost thereof is not possible, or claiming restoration would amount to an abuse of rights, a claimant may seek damages. Where damage to property has occurred, the courts normally will refuse restoration if the cost thereof exceeds the replacement or market value of the property that has been damaged.[16]

The entire loss in each case must be compensated, although account is to be taken of the severity of the tortfeasor's fault or of the economic position of the parties.[17] The amount of the compensation is determined as at the time of the judge's decision, and any changes in the situation of the victim since the damage, as well as any monetary depreciation, are taken into account. Similarly, future developments that may influence the damage (if sufficiently certain) will affect the decision.

If it is not possible to make a mathematical calculation of the damage, the judge may award a lump sum *ex aequo et bono*. Future loss of earnings resulting from bodily injury will be awarded generally in the form of a capitalised lump sum computed on the basis of cash value tables. An indexed annuity is only rarely awarded.

[14] Cass. 26 June 1980, RW, 1980–81, 1661, J.T., 1980, 707.
[15] Cass. 26 June 1980, RW, 1980–1, 1661. H. Bocken, *Herstel in natura en rechterlijk bevel of verbod, Liber amicorum Jan Ronse* (Story-Scientia, 1986), 493; H. Bocken, TBBR, 1992, 306.
[16] Cass. 23 October 1986, RW, 1987–8, 54.
[17] H. Bocken, 'Tort Law', in H. Bocken and W. De Bondt, *Introduction to Belgian Law* (Brussels, Bruylant, The Hague, London, Boston, Kluwer Law International, 2001), 269.

Question (b)

Plaintiff *B* is entitled to compensation for any personal damage he has suffered, including the costs of preventive measures taken to avoid or limit the damage. The victim is under a duty to take reasonable measures to mitigate his damage.[18] Remediation costs are recoverable as elements of restoration. The owner is also entitled to compensation for any actual and permanent diminution in value of his property and for the inconveniences suffered in the use thereof, as well as for any other damage causally related to the pollution, remediation or restoration.

Question (c)

Public authorities can recover the costs of reasonable emergency measures.[19] However, until recently, public authorities had difficulty recovering these costs. In 1978, the Cour de cassation (Hof van cassatie) adopted the rule that expenses incurred while carrying out a legal duty cannot be recovered from a person who, through his fault, obliged the plaintiff to carry out his legal duty.[20] Since many government agencies are under a statutory obligation to respond to pollution or the threat thereof, the ruling presented a major obstacle for the recovery of costs. In 1988,[21] the Court amended its rule to allow recovery if the plaintiff is only under a secondary duty to clean up pollution that is the consequence of another party's negligence, it being the other party's primary obligation to do so. Finally, on 19 February 2001,[22] the Court overruled the 1978 case law. It decided that the fact that the claimant intends to recover costs incurred pursuant to a legal duty raises no issue of causal relation. Nevertheless, a claimant may on a rare occasion be denied recovery for not having suffered compensable damage, if the objective of the applicable statute or contract is that the expenses are to be definitively allocated to the person who incurred them (the polluter pays principle).

In fact, a number of statutory provisions have explicitly addressed the government's ability to recover 'response' costs.[23] One of the more

[18] Simoens, 'Schade en schadeloosstelling', 97.
[19] Bocken, 'The Compensation of Ecological Damage in Belgium', 154.
[20] Cass. 28 April 1978, RW, 1978–9, 1695; 7 April 1979, RW, 1978–9, 2664.
[21] Cass. 13 May 1988, RW, 1988–9, 1126; Cass. 15 November 1990, JLMB, 1991, 867.
[22] Cass. 19 February 2001, RW, 2001–2, 238; Bocken and Boone, 'Causaliteit', 35 *et seq.*
[23] E.g. the Flemish waste decree of 2 July 1981 (Article 59), the waste decree of the Walloon region (Articles 28 and 39), and Article 2 *bis* of the Act of 31 December 1963 regarding civil protection. In the Walloon region, there is Article 58 of the decree on waste of

important provisions is Article 2 *bis* of the Act of 31 December 1963 regarding civil protection, which holds the owner of the polluting products strictly liable to pay the expenses of the civil protection agency and local fire brigades in cases where they are under a legal duty to take remedial action after pollution incidents. The Act is often applied in the event of transportation accidents that result in oil spills, etc. on roads or waterways. It positively obliges the authorities to recover the expenses incurred. Channelling liability to the owner of the substance is subject to criticism, since it involves examining contractual relationships with respect to the transfer of ownership, in order to determine liability. Moreover, the owner is not necessarily the polluter.[24]

Question (d)

A diminution in the market value of immovable property as a result of proximity to a polluted site constitutes compensable damage. However, the diminution in value must be certain.

Question (e)

The scope of compensable damage and remedies does not depend on the basis of liability. Nevertheless, there are some differences, as noted above. A few statutory provisions exclude compensation for certain types of damages or provide a ceiling on the possible amount of compensation. An injunction may be granted against continuing harmful conduct on the part of the defendant, but usually not without a determination of fault. The possibility of an injunction under nuisance law is debatable.

England

Question (a)

I. Common law

If the explosion resulted from negligence, then anyone who can show a duty of care owed to them would be able to bring an action. This would certainly include the owner of the affected land, yet his problem would be demonstrating that the damage was not pure economic loss (see the answer to Question 3(a)). In nuisance, following *Hunter* v. *Canary Wharf*,

5 July 1985; and in Brussels, Article 17 of the Brussels ordinance on prevention and management of waste of 7 March 1991.

[24] See, more extensively, H. Bocken, 'Milieuwetgeving en onroerende goederen. Aansprakelijkheid voor de kosten van bodemsanering', TPR, 1992, 32; 'La réparation des dommages causés par la pollution. La situation en 1992', RDCB, 1992, 294.

only the owner of the affected land would have standing. The position under *Rylands* v. *Fletcher*, however, is more fluid. Although there are *dicta* suggesting the need for an interest in land or occupation of land for standing, other cases have been more generous. It really depends on whether *Rylands* v. *Fletcher* is seen as a separate strict liability tort for dangerous escapes or as a species of nuisance. Given the precedent from *Cambridge Water Co*. v. *Eastern Counties Leather plc* that equates it with nuisance, it is likely that an interest in land will be required.

The most likely claim would be for damages, although an injunction might be successful to prevent future harm if the explosion was linked to ongoing circumstances.

II. Statute law

There could also be liability against *A* under the provisions relating to the remediation of contaminated land under Part IIA of the Environmental Protection Act 1990 (for details of this regime, see the answer to Question 3(a)). As the person who caused the contamination of the land, *A* could be served with a remediation notice by the local authority or the Environment Agency.

Question (b)

The general position is that damages awards in tort should seek to place the claimant in the same position as he was before the tort occurred. Therefore, in theory, the costs of restoring the land to its original condition should be covered. This is, of course, subject to a duty to mitigate damages, which might play a role where the costs of restoration were wholly out of proportion to the value of the land, especially if, for a lesser expenditure, the land could be used for another purpose. Then, damages would cover the cost of restoration plus any diminution in value to the land. In *Hunter* v. *Canary Wharf*, the nature of nuisance as a 'tort of causing injury to land' was emphasised, with the result that, where the nuisance leads to 'sensible discomfort', the correct measure is to calculate damages by reference to diminution in capital values, rather than personal injury damages.[25] This test would not seem to apply to situations where the land is actually contaminated, but the diminution in capital value test may become important because of the duty to mitigate. Of course, where remediation is needed to prevent

[25] *Hunter and Others* v. *Canary Wharf Ltd* [1997] AC 655 (707).

other liabilities from occurring, then that can be a reason for not mitigating losses and allowing full recovery of remediation costs.

Question (c)

I. Common law

Presuming the public authorities did not have an interest in the land, then any liability at common law would have to lie in negligence. Whether public authorities can recover for services provided as a result of a tortfeasor's actions is currently a matter of debate, given the need to fund the National Health Service.[26]

If emergency measures are taken, but harm is thereby caused to *C's* property, it is possible for *A* to be liable for that harm, regardless of whether *A* will be required to pay the costs of the public authority's work. The issue turns upon whether the damage to *C* was too remote from *A's* action and whether the authority broke the chain of causation by what amounted to a *novus actus interveniens*.[27] The more foreseeable the intervention of the public authority and the more reasonable their conduct, the more likely it is that *A* will be liable to *C* for the damage. Especially in emergency situations, the courts will tend to be slow to condemn the actions of a party, especially if this means absolving the original tortfeasor of blame.[28]

II. Statute law

Under section 78N of the Environmental Protection Act 1990, the local authority and the Environment Agency have powers to carry out remedial work on contaminated land, where the authorities consider this to be necessary 'for the purpose of preventing the occurrence of any serious harm, or serious pollution of controlled waters, of which there is an imminent danger' (section 78N(3)(a)), or where a person on whom a remediation notice has been served (such as *A*, in the answer to Question 15(a)) fails to comply with the requirements of the notice (section 78N(3)(c)). Under section 78P, these authorities may recover the reasonable costs of carrying out these works from the person who

[26] See Question 12(b) above.

[27] The test for *novus actus interveniens* is based on reasonableness and foreseeability. See, for example, *Dorset Yacht Co.* v. *Home Office* [1970] AC 1004; *Topp* v. *London Country Bus (South West) Ltd* [1993] 1 WLR 976.

[28] *The Oropesa* [1943] P 32; *Carslogie Steamship Co.* v. *Royal Norwegian Government* [1952] AC 292.

caused the contamination. However, in deciding whether or not to recover these costs, the authorities must consider whether the recovery would cause hardship to the person from whom the costs are recoverable (section 78P(2)(a).

Question (d)

Given the discussion in *Hunter* v. *Canary Wharf* (see above) about the basis of damages being diminution in capital value, a claim such as *C's* would appear feasible in nuisance (and by analogy under *Rylands* v. *Fletcher*). However, the damages discussed in those cases were amenity damage, and the diminution in capital value was a means of calculating those losses. It is not clear that mere loss of value can be a category of damages in nuisance. Moreover, in a claim on similar facts, based on statutory civil liability, simple diminution in the value of the property was not sufficient.[29]

Question (e)

In negligence, such a claim (classified as one for pure economic loss) would be unlikely to succeed.[30] Negligence is not, of course, a prerequisite for liability under nuisance or *Rylands* v. *Fletcher*.

Finland

Question (a)

Those who have suffered damage have legal standing (see the decision of the Supreme Court 1990:47). They may claim financial compensation only on their own behalf, as a group action is not available. Under administrative law, a public authority may order *A* to remedy the contaminated land if it causes a risk to the environment and human health. Private organisations are entitled to inform public authorities about contamination and even demand (administrative) remedial measures.

Question (b)

If *B* remedies the land himself, he may claim his costs for doing so from *A*. Furthermore, *B* can inform the public authorities about the contamination, and the appropriate authority may order *A* to clean up the contaminated land himself.

[29] *Merlin* v. *British Nuclear Fuels Ltd* [1990] 3 WLR 383.
[30] *Murphy* v. *Brentwood District Council* [1991] 1 AC 398.

Question (c)

A public authority may sue a liable polluter for the reasonable costs of mitigating the damage. If the necessary and reasonable emergency measures themselves have caused damage to *C*, *A* is liable to pay those costs too.

Question (d)

Financial loss that is not related to personal injury or property damage may be compensated in this case, so long as it is not merely a minor loss.

Question (e)

No, *A* is subject to strict liability.

France

Question (a)

Legal standing lies with the owner of the contaminated land, as well as with any tenants of the land or its buildings, if their lease is affected by the contamination.

If the facility is a part of an industrial site belonging to *A* (a private person), civil courts have jurisdiction over the case, but, if the facility is a centre for the treatment of chemical waste, it will be considered a public service facility (whether or not *A* is a public person), and administrative courts will have jurisdiction over the case (being damage caused by public works).[31]

Question (b)

If *B* brings a claim before a civil court, he is entitled to require restoration by replacement or restitution in kind. However, he may only require financial compensation if he is suing before an administrative court (see the answer to Question 1(a)).

Question (c)

According to the polluter pays principle, *A* will have to pay for the emergency measures taken to prevent further damage. If the explosion was caused through *A's* fault or by a defect in *A's* facility, *A* will also pay for the damage caused to *C's* property. If the explosion resulted from an act of a third party or from *force majeure*, it is likely that *A* will only bear

[31] See Deharbe, *Le droit de l'environnement industriel*, p. 335.

the costs of the emergency measures but not the damage to *C's* property, which could otherwise be compensated by the state (or by the relevant public authority).

Question (d)

If the diminution in value is certain, *C* may sue *A* for damages, regardless of whether he or she was directly affected by the disaster because the diminution in value of his or her property is caused by the proximity of the polluted site.

Question (e)

See the answer to (c) above.

Germany

Question (a)

I. An installation for the production of chemical products under Appendix 1 to UmweltHG is concerned here. An 'emission', as defined under the statute, has also taken place, as it appears the environmental impact had the form, magnitude and duration to cause a significant burden to the general public or to the neighbourhood. Thus, pursuant to § 1 UmweltHG, *A* will be liable to anyone who dies, whose health is impaired or who sustains property damage, as a result of the contamination. However, soil contamination is not governed by § 5 UmweltHG.

II. Owners of contaminated land may demand the removal of the emission nuisance under § 1004 sentence 1 BGB.[32]

III. Since the factual requirements of § 823(1) BGB are satisfied (specifically, a violation of a legal interest in the form of property infringement), the owner of contaminated land has a right to demand restitution under § 249 sentence 1 BGB.

IV. Although the acceptable limits of emissions have been exceeded, no claim lies under § 906(2) sentence 2 BGB. However, because the emissions following the explosion are not customary, in the locality, the property owner is under no duty of toleration.[33] Thus, an analogous application of § 906(2) may be considered, if *A* has failed to take measures which could have prevented the infringement.

V. Environmental damage pursuant to § 2 No. 1 (c) USchadG exists. The preconditions of § 3(1) No. 1 USchadG in conjunction with Appendix 1 No. 7 appear to be satisfied. The necessary particulars, however, are not given. If the preconditions are satisfied, a claim against A under § 6

[32] Palandt/Bassenge, BGB § 1004 n. 5. [33] Schimikowski, *Umwelthaftungsrecht*, pp. 19f.

> USchadG exists. § 10 USchadG should be consulted: the public authority acts *ex officio* not only when enforcing the decontamination obligation, but also when requested to by an affected person or even an association that can appeal pursuant to § 11(2) USchadG and the facts brought forward to justify the application give credibility to the occurrence of environmental damage. The USchadG in § 11(2) defines these types of association as those accepted or counted as accepted pursuant to § 3(1) UmwRG (Umwelt-Rechtsbehelfsgesetz, Environmental Remedy Act).

Question (b)

The claim depends on the extent to which an infringement of ownership is present as far as civil law claims are concerned (see above). The claim under § 6 in conjunction with § 10 USchadG is independent of this. A must undetake the required measures pursuant to § 8 USchadG.'

Question (c)

Defendant *A* is liable to pay these costs, pursuant to §§ 677, 683 sentence 1, 670 BGB, and is under a duty to repair the damage. Thus, the public authority's actions were actually taken on *A's* behalf, since the measures avoided further violations of legal interests that would otherwise have also been *A's* responsibility. It should be noted that a claimant has no right to the restoration of the best available conditions, but only to what is objectively necessary. Similarly, police and security measures for the prevention of further public danger can be taken and damage thereby compensated. Property infringements by third parties, to the extent they occur with reasonable foreseeability in the course of reparations, are equally subject to compensation.

Pursuant to § 9(1) USchadG, A must bear the costs of the measures required to prevent further damage. The public authority may take the required measures itself 'to the extent the competent public authority has not yet taken the required measures for decontamination by itself' (§ 8(1) USchadG). Measures to be used to prevent further damage are defined in § 2 No. 6 USchadG as every measure to avoid or minimise damage when an imminent danger of environmental damage is at hand. The costs are defined in § 2 No. 9 USchadG as the costs required to properly and effectively execute this act, and include the costs of controlling environmental damage, the imminent danger of such damage, alternative measures, and administration and process costs. In addition, the costs of enforcing the measures, of collecting data, other overhead costs, and the costs of supervision and inspection are also covered.

Question (d)

The only issue here is whether the reduced market value constitutes a property infringement pursuant to § 823(1) BGB. There is, at least, infringement by alteration in the relationship of the property to the environment, preventing or limiting the use of the property for a comparatively significant period of time.[34] Usually, however, there is no 'infringement' in such a case because the diminution in market value is a damage that cannot be proven.[35]

Question (e)

In terms of legal liability for the danger, it makes no difference whether or not fault is established, as liability for danger is independent of fault. Also, since the burden of proof is shifted to the defendant, there is also no difference in liability under § 823(1) BGB.[36]

Assuming that the preconditions of § 3(1) No. 1 USchadG in conjuction with Appendix 1 No. 7 are satisfied, it also makes no difference to claims under the USchadG because § 3(1) No. 1 USchadG prescribes no-fault liability.

Greece

Question (a)

According to Article 29 of Law 1650/1986, *A* is liable for the damage, as he has caused the pollution to the surrounding land. Any person who has suffered the damage has legal standing to bring a legal action, including owners of the land, the usufructuaries, persons with a servitude on the land, lessees, and lawful occupants of the land.

Another basis for legal action by a person who has suffered damage from the contamination of the soil is Article 914 AK.

Furthermore, the neighbour law provisions (Articles 1003, *et seq*. AK in conjunction with Articles 1108 and 989 AK) offer a basis for legal actions against *A* (see also the answer to Case 6). So, from the moment large amounts of chemicals contaminate the soil of the surrounding land, they constitute emissions that the owner of the land is not obliged to tolerate (Article 1003 AK), and the owner may bring an action under Article 1108. The injunction requires *A* to remediate the impairment, as

[34] Staudinger/Hager, BGB (13th edn, 1999), § 823 n. B 94.
[35] Staudinger/Hager, BGB § 823 n. B 94.
[36] BGH 18.9.1984, BGHZ 92, 143 et seq. (*Cupola Furnace*).

well as to cease the offending activity, or even cease site operations altogether (Articles 1005 and 1004 AK). A usufructuary (Articles 1173, 1108, 1003 AK combined) and a person with a servitude of habitation on the land (combined Articles 1187, 1173, 1108 and 1003 AK) may also sue for an injunction, although a lessee may not (as he has no real right over the land). However, the lessee and persons with a real right to the land may bring a similar action in their capacity as possessors of the land (Article 989 AK).[37] Furthermore, a parallel action for damages and compensation for moral harm may also be available under the tort provisions of the AK.[38]

Finally, the provisions for the protection of the personality (Articles 57–59 AK) might also offer a legal basis for persons who use the land to demand that *A* repair the impairment (Article 57 § 1 AK) or eliminate the consequences of his act and reinstate the property's utility,[39] refrain from repeating the offence (Article 57 § 1 AK), and pay damages (Article 57 § 2 AK), if the preconditions of Article 914 *et seq*. are met.

Question (b)

If the land can be restored to its original condition, *B* may demand restoration according to Article 297 sentence b AK, instead of seeking pecuniary damages. It is in the discretion of the court to order such restoration according to the circumstances of the case.

Question (c)

If it is *A's* obligation to take measures in order to levy the impairment, he must bear the burden of these measures, even if it entails necessary costly emergency measures to prevent further damage. If *A* fails to undertake the necessary measures, the public authorities should do so and may require compensation through *negotiorum gestio* (Articles 730 *et seq*. AK) or through the laws on unjust enrichments (Articles 904 *et seq*. AK).[40]

If these emergency measures cause property damage to *C*, the latter may ask for damages from the public authorities, provided that the authorities acted illegally (Article 105 Introductory Law of the AK). It appears that *C* cannot seek these damages from *A*, as the latter has not actually caused the property damage to *C*.

[37] See Ap. Georgiades, *Empragmato Dikaio*, I, para. 31III, Nos. 19, 20.
[38] See I. Karakostas, *Perivallon kai Astiko Dikaio*, pp. 95, 96; I. Karakostas, *Perivallon kai Dikaio*, p. 257.
[39] I. Karakostas, *Perivallon kai Astiko Dikaio*, p. 49; I. Karakostas, *Perivallon kai Dikaio*, p. 181.
[40] I. Karakostas, *Perivallon kai Astiko Dikaio*, p. 51; I. Karakostas, *Perivallon kai Dikaio*, p. 183.

Question (d)

Neighbour *C*, who has not been directly affected by the disaster, cannot sue *A* for the diminution in the market value of his property. The diminution is not a direct damage, but is a repercussion of the actual damage, and, as such, cannot be recovered.[41]

Question (e)

The legal position is the same as (d), even if *A* had been negligent.

Ireland

Question (a)

Any person may bring an action under sections 56 or 57 of the Waste Management Act, which allows a court to order cessation of a polluting discharge (or a discharge which causes or is likely to cause environmental pollution (section 57)) and to order that the person who caused the pollution should repair the damage. There is no requirement that the person bringing the action must have any connection with the contaminated land, or any interest in the area. An almost identical procedure exists under the Local Government (Planning and Development) Acts 1963–99 and it has been recognised that there is likewise no restriction on who can bring an action under these provisions. The remedy is an injunction of the activity and ordered clean-up. There is no provision for an award of damages, however.

Any person who has suffered damage can bring an action for damages under the Air Pollution Act, the Water Pollution Acts, the rule in *Rylands* v. *Fletcher*, or in negligence, nuisance or trespass, as appropriate.

Question (b)

Plaintiff *B* would be entitled to apply for an order for land restoration under sections 56 or 57 of the Waste Management Act. Because an injunction is a discretionary remedy, however, there is no guarantee that *B* would succeed. The court might decide that some less expensive measure other than full remediation would be sufficient. If *B* wanted to insist that he or she is entitled to an injunction, he/she could argue that

[41] Ap. Georgiades, in Georgiades and Stathopoulos, Article 914 No. 69.

the European waste framework directive actually requires the court to grant an injunction.[42] However, this argument has not yet been heard or answered by a court.

Plaintiff *B* would also be entitled to seek an injunction and damages in negligence, nuisance, trespass or under the rule in *Rylands* v. *Fletcher*, the Air Pollution Act or the Water Pollution Acts.

Question (c)

The public authorities may have exercised clean-up powers under sections 10(4) or 13 of the Local Government (Water Pollution) Act 1977,[43] section 13 of the 1977 Act,[44] section 27 of the Air Pollution Act 1987, or section 56 of the Waste Management Act 1996. Each of these powers gives the public authority the right to claim the costs of the clean-up from the polluter using the ordinary contract debt recovery procedure. The public authority would have to prove that the works were necessary to prevent further damage and that the money was actually spent. The authority can also recover money which it has given to a third party to carry out clean-up, subject to the same conditions. Notably, to date, authorities have not had the resources to carry out clean-up measures, and, if they take any action, they tend to use their powers to require the polluter to carry out the clean-up.

If the authority can establish that the damage it caused to *C's* land was an inevitable consequence of necessary emergency measures, *A* may be liable to pay these costs. However, if the authority fails to prove inevitability and necessity, the authority itself will likely be liable to *C*. It may be expected that courts will be slow to accept the argument that further damage is necessary to prevent worse damage.

At present, several local authorities are incurring substantial expenditure excavating unknown quantities of waste from unauthorised waste disposal sites which have recently been found. Public representatives have speculated that some of the authorities may be unable to recover these clean-up costs because they have themselves disposed of waste at the facilities. It will be interesting to see what steps the authorities take to recover the costs and whether they are successful.

[42] Council Directive 75/442/EEC, as amended by Council Directive 91/156/EEC.
[43] As amended by section 7 of the 1990 Act.
[44] As amended by section 10 of the 1990 Act.

Question (d)

It should be noted that *A* has not trespassed nor interfered with *C's* use and enjoyment of the land (no complete tort of nuisance). Moreover, the mere apprehension that waste from contaminated land nearby could ultimately contaminate *C's* land (and interfere with the use and enjoyment thereof) would allow only a claim for an injunction, but not for damages for the inability to sell. An injunction might also be available to *C* under section 57 of the Waste Management Act to prevent likely environmental pollution.

In negligence, however, *C* has suffered a pure economic loss, and this might be an appropriate case to establish whether such loss is recoverable in Irish law. However, *C* would probably have to actually sell or attempt to sell the land before it could be shown that the loss had occurred. The courts would be unlikely to accept a claim for purely hypothetical loss. Similarly, *C* would have to show that the unsellable status of the property was not a result of irrational fears among prospective buyers, as such damage would probably be too remote for recovery. Finally, *C* should also bear in mind that the law permits many acts, which reduce the value of land (blocking a view or building a road, etc.), and this fact might colour the court's analysis.

Under the rule in *Rylands* v. *Fletcher*, there has been an escape and physical damage to property, but there has been no physical damage to *C's* property. There is no known case seeking to establish liability for pure economic loss under the rule; however, it would seem logical that the principles applicable to negligence apply here too. Similarly, one would expect that the issue of recovery of damages for pure economic loss under the Air Pollution and Water Pollution Acts should be decided on the same basis.

Question e

In relation to negligence, an owner, *B*, would have a cause of action for the damage to his or her land, as outlined in (b) above. However, *C's* position is weak, as explained in (d), since it is uncertain whether recovery for pure economic loss would be allowed.

Italy

Question (a)

One must distinguish the kind of damages sought in this case. As far as damage to property or health are concerned, legal standing is granted to

individuals suffering the damage, and Articles 2043, 2050 and 844 CC govern liability. As far as environmental damage is concerned, private citizens may not claim damages. Even if they can still sue on the ground of tortious liability when their individual rights are affected, Article 18 of Law No. 349/1986 establishes that only the state, the municipality or the 'region' in whose territory damage has occurred may claim 'environmental damages'.

As already mentioned, the state does not always have an incentive to act promptly. The 1986 law does not itself provide any serious incentive to the state and/or local authorities. The Italian civil procedure system does not recognise *citizen suits*, as in the United States, where citizen suits provisions have been introduced in nearly every major federal environmental statute, because of Congress' tacit recognition that the Executive branch often lacks either the resources or the will to prosecute polluters.[45]

In Italy, however, environmental associations may only bring 'notice' to the public authorities that damage to the environment has occurred, but they do not have the possibility of legal action.

Article 18 of Law No. 349/1986 establishes that, whenever materially feasible, restoration in kind is the preferred option,[46] and the polluter should restore the environment to its state prior to the occurrence of damage. Only if this is not possible, may the court award damages.

Question (b)

In this case, *B* cannot claim for 'environmental damage', but only for damage to property. Moreover, restoration in kind may be claimed according to Article 2058 CC, but, if it is excessively costly, the judge will likely award only damages.

Questions (c)–(e)

There is no statutory provision, case law or scholarly writings on the issues raised here.

[45] For the United States experience, see Tolbert, 'The Public as a Plaintiff: Public Nuisance and Federal Citizen Suits in the Exxon Valdez Litigation', (1990) 14 Harv. Env LR 511.

[46] Article 18.8: 'il giudice nella sentenza di condanna, dispone, ove sia possible, il ripristino dello stato dei luoghi a spese del responsabile.'

The Netherlands

Question (a)

Here, *A* will probably be held liable under Article 6:174 or 6:162 BW for the damage resulting from the explosion at the facility. A determination that a plaintiff has sufficient interest to provide legal standing is analysed in two aspects: a subjective aspect (the nature of the plaintiff who can sue) and an objective aspect (the nature of the relevant interests).[47] There are three different groups under Dutch tort law that, in theory, may have sufficient interest in suing for environmental damage under the general tort Article: individuals; environmental organizations (or NGOs); and public authorities.

Traditionally, an individual must prove that his own rights have been infringed or are going to be infringed in the near future. The subjective interests that may be at issue are, for example, property rights, a person's living conditions, etc. Notably, however, there is no subjective right to a clean environment for every inhabitant in the Netherlands.[48]

An 'ownership criterion' used to be a requirement for standing in environmental tort law. However, in the mid-1980s, when NGOs started to become involved in environmental disputes, the Hoge Raad ruled that a civil law remedy would be available when general interests were at stake.[49] The standing for NGOs is justified since these organisations

[47] Betlem, *Liability for Transfrontier Pollution* (1993), p. 305.

[48] Article 21 of the Constitution of the Netherlands refers to the duty of the state to ensure of the protection of the national environment. This is a norm of instruction rather than a norm that can force the state to actually restore the environment at the demand of individuals. Another progressive view is to lay down a duty of due care for every citizen to maintain a clean and healthy environment. By virtue of the fact that everyone needs and uses these kinds of goods every day to almost the same extent, it would seem quite reasonable for everyone to respect their integrity and to attempt to maintain them properly. This could result in the fact that everyone has an equal entitlement to the environmental objects that are in danger and to bring legal action against the polluter when the danger is realised and the damage occurs. See Van Wijmen, 'Het milieu ieders zorg' (1985), p. 231–237.

[49] Before the Hoge Raad ruling in the *De Nieuwe Meer* case, some lower courts had already granted standing to public interest groups. See e.g. Rb Den Haag 23 October 1974, (1973) *Bouwrecht* 306. The Hoge Raad first ruled that a public interest group could, under certain conditions, sue for injunctions in HR 27 June 1986, NJ 1987, 743 note by Heemskerk (*De Nieuwe Meer*). For an English summary, see W. van Gerven (ed.), *Cases, Materials and Text* (1998), p. 333 and Betlem, *Civil Liability for Transfrontier Pollution* (1993), pp. 308–12. The *Nieuwe Meer* ruling was confirmed in HR 18 December 1992, NJ 1994, 139 (*Kuunders*) note by Scheltema and Brunner. Subsequently, the lower courts also awarded damages to environmental organisations in civil actions. See Rb Rotterdam, 15 March 1991 (1992) 23 NYIL 513 (*Borcea I*); NJ 1992, 91; [1992] TMA/ELLR 27–30, note

bring together the diffuse interests of citizens in legal proceedings and thus provide an efficient form of legal protection for the interests concerned. These developments in case law were codified by Article 3:305a BW:

> 1. An association or foundation is entitled to an action for the purposes of protecting the interests of other persons, to the extent it promotes those interests according to its articles of association . . .
> 3. Except when an association exclusively acts on behalf of its members, an action as referred to in Subsection 1 cannot relate to damages in money.[50]

The third class of plaintiffs that can have legal standing are public authorities, another development from case law. According to cases such as *Bensicker*,[51] *State* v. *HAL*[52] and the *Windmill* case,[53] public authorities are entitled to sue for injunctions and damages. In the *Staat* v. *Kabayel* case,[54] the Hoge Raad discarded the 'private law interest' requirement and held that the government can raise any civil law claim on the basis of the promotion of the 'general interest'. The ruling has been codified in Article 3:303 BW ('A person has no right of action where he lacks sufficient interest'), but governmental legal persons may raise a claim to protect the interests of other persons as far as the promotion of these interests is entrusted to them (Article 3:305b BW).

To enter a civil action, the government must also meet a relativity requirement that calls for an examination of the 'scope-of-the-norm' in the case and the interests to be protected.[55] However, later Hoge Raad

Van Maanen; [1991] *Milieu & Recht* 662, note Kottenhagen-Edzes. For an English summary, see Van Gerven (ed.), *Cases, Materials and Text* (1998), pp. 334–5. See also Hof Den Bosch, 26 August 1998, *Milieu & Recht*, 1999, No. 22 (Edelchemie-Stichtingen).

[50] Translation by Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 564.

[51] HR 14 April 1989, NJ 1990, 712 note by CJHB and JCS.

[52] HR 26 May 1978, NJ 1978, 615 note by GJS.

[53] HR 26 January 1990, NJ 1991, 393 note by MS.

[54] HR 18 February 1994, NJ 1995, 718 and HR 7 October 1994, NJ 1995, 719.

[55] Brans 'Liability for Damage', 2001, p. 248. This is a discussion that took place mainly with reference to Article 75 of the Soil Protection Act (and former Article 21 of the Interim Soil Clean-up Act of 1983 (IBS)), which enables the state to start proceedings under civil law to seek compensation from the polluter. In the *State* v. *Van Amersfoort* case (HR 9 February 1990, 409, BR 1990, p. 375), which concerned soil pollution, the Hoge Raad held that Article 21 IBS only referred to the unlawfulness as stated in the general tort Article 1401 BW (old), and thus it would have to be clear to the polluter that his action was unlawful *vis-à-vis* the state. It was for the court to determine whether, at the time of the pollution, the state had an interest in cleaning up the soil pollution, and whether this interest was or should have been clear to the polluter.

rulings indicate that the relevance of the 'ownership criterion' has been changed with respect to the relativity requirement. In *State* v. *Akzo Resins* or *Van Wijngaarden v. State*,[56] the Hoge Raad clarified its earlier decision and held that the interest of the state in the clean-up operation is its pecuniary loss. Therefore, the polluter must be aware of the costs the state will incur in the clean-up operation, even when polluting his or her *own* property. For practical reasons, the Hoge Raad ruled that polluters could not have known, prior to 1975, that the activities concerned infringed the general interest in a clean environment and would result in financial damage to the state for cleaning up the polluted soil. Accordingly, the polluting companies involved did not act unlawfully (until 1975) towards the state. In *State* v. *Shell*,[57] the Hoge Raad held that this 'date of clarity' also applies to polluting activities on someone else's property.

In general, a plaintiff in a tort action may sue for reparation in kind or in money, a declaration of unlawfulness and/or an injunction.[58] When a plaintiff sues for an injunction, he does not have to prove damage. A plaintiff will often first be granted an injunction to prohibit the further commission of a tort against him before other relief (if any) is granted.

Environmental organisations are also sometimes entitled to bring suits for injunctive relief to prevent or terminate certain damaging activities. The judgment of the district court in the *Borcea* case[59] confirmed that environmental organisations may also claim the costs incurred when preventing or limiting damage. Furthermore, in the *Edelchemie* case,[60] it was confirmed that an environmental organisation may claim the costs of assessing liability. It is not particularly important in those cases whether the natural resource is owned or not.[61]

When it comes to the legal standing of public authorities, it can also be concluded from the case law that they are entitled to sue for injunctions and damages.

[56] HR 24 April 1992, NJ 1993, 643, note Brunner.
[57] HR 30 September 1994, NJ 1996, 196, note Brunner.
[58] Asser-Hartkamp 4-I 2004, No. 409–13.
[59] Rb Rotterdam 15 March 1991, NJ 1992, 91 (*Borcea*).
[60] Hof Den Bosch, 26 August 1998, *Milieu & Recht*, 1999, No. 22 (Edelchemie-Stichtingen).
[61] Brans, *Liability for Damage* (2001), pp. 43–4. Brans further notes that, even though this judgment is important and has had significant influence on the development of the relevant law in the Netherlands, its value should not be overestimated because it leaves some important issues unresolved.

Question (b)

Although many different types of harm are theoretically recoverable, the legislature has restricted recovery of damage to pecuniary losses and non-pecuniary losses. Damage to property and/or the reasonable cost of restoration fall under pecuniary losses. In the case in hand, *B* has suffered damage to property rights, and *B* may sue for damages. However, under civil law, there is no duty or obligation for the property owner to file a claim for damages or to use the compensation obtained for restoration purposes.[62]

Another problem can be the extent of damages (see Question 2(a)). Previously, a liable person had to compensate for the objective costs of restoration. However, in *The City of The Hague* v. *Van Schravendijk*, the Hoge Raad ruled to the contrary:[63] if the costs of restoration exceed the reduced value of the damaged property, the restoration costs may not be recoverable, depending on the facts of each case. Factors assessed include the function the property had for the owner (did he own it for his own use or for investment purposes?), the possibility of acquiring an object with similar characteristics,[64] the location, the price, the extent restoration exceeds value and other similar relevant factors. However, in these cases, the judge has the discretion to determine the actual recoverable damage (Article 6:97 BW).

Question (c)

Although the state has an interest in clean-up operations of the polluted soil and may sue to recover its costs (see (a) above and the relevant

[62] *Ibid*., p. 256. Thus, it cannot be guaranteed that the damage to his land will be repaired, even if *B's* land has public value that exceeds the interest of its private owner, *B*. This problem has been acknowledged by the European Commission, which proposed an environmental liability regime with special rules on standing, and with clear rules on how to expend compensation in respect of to certain categories of natural resources, especially those with significant public value. This regime has been laid down in Articles 6(2)(c) and (3) and 8(2) of the Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage, in force 30 April 2004; Pb EG 2004, L143/56. See Betlem 'Voorstel Richtlijn Milieuaansprakelij kheid', 2002, pp. 29–32, Brans 'Voorstel van de Europese Commissie', 2002, pp. 137–45 and Brans, 'De Eu-Richtlijn', 2005, pp. 14–28.

[63] HR 1 July 1993, RvdW 1993, 158 (Den Haag/Van Schravendijk). This rule has been confirmed in later case law: HR 7 May 2004, RvdW 2004, 71.

[64] For instance 'use values'. 'Use values' are the values to the public for recreational or other public use of a resource as measured by the consumer surplus and any fees or other payments for use of the natural resource. Cited from: Brans, 'Liability for Ecological Damage', 1994, pp. 87–8.

case law),[65] an injured party is also obliged to limit the damage. If he fails to do so, or does so insufficiently, he will not be able to claim that part of the damage. Thus, damage from insufficient mitigating or preventive measures will be deemed to be due to contributory negligence (Article 6:101 BW) and any associated costs are not recoverable.[66] If the victim has contributed to the damage, the obligation to repair the damage is apportioned between the victim and the liable person. On the other hand, where, as here, public authorities took costly emergency measures, the 'reasonable' costs can be compensated, depending on the circumstances of the case.[67] A 'reasonable cost' of prevention is compensable where (1) the extent of the costs are reasonable,[68] and (2) the measures themselves are reasonable.

In conclusion, to the extent the public authorities took preventive measures that were both reasonable to take and reasonable in cost, *A* will be obligated to pay (Article 6:184 BW). A complication in the underlying case is the fact that the public authorities undertook the preventive measures. It must be realised that recovery of costs incurred by the state when carrying out tasks in the public interest will only be possible as long as a public law arrangement is not being interfered with in an unacceptable manner by the use of private law powers, which the public authorities may, in principle, rely on. Furthermore, it must first be ascertained whether the legislator of the public law arrangement, in which the intervening powers are laid down, intended to exclude recovery of costs.[69] There is other case law in which the costs of special measures taken by the state, for example the clean-up and prevention of pollution in the sense of protecting the interests of the administrator of the public goods, will be recoverable.[70] In other words, *A* will eventually have to pay for the damage to *C's* property.

[65] HR 9 February 1990, 409, BR 1990, p. 375 (Staat/Van Amersfoort), HR 24 April 1992, NJ 1993, 643, note Brunner (Staat/Akso Resins or Van Wijngaarden/Staat), HR 30 September 1994, NJ 1996, 196, note Brunner (Staat/Shell).

[66] Asser-Hartkamp 4-I 2004, Nos. 414 and 453.

[67] '[R]easonable costs to prevent or mitigate damage which could be expected as a result of the event giving rise to liability' are to be compensated according to Article 6:96(2) BW.

[68] See e.g. HR 18 February 1944, NJ 1944, 226, HR 31 March 1950, NJ 1950, 592 (PhANH), HR 4 October 1957, NJ 1958, 12, HR 19 December 1975, NJ 1976, 280 (GJS) (Rijksweg 12) and HR 23 September 1988, NJ 1989, 743 (JHN and JCS) (MDPA).

[69] HR 26 January 1990, NJ 1991, 393 MS (Windmill); see also HR 11 December 1992, NJ 1994, 639 (Brandweerkosten).

[70] HR 19 December 1975, NJ 1976, 280 (GJS); *Verkeersrecht* 1976, 53 note by Brunner (Rijksweg 12), HR 26 May 1978, NJ 1978, 615 (GJS) (Gaasterdijk/Zuidpool).

Question (d)

Again, in Dutch tort law, the concept of damage can be divided into material and non-material damage. Under Article 6:96 BW, patrimonial damage is 'both the loss sustained by the creditor and the profit of which he has been deprived'.[71] Material damage may consist of damage to property, goods, persons and pure economic loss or a combination thereof. There is no categorical limitation on claiming pure economic loss in tort, which is the issue here.[72] The legislature has proposed, with respect to the rules regarding liability for dangerous substances and for air, water and soil pollution, that 'not only damage to property or to persons can be recovered by the actual victim of the loss, but also the damage that occurs when someone's property is damaged, and someone else suffers therefrom'.[73] The Hoge Raad has allowed compensation for purely economic losses in the first or second degree, but has denied more remote damage. In *Van Hees* v. *Esbeek*,[74] unlawful damage to electricity cables caused an acute power failure to a third party at his workplace, resulting in economic losses. This loss of production was compensated as pure economic damage by the Hoge Raad.[75] There has also been some litigation in the past regarding property value decreases due to nuisance and pollution. The first important case was probably the *Voorste Stroom III* case.[76] A small river in the south of the Netherlands was polluted and gave off an unpleasant smell, disturbing people in the vicinity. The Hoge Raad held that objects near the stream had been objectively negatively affected (based on housing market indicators).

The case law indicates that, under Dutch tort law, neighbour *C* has the right to sue *A* for damages, even if *C* has not yet sold the house for a lower price than he could have received prior to the pollution. There is

[71] Article 6:96 BW.

[72] Other classic examples in the field of environmental liability include marine pollution, as a consequence of which fishermen have lost the preconditions for fishing and have suffered diminished catches. Hoteliers, restaurateurs, shopkeepers etc., whose establishments are located in adjacent tourist resorts, have suffered economic loss when tourists have avoided the area because the beaches were polluted.

[73] Proposal 21202 to Supplement Books 3, 6 and 8 of the New Civil Code with Rules Regarding Liability for Dangerous Substances and for Air, Water and Soil Pollution, The Dutch Lower House, 1988–9, 21202, No. 3, pp. 17–19.

[74] HR 1 July 1977, NJ 1978, 84 (Van Hees/Esbeek).

[75] See HR 14 March 1958, NJ 1961, 570 (Stroomafnemers), HR 1 July 1978, NJ 1978, 84, note by GJS (Dragline or Van Hees/Esbeek); cf. HR 18 April 1986, NJ 1986, 567, note by G (ENCI/Lindelauf).

[76] HR 29 January 1937, NJ 1937, 570.

no need for that damage to have already occurred or for it to have resulted in actual pecuniary loss.[77]

Question (e)

Under Dutch tort law, there is probably no difference in *A's* liability.

Portugal

Question (a)

I. Under Article 1347 CC, the owners or authorised occupants of the contaminated land could claim restoration of the land to its condition prior to the damage (*restitutio in integrum*) and compensation for lost usage during the period of restoration.
II. Under Article 23 LAP, if the facility was dangerous (if not dangerous or, under Article 22), anyone whose protected legal interest or right was impaired by the explosion can demand compensation. Under Article 23 or 22 LAP, Any citizen can use the *actio popularis* regime to demand a remedy for the ecological damage suffered by the community (public damage). However, this remedy should consist of restoration or pecuniary compensation to the state. The public damage action is set out in Article 48 LBA, which provides that infractors are obliged to remove the causes of the breach and to return the environment to the state it was in before the breach, or to an otherwise equivalent state.

Proper natural restoration, as imposed by Article 48(1) LBA, does not necessarily mean the reconstitution of the material situation as it existed before the harm, but the reestablishment of the *set of obligations* affected, that is to say, the restoration of functional ecological capacity and of the capacity for human exploitation of the natural asset (as determined by the legal system). On the whole, the ecological system

[77] Kottenhagen-Edzes 'Onrechtmatige daad en milieu' (1992), p. 28., see also Rb. Middelburg 18 April 1979, NJ 1983, 116 (Buys-Gemeente Vlissingen). See also Rb. Dordrecht, 4 December 1985, TMA 1987, p. 106 and Hof 's-Gravenhage, 24 May 1989, *Bouwrecht* 1990, p. 468. A clean-up operation in the municipality and the resulting measures to control the pollution in the 'Merwede-polder' caused a diminution in the value of the houses in that neighbourhood. The Hof of 's-Gravenhage held that the financial loss should be compensated by the city of Dordrecht. Although the city's defence was remarkable (arguing that the contamination itself did not cause the reduction in value, but rather it was the homeowners' campaign which caused it), it was also unsuccessful. The Hof held that, even though the homeowners' campaign did indeed cause the loss directly, the campaign occurred as a result of the pollution and must therefore be compensated by the city.

affected must be restored to its prior state of *dynamic equilibrium*, or its capacity for self-regeneration and self-regulation. Under the heading of natural restoration (Article 48 LBA), there is both *ecological restoration* and *ecological compensation*. The former aims at the reinstatement or recovery *in situ* of the natural assets affected. The latter involves the substitution of damaged natural assets by others that have the equivalent function, though they may be located elsewhere.

To choose between the two for implementation, the essential criterion appears to be the idea of the *prevalence of ecological self-regeneration*, though this is not explicit in Article 48 LBA. Rather, the proposition is based, on the one hand, on the *tendency to homeostasis* possessed by ecological systems and, on the other hand, on the *precautionary principle*.

Natural restoration may be found to be clearly disproportionate, for example, where restoration would involve great expense. In such a case, restoration may be totally or partially abrogated. Replacement, as an alternative to natural restoration, is, however, not considered disproportionate in any event, even if its cost is significantly greater than the economic value of the ecological asset affected.

Question (b)

Here, the answer to Question 15(a) and (b) above applies. It should be noted, however, that the restoration of the ecological (public) damage can restrict a private claim by *B*.

Question (c)

Defendant *A* is also liable for these emergency-measure costs (Article 483 CC). However, where such measures damage another party (*C*), *A* will not be liable to pay for that party's damage.

Question (d)

It is not clear in Portuguese law whether the reduced market value of *C's* house constitutes a property infringement, and thus a basis for a claim against *A* for damages.

Question (e)

As stated above, if the facility is considered dangerous, the legal regime of liability based on risk applies (Article 23 LAP). Therefore, negligence is not relevant. If the facility is not dangerous, negligence is important under Article 22 LAP.

Scotland

Question (a)

In principle, any individual who suffered personal injury as a result of the explosion (being a direct result of the contamination) may have standing to sue. Owners of affected land may also have standing concerning property damage, as may tenants, but not members of their families or those who are in possession of the land on an informal basis.[78]

The appropriate remedy is damages. The categories of claims for personal injury are considered above in the answer to Question 12(a). The nature of the claims for property damage is considered below.

Question (b)

The aim of the Scots courts in awarding damage is to put the injured party in as near as possible the same position as she would have been had the delict not occurred. When the delict causes property damage, the damages award is determined primarily by the diminution in the value of the property that is directly consequent from the damage done to the property.[79] Although the cost of restoration may be taken into account, the damages figure does not necessarily equate with the amount necessary to restore the property to its previous state. Indeed, there is no obligation on *B*, for example, to apply any damages award to clean-up costs (and it is open to *B* to use the award to finance a move to another location). *B* may also be able to recover an amount in respect of inconvenience suffered while the problems are rectified, or while he or she moves elsewhere.

Question (c)

There is no basis, either at common law or in statute, for local authorities unilaterally to make the decision to remedy damage on private land and then demand the cost (assuming the local authority does not own the land in question). Sections 78A to 78YB of the Environmental Protection Act 1990 provides a procedure whereby contaminated land[80]

[78] See the answer to Question 3(a) above. [79] D. M. Walker, *Civil Remedies* (1974), p. 1033.

[80] Defined in section 78A(2) as 'any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that (a) significant harm is being caused or there is a significant possibility of such harm being caused; or (b) pollution of controlled waters is being, or is likely to be, caused'.

may be identified and (under section 78E) a remediation notice served upon the proprietor, tenant (if applicable) and the 'appropriate person', being any person who can be identified as having caused the contamination.[81] The onus is then on the appropriate person to remedy the problem, but, if no such polluter can be found after reasonable enquiry, the proprietor bears responsibility for remediation. If such person fails to comply with the remediation notice, it is a criminal offence under section 78M. In addition, section 78N empowers the local public authority to clean up the contaminated land, and section 78P allows the authority to 'recover the reasonable cost incurred in doing [so] from the appropriate person'. However, it does not appear that such a sequence has been followed in this case.

There is no specific statutory provision to deal with damage as a result of unilateral action as above. (However, if a remediation notice had been served under section 78E of the Environmental Protection Act 1990, and the notice required the 'appropriate person' to take remediation action that would interfere with the rights of third parties, then there is provision for such third parties to claim compensation from the appropriate person under section 78G.)

In terms of common law remedies, it is possible that *C* may be able to recover compensation from *A* for property damage. Once again, such liability must be fault-based. Thus, *C* would have to establish that the damage which occurred was not only a direct result of the initial harm caused by *A*, but also that it was foreseeable as such. If, for example, the court assesses that the damage to *C* has been caused primarily by negligence on the part of the local authority, the damage is not foreseeable by *A*.

Question (d)

In this instance, the only damage suffered by *C* is secondary economic loss; in other words, diminution in the value of *C's* property as a consequence of direct physical harm suffered by *B*. The Scots courts, in general, deem such claims to be inadmissible.[82]

[81] The 'appropriate person' is defined in section 78A to include 'any person, or any of the persons, who caused or knowingly permitted the substances, or any of the substances, by reason of which the contaminated land in question is such land, to be in, on or under that land'. However, in a situation such as this, where land became contaminated as the result of an accidental explosion, it may be difficult to establish that *A* 'caused' or 'knowingly permitted' the chemicals to be on the relevant land.

[82] For general discussion, see J. Thomson, *Delictual Liability* (3rd edn, 2004), pp. 105–12. See also *Landcatch Ltd* v. *International Oil Pollution Compensation Fund*, 1999 SLT 1208.

Question (e)

Defendant *A's* negligence would make no difference.

Spain

Question (a)

Legal standing is recognised, as a general rule, for the owner or holder of the legal relationship or the object which is to be dealt with before the court (Article 10 I LEC). In addition to the legal standing of the affected individuals, associations of consumers also have standing to represent the legal rights and interests of their members and those of the association itself before the court, as well as the general interests of consumers (Article 11.1 LEC). As a result, the owners of the land affected by the pollution would be entitled to bring a claim against the operator of the polluting facility. However, because an *actio popularis* does not exist under Spanish private law, no one could sue merely as a representative of the general interest where there is a non-damaged, healthy environment. Similarly, environmental associations, being outside the scope of the rule which confers legal standing to associations of consumers, could not sue for general interests.

As to the remedy available, Spanish tort law is governed by a principle of *restitutio in integrum* or full compensation of the damage sustained by the victim. There are neither specific provisions on compensation for tortious harm nor general rules encompassing harms resulting from contract and from tort. Nevertheless, both legal scholarship and case law consider that the general rules governing liability in contract also apply to tort liability.[83] Hence, the 'reparation' of damage to which Article 1902 CC refers can apply in tort either by restitution in kind (*reparación en forma específica* or *in natura*) or by pecuniary compensation. Again, the general principle is to re-establish the victim, as far as possible, to the same position he or she would have maintained if the damaging event had not occurred.[84] In practice, compensation in money is the rule and restoration in kind the exception,[85] in spite of

[83] De Ángel, *Tratado de Responsabilidad Civil*, p. 671.

[84] Asúa, in Puig Ferriol *et al.*, *Manual de Derecho Civil*, p. 481.

[85] See Rafael Ballester Cecilia, 'Responsabilidad civil por daños al medio ambiente', in Manuel A. Ayús y Rubio, Rafael Ballester Cecilia and Andrés Crespo Llenes, *Apuntes de Derecho Medioambiental* (Alicante, Naturaleza y Derecho, 1996), pp. 111–31, at p. 125. The same happens if public law is applied. See Mercè Darnaculleta i Gardella, *Recursos naturales y dominio público: el nuevo régimen de demanio natural* (Barcelona, Cedecs, 2000), p. 216.

the fact that legal doctrine emphasizes that restitution in kind should have priority.[86] An example of restoration in kind is STS 23.9.1988 [RJ 1988/6853], where the defendant sugar refinery was obliged to carry out the works needed in order to clean a well so that the water was restored to its previous condition.

Restitution in kind involves carrying out the work necessary to return the land to the condition it was in before the damage occurred, and if this is possible, the victim is under no obligation to accept compensation in money. If the court orders the tortfeasor, at the plaintiff's request, to take the necessary steps to remove the damaging consequences, but fails to do so, the court may order the measures to be taken at the tortfeasor's expense (cf. Article 1098 CC) by a third party (cf. Article 706.1 LEC; see, again, STS 23.9.1988).

Finally, courts often order the polluter to cease the activity that gave rise to the damage or to adopt the appropriate preventative measures against future occurrences.[87]

Question (b)

As has already been explained, *B* is entitled to restoration in kind following a successful tort action. See answer (a) above.

Question (c)

The polluter could be forced to pay the costs of the measures adopted by public authorities under tort liability, since the mere existence of a risk of harm would justify that the authorities adopt preventive measures (and that their cost be attributed to the polluter). It is usually understood that these measures should be reasonable, but this should be decided according to the information available when the measures were taken.[88]

Public law provides that, if the polluter does not repair the damage caused, the Public Administration can do it instead (Article 98 LRJAP). If the damage is irreversible, then its author will have to pay compensation, with a possible fine applicable as well. Moreover, if the Public Administration suffers damage as a result of the administrative infraction by the polluter, he or she will also be compelled to pay for the

[86] See, for example, De Miguel, *La responsabilidad civil por daños al medio ambiente*, p. 360. This is explained by the impossibility of restoring the damage good in kind in the vast majority of cases. See, for instance, Blasco, in Esteve, *Derecho del medio ambiente*, p. 640.

[87] See, with further details, Santos MorÓn, in Cabanillas *et al.*, *Estudios jurídicos*, p. 3022.

[88] See De Ángel, BIMJ 1991, p. 2895.

damage. For these reasons, some authors believe that public law can deal quite well with damage to the environment and that existing Spanish law is in fact more developed than the system proposed by the White Paper on environmental liability or the subsequent 2004 Environmental Liability Directive.[89]

In principle, the Spanish Public Administration should bring its claim as any other person before the ordinary private courts and according to the general procedural rules.[90] However, it should be emphasised that several special statutes confer on the Public Administration 'extraordinary powers' which allow it to skip the general procedure. So, for example, the Fluvial Fishing Act[91] compels the liable person to pay the compensation awarded in cash to the 'cash registers of the owner entities' and to produce the receipt at the headquarters of the Fishing Service (Jefaturas del Servicio Piscícola) within ten days after the date he or she was notified of the administrative decision (Article 55 I). On the other hand, the Waters Act (LA)[92] provides that 'independently of the fines which may be applied, the offenders should be forced to repair the damage caused to the public water system, and to restore the previous state of affairs. The administrative organ will by an executive act determine the applicable damages award' (Article 118.1). Moreover, the Public Administration can claim fines and damages awards through 'compulsion' (*apremio*, Article 118.2). This is not to say that the assessment of damages carried out by the Public Administration can be arbitrary or subjective. The decision must specify all relevant data and criteria applied, which should also be made available to the liable person.[93] Administrative decisions can be challenged before

[89] See Santos Morón, in Cabanillas *et al.*, *Estudios jurídicos*, p. 3026, with further references.

[90] As Parra, *La protección al medio ambiente*, pp. 22 and 61, and Fernando Gómez Pomar, *La responsabilidad por daño ecológico: ventajas, costes y alternativas* (Madrid, Instituto de Ecología y Mercado, 1995), p. 15, fn. 9, rightly point out.

[91] Ley de 20 de febrero de 1942, de Pesca Fluvial (BOE No. 67, de 8.3.1942, pp. 1681 *et seq.*).

[92] Real Decreto Legislativo 1/2001, de 20 de julio, por el que se aprueba el texto refundido de la Ley de Aguas (BOE No. 176, de 24.7.2001, pp. 26791–817).

[93] See Salvador Ortolá Navarro, 'Naturaleza y fijación del canon por vertimiento de residuos nocivos a la riqueza piscícola de las aguas públicas', RAP 1963, No. 40, pp. 251–79, at p. 264; and, Vera, *La disciplina ambiental*, p. 204. See some examples in Laura Pozuelo Pérez, 'La reparación del daño al medio ambiente', RDU y MA 2002, pp. 133–66, at pp. 144–5.

administrative courts,[94] which have, in fact, annulled some decisions that were insufficiently grounded.[95]

As with other types of pollution, the Public Administration can bring a claim against polluters of soil. The sums obtained through these legal proceedings are passed on to the public treasury and are used as far as possible as additional resources for financing the restoration of polluted soils in accordance with the National Plan of Restoration of Polluted Soils.[96] It seems doubtful, however, whether the legal provisions referred to allow the Public Administration to sue the polluter for restoration costs that have not yet been incurred.[97]

Regarding harm caused directly by the Public Administration while carrying out restoration measures, the Public Administration is strictly liable for any harm 'which results from the normal or abnormal operation of public services' (Article 139.1 LRJAP; see the answer to Question 5(b)). Nevertheless, in Case 15, it would probably be excessive to make the Administration pay for harm caused by normal measures, since *A's* behaviour actually required the intervention of the public authorities (and therefore was the cause of that intervention). Furthermore, there does not seem to be a rule that absolves a polluter from liability where the Public Administration is legally obliged to act. Thus, *A* will likely have to pay for damages according to the general rules. However, the Public Administration would remain liable for damage caused to third parties if it could have chosen other measures without the damaging effects. For example, the Regional Administration of Andalucía was found liable for uprooting the trees in the claimant's forest after a toxic spill took place because mere manual removal of the toxic mud would have been sufficient.[98]

[94] See Jesús Jordano Fraga, *La protección del derecho a un medio ambiente adecuado* (Barcelona, J. M. Bosch, 1995), p. 514.

[95] See Requero, in Requero, *Protección administrativa del medio ambiente*, p. 200, according to whom the criteria followed in practice are often very difficult to control.

[96] Plan Nacional de Recuperación de Suelos Contaminados, Resolución de 28 de abril de 1995 de la Secretaría de Estado de Medio Ambiente y Vivienda, por la que se dispone la publicación del acuerdo del Consejo de Ministros de 17 de febrero de 1995, por el que se aprueba el Plan Nacional de Recuperación de Suelos Contaminados (1995–2005) (BOE No. 114, de 13.5.1995; correction of errors BOE No. 172, 20 July 1995).

[97] See Gómez Pomar, *La responsabilidad por daño ecológico*, p. 52; Gómez Pomar, *Iniuria* 8/1995, p. 38.

[98] Sentencia Tribunal Superior de Justicia de Andalucía, Sevilla, Sala 3ª, Sección 1ª, 31.5.2001 [JUR 2002/38008].

Question (d)

The damage suffered by *C* is pure economic loss arising from property damage (property not belonging to *C*). Spanish tort law does not contemplate a separate category of 'pure economic loss', nor does the concept itself appear in Spanish legal writing on tort law. As has already been explained, Article 1902 CC does not contain any *prima facie* limitation on the nature or scope of the protected rights or interests. As a matter of principle, all types of interests, as long as they are legitimate, deserve full protection in tort law. Accordingly, both legal writing and case law do not establish any further distinction between pure economic losses and physical damage to persons or to property. (Only very recently has Spanish legal doctrine used the pure economic loss concept, borrowing it from the international tort law debate, but with reference only to some very specific issues.)[99]

This is not to say that, in the legal systems with a general damages clause, such as Spain's, all pure economic losses are compensable. In fact, in order to limit compensation in favour of secondary victims for physical damage suffered by a primary victim, one author has attempted to introduce a distinction between *direct* and *indirect* damage into Spanish law.[100] The dichotomy would include, under *indirect* damage, some traits that could characterise certain aspects of the pure economic loss category. However, other authors have convincingly argued that the concept of *indirect* damage, as used by the above author, is related to the old German distinction between *unmittelbaren* and *mittelbaren Schaden* introduced by Neuner, which distinction has been abandoned by Larenz after the ninth edition of his *Lehrbuch des Schuldrechts*.[101] Moreover, the concept of *indirect* damage has had no support in legal writing or case law as a means of limiting or excluding compensation for secondary victims. Rather, it is generally accepted that the rule established by Article 113 CP, which provides that 'compensation for

[99] See Miquel Martín-Casals and Jordi Ribot, 'Compensation for Pure Economic Loss Under Spanish Law', in Willem H. Van Boom, Helmut Koziol and Christian A. Witting (eds.), *Pure Economic Loss* (Vienna and New York, Springer, 2004), pp. 62–76, at p. 62 n. 1, with further indications. See also, by the same authors, ''Pure Economic Loss': La indemnización de los daños patrimoniales puros', in Sergio Cámara Lapuente (ed.), *Derecho privado europeo* (Madrid, Colex, 2003), pp. 883–920.

[100] Cf. Jaime Santos Briz, *La responsabilidad civil. Derecho sustantivo y Derecho procesal* (6th edn, Madrid, Montecorvo, 1991), p. 211.

[101] See Karl Larenz, *Lehrbuch des Schuldrechts*, I. *Allgemeiner Teil* (14th edn, Munich, Beck, 1987), p. 429, n. 20.

pecuniary and non-pecuniary losses will include not only those losses that have been caused to the victim but also those that, resulting from a crime, have been caused to his family or to a third person', is a general norm of tort law and is not confined to damage resulting from the commission of a crime.[102]

However, case law resorts to other legal devices to regulate indirect damage awards. In the limited scope of Case 15, it seems that the causal link is the decisive element. In this regard, in a case concerning physical harm inflicted on a factory, which damage caused a temporary laying-off of workers, the court found a causal link between the defendant's act and the damage (STS 30.5.1986 [RJ 1986/2918]). Subsequently, some lower court decisions have considered that the construction and operation of a railway between factories operated by the defendant produced a compensable damage to a claimant, namely, a depreciation in the value of her home (Sentencias Audiencia Provincial (AP) de Asturias 28.2.2000 (*Aranzadi Civil* 2000/264) and 10.4.2000 (*Aranzadi Civil* 2000/996)). By contrast, in similar cases concerning the destruction of rented premises which caused the termination of a lease, the Tribunal Supremo considered that the causal link between the human act and the damage had not been established. In the present case, *C* should be able to demonstrate that the devaluation of his or her piece of land was due to the pollution caused by *A*.[103]

Question (e)

Spanish case law has not developed the fault element, under Article 1902 CC, as a means of limiting a class of protected persons to those owed a duty of care by the defendant. In Spanish tort law, there is no relational concept of fault that requires a specific proximity between the defendant and the plaintiff, or that allows courts to establish whether the defendant owed a duty of care to the plaintiff or not.[104] Therefore, whether *A* behaved negligently does not play any role in determining liability.

[102] See, again, Martín and Ribot, in Van Boom, Koziol and Witting, *Pure Economic Loss*, p. 63.

[103] See Jordano, in Asociación De Derecho Ambiental Español, *III Congreso Nacional de Derecho Ambiental*, p. 24; Moreno, in Gómez, *Derecho del medio ambiente*, p. 60; and Díaz, *La protección jurídico-civil de la propiedad frente a las inmisiones*, p. 143.

[104] See Martín and Ribot, in Van Boom, Koziol and Wittings, *Pure Economic Loss*, p. 65, relying on a previous work by Luis Díez-Picazo, 'La culpa en la responsabilidad civil extracontractual', ADC 2001, pp. 1009–27, at p. 1019.

Sweden

Question (a)

Under the civil liability scheme, all persons in the 'surroundings' are entitled to claim damages if they suffer personal injury, property damage or substantial economic loss. Legal standing is also granted to a person holding a 'qualified right' to a natural resource, such as a hotel owner using a nearby public beach or a professional fisherman exercising a right pursuant to a fishing quota in particular waters. In this case, the 'qualified right' could be applicable for an owner of a camping facility on the contaminated land, whether or not he is the landowner. Public authorities may take legal action for clean-up and restoration, at the facility operator's expense, if the operator fails to take the necessary action himself.

Question (b)

Plaintiff *B* is entitled to compensation for all costs caused by the contamination (for example, rental costs for another residence during the clean-up period), interim losses (for example, loss of rental income during the clean-up), as well as compensation for 'infringement' or loss of use of his property during restoration. The compensation is based on general tort law principles.[105]

Question (c)

If the emergency costs are reasonable, the operator *A* will have to pay, and, if the property damage to *C* is not caused by negligence by the authorities, *A* will also have to pay for *C's* damage. In the first round of litigation, *C* must claim compensation from the authorities actually causing the damage. Then the authorities have a right to a recourse action against *A*.[106]

Question (d)

A reduction in or total loss of property value is compensable in Swedish law.[107] If an exact calculation cannot be made, the courts have discre-

[105] See the Tort Law Act, Ch. 5; and Hellner, *Skadeståndsrått* (2000), pp. 424 *et seq*.
[106] Cf. the doctrine of *negotiorum gestio*, T. Håstad, *Negotiorum gestio* (1962).
[107] Larsson, *The Law of Environmental Damage* (1999), pp. 279–80.

tion to determine the award.[108] Plaintiff *C* also has the right to claim redemption of his now useless property.[109]

Question (e)

Negligence is irrelevant in this case.

[108] See the Procedural Code, Ch. 35 § 5. For comments, see Lindblom, *Miljöprocess*, Del II (2002), pp. 368 *et seq*.
[109] The Environmental Code, Ch. 32 § 11.

Case 16 The polluted river

A is the keeper of a vehicle for the transportation of dangerous chemicals. While passing through a nature reserve the vehicle starts skidding and the chemicals get spilled onto the ground and into the nearby river.

a) Does *A* have to pay for the clean-up costs?
b) The nature reserve contained some exceptional plants and wildlife. After the clean-up, the private association *C* starts a programme in order to restore the ecological balance of the impaired environment. Does *C* have a right to claim these costs from *A* and under what conditions?
c) The spill has contaminated the habitat of an extremely rare plant that is now extinct. Is *A* liable for this damage? Who has the right to claim the damage? Would it be of importance if *A* was at fault? How is this damage evaluated?
d) The nearby river, frequently used for white water canoeing and rafting, is contaminated and cannot be used for this purpose for the next three years. Plaintiff *D*, the owner of an outdoor entertainment business that has organised rafting and canoeing tours on the river for the last ten years, suffers a total loss of profits. Does *D* have the right to claim damages from *A*?
e) Would it make any difference if the nature reserve was state-owned?

Comparative remarks

1. Comparison

Cases 16 and 17 discuss the availability of tort law remedies for harm caused by water pollution. Case 16 deals with the contamination of a river, and Case 17 with a tanker accident causing oil spill at sea. Both cases explore the scope of attributable damages, including the compensability of pure economic loss, and the issue of the legal standing

of private persons, public authorities and environmental organisations. In order to achieve a clear picture of the remediation of water pollution, the answers to both cases are jointly analysed after Case 17.

2. *Conclusions*

The answers to Case 16, Question (a), show a high degree of uniformity. In most countries, remediation costs for water pollution are covered by tort law and, very often, no-fault liability applies. No common opinion, however, can be found in the answers to Question (d) which, illustrated by the example of the lost profits of a white water canoeing centre, explores the right to claim the loss of benefits from the use of a common natural resource.

Case 16, Questions (b), (c) and (e), address the main problems of liability for natural resource damage, legal standing and damage assessment, issues that are further discussed in Case 17, Question (d).

Discussions

Austria

Question (a)

Defendant *A* and his or her insurance, which is subject to a direct action according to § 26 KHVG,[1] will have to pay for the clean-up costs. The contamination of the soil is covered by both fault liability and the specific strict liability regime for motor vehicle accidents (EKHG[2]).

With regard to the pollution of the river, the answer is more complicated. The Austrian Water Law distinguishes between private and public bodies of water.[3] The groundwater, the water in wells, fountains, ponds, cisterns and pipes, and the water in some lakes and creeks are private bodies of water and belong to the owner of the piece of land where the water is situated.[4] In case of pollution of private waters, the entitlement to claim damages lies with the owner. Public bodies of water, on the other hand, which encompass most of the country's

[1] Kraftfahrzeug-Haftpflichtversicherungsgesetz (Third Party Motor Insurance Law, KHVG), BGBl 1994/651, as amended by BGBl I 2005/19.

[2] Eisenbahn- und Kraftfahrzeughaftpflichtgesetz (Statute on the Liability of Railways and Automobiles, EKHG), BGBl 1959/48, as amended by BGBl I 2004/115.

[3] § 1 WRG. For further details, see Oberleitner, *Wasserrechtsgesetz* (2004) §§ 1–4 WRG; Kerschner and Weiß, WRG (2003) §§ 1–4 WRG; Raschauer, *Kommentar zum Wasserrecht* (1993) §§ 1–3 WRG.

[4] §§ 2(2) and 3 WRG.

lakes and rivers, are owned by the state, the Federal Republic of Austria.[5] With regard to public still water, the entitlement of the Federal Republic to claim tort damages is undisputed. However, the same entitlement concerning running water in rivers is postulated,[6] but, due to the lack of case law, not yet clear.

With regard to water pollution, tort claims, however, do not play a crucial role because liability will rather be assessed according to § 31 WRG. Subparagraph 1 of § 31 WRG provides a general obligation to prevent water pollution. Any person who creates a risk of water pollution is obliged to take all necessary preventative measures, and especially to inform the public authorities. Moreover, drivers and operators of tanker trucks have special obligations to prevent or minimise water pollution. In the absence of sufficient preventive action by the polluter, the competent authority is entitled to order or to undertake all necessary measures at the expense of the person who created the risk. In case of imminent danger, this right also lies with the mayor.[7] Also, in addition to the polluter, the owner of the property where the damaging plant or activity is situated, may be liable under certain conditions.[8] Liability according to § 31(3) WRG is objective and not restricted in amount.[9]

Question (b)

The private association *C* is not the owner of the flora and fauna or the nature reserve. Therefore, *C* has no legal standing with regard to a tort claim and is not entitled to damages. However, if *A* is under a legal obligation to provide for the recovery of biodiversity, *C* may be entitled to recover its expenses according to § 1042 ABGB. Such a legal obligation may be found in § 1323 ABGB, which provides for the right to restitution in kind or pursuant to the nature protection law.[10]

Question (c)

The only person who might have legal standing with regard to an extinct plant is the owner of the land. His or her right to sue *A* for

[5] § 2 WRG. [6] [Gimpel-]Hinteregger, *Grundfragen* 239 *et seq*. [7] § 31(3) WRG.
[8] § 31(4) WRG. [9] OGH 22.3.1993, 1 Ob 36/92, ZVR 1994/97.
[10] See, for instance, Burgenländisches Naturschutz- und Landschaftspflegegesetz 1990, LGBl 1991/27, as amended by LGBl 2004/58; Oberösterreichisches Natur- und Landschaftsschutzgesetz, LGBl 2001/129, as amended by LGBl 2005/61; Salzburger Naturschutzgesetz, LGBl 1999/73, as amended by LGBl 2005/58; Tiroler Naturschutzgesetz 2005, LGBl 2005/26.

damages, however, depends on whether he or she can prove that *A* inflicted the damage on his or her property. Given the fact that restitution in kind is not possible, the landowner will only be entitled to monetary compensation. Such a claim will only be successful, however, if the landowner can show that he or she has suffered an individual loss (basically, only where the plant had a market value). The public interest in biodiversity cannot justify a monetary claim of an individual person. On the other hand, the outcome would be different if restitution in kind were possible. The landowner would then be entitled to claim the costs of restitution, provided that the expenditure of these costs is deemed reasonable by the courts (§ 1323 ABGB).

Question (d)

Since *D* does not own the river it is unlikely that he or she would have an entitlement to claim damages. However, *D* could be entitled to damages if he or she shows that his or her entitlement to use the river amounts to a right that is comparable to a lease. According to the consistent practice of the courts, tenants of real property are entitled to claim damages in tort for the infringement of their leasehold rights.[11] The right to sue in *D's* case would be dependent on whether his or her right to use the river had some degree of exclusiveness.[12]

Even if *D* is allowed to recover damages according to fault liability, it is quite probable that he or she will not be allowed to claim damages according to the strict liability regime of the EKHG, which by its wording, is explicitly restricted to damage to property, not economic damage.

Question (e)

There would be no difference.

Belgium

Question (a)

There is no specific strict liability rule for traffic accidents or for pollution damages caused by vehicles.

The basis for liability in this case will most likely be found in the fault of the driver or in a defect of the truck. In the former case, the driver may be personally liable. If, however, he is an employee acting in the

[11] OGH 20.6.1990, 1 Ob 19/90, JBl 1991, 247; 12.3.1992, 8 Ob 523/92, JBl 1992, 641.
[12] See [Gimpel-]Hinteregger, *Grundfragen* 103 *et seq*.

exercise of his duties, his liability will be limited to cases of grave or intentional fault.[13] Whether or not the driver is personally liable, the employer will be liable under vicarious liability (Article 1384(3) BW). In the event of a claim on the basis of a defect in the truck, the custodian of the truck will be liable (Article 1384(1) BW). If the dangerous chemicals can be qualified as toxic waste, the producer may also be liable.

Concerning remedies, there is no doubt that *A* will have to pay for the costs of cleaning up the nature reserve and restoring it to its previous condition. The obligation is found in general rules of tort law and of specific statutory provisions. Specifically, *A* will be obligated to pay pursuant to Article 2 *bis* of the Act of 31 December 1963 regarding civil protection (mentioned above), which more generally allows the government and local authorities to recover from the owner of the polluting substances the expenses of the clean-up intervention of the civil protection services or the fire brigades after pollution incidents occur (see above, and below at (c)). Depending on the specific nature of the goods transported and the environment affected, legislation on nature protection,[14] waste,[15] soil and water pollution may also allow the public authorities or the judge, in criminal proceedings, to oblige the polluter to take and/or to finance clean-up measures.

Question (b)

Restoring the ecological balance of the nature reserve can be considered part of 'restoration in nature' of the reserve.

A distinction in standing is made, depending on whether (i) *C* is owner of the nature reserve or has another real or personal right to manage or use the land, or (ii) *C* does not have such rights.

Assuming *C* is entitled to the use of the nature reserve and carries out a restoration project, it will face the general limitations on specific performance. If restoration of the ecological balance would be clearly unreasonable, cost recovery will be denied. In addition, restoration is generally refused when the restoration costs exceed the value of the

[13] Article 18 of the employment contract law, which provides also for liability in the event of recurrent ordinary faults.

[14] Flemish decree on nature protection of 23 July 1998, Article 59.

[15] Flemish waste decree of 2 July 1981 (Article 59), the waste decree of the Walloon region (Articles 28 and 39), the Act of 24 December, 1976 (Article 85) and the Flemish decree of 22 March 1995 on soil clean-up (Article 46). In the Walloon region, there is Article 58 of the decree on waste of 5 July 1985; in Brussels, Article 17 of the Brussels Ordinance on prevention and management of waste of 7 March 1991.

property to be restored.[16] In carrying out the restoration programme, *C* will have to act reasonably and abide by prevailing regulations. If it does not, it may be liable for contributory negligence. In the examination of the reasonableness or (dis)proportionality of measures, the extent that environmental values affect the determination is uncertain. In the Act of 20 January 1999 on the protection of the marine environment, for example, reasonableness should be evaluated on the basis of *the objectives of the protection of the marine environment*, rather than merely on the basis of economic factors.

If an environmental NGO (such as *C*) has no right to the nature reserve and is carrying out the restoration programme solely for the public interest, it may be in conflict with the owner's rights. If the programme, for example, is contrary to the owner's legitimate interests, *C* may be denied access and also incur potential liability. (Here it is assumed that *C* has the consent of the owner to take the restoration measures.) Also, *C*, in any event, incurs the expenses of the restoration programme voluntarily, in order to further its own objectives. It may be argued that this voluntary intervention interrupts the causal connection between any damage or right infringement and the pollution. According to recent case law,[17] however, the voluntariness of the intervention is separate from the issue of causality. Rather, the test seems to be whether the expenses have been incurred reasonably and whether or not the person incurring them intended to assume the final burden of these expenses.[18] In fact, a few decisions of lower courts have allowed environmental associations recovery of the expenses of

[16] These limitations will play a lesser role when *clean-up* measures are concerned (rather than measures to restore the ecological balance). In the event of clean-up under the Flemish soil clean-up decree of 22 February 1995, the objective is to reach the goals defined in the implementing regulations (Article 8). If this cannot be achieved by measures with a reasonable cost and according to the state of the art, a lesser objective should be aimed at. Whether the cost is unreasonable is determined on the result to be achieved for the protection of humanity and nature, not on the financial resources of the person undertaking the clean-up. The value of the land is thus not a criterion, as it may otherwise be under general tort law.

[17] Cass. 6 November 2001, RW 2001–2, 1466; Cass. 4 March 2002, AR C.01.0284.N, available on the website of the Cour de cassation (Hof van cassatie), www.cass.be. For more details, see Bocken and Boone, 'Causaliteit', 37. These decisions – which are not related to pollution damage – are in line with recent case law rejecting the theory of the interruption of the causal link by the fact of carrying out a legal obligation.

[18] Bocken and Boone, 'Causaliteit', No. 36, note 147.

treating injured birds[19] (a similar situation to granting *C* restoration costs undertaken in the public interest). Moreover, an environmental association was compensated for the expenses incurred in maintaining the population of wild animals (against poaching) on the reserve under its management.[20] Such compensation is also consistent with Article 37(5) of the Act of 20 January 1999 on the protection of the marine environment, which provides for compensation for the cost of restoration measures taken by *any person* other than the polluter.

Question (c)

Plants belong to the owner of the land where they grow or to any other person exercising real or personal rights to the land and entitled to the produce of the land; plants are not *res nullius* or *res communes*. The owner is entitled to compensation for the damage to (remedies for) his plants, whether or not liability is based on fault.

Since the plants are extinct, there is no market for them. Thus, their ecological value is not reflected in their market value. For this reason, even assuming that there is no problem of standing (owner as claimant), the assessment of the damages will be difficult. Recent legal literature explores the other non-use-related values of ecological goods and possible methods for assessing it.[21] The few cases on damage to property with a special ecological value, however, are pragmatic, not giving much theoretical insight on the issue. Whenever non-use values are awarded, they are generally represented by nominal damages or a somewhat arbitrary fixed sum. With respect to damage to trees, certain cases refer to formulas elaborated by the administration, which take into account factors such as the species of the tree and its size, age, emplacement and condition.[22]

If an association, acting in the public interest, claims compensation, rather than the owner of the land, its chances of success are limited. During the 1970s, some courts allowed environmental associations to sue for injunctive relief and also for monetary compensation for damage to unowned environment, though only nominal damages were

[19] Carette, 'Herstel van en vergoeding' 125, note 351, refers to two cases involving very limited amounts, less than €400. Two other cases are reported by G. Van Hoorick, 'Vergoeding van ecologische schade', TMR, 2000, 150.

[20] Corr. Ieper, 21 September 1998, TMR, 2000, 144.

[21] Carette, 'Herstel van en vergoeding'; S. Deloddere, 'Herstel en vergeoding van ecologische schade', unpublished research paper, Ghent university, 2002.

[22] Bocken, 'The Compensation of Ecological Damage in Belgium', 153.

awarded. The Cour de cassation (Hof van cassatie), however, reversed this trend in its landmark decision of 19 November 1982.[23] The Court held that the personal and direct interest of an association for standing purposes essentially relate to its property ownership and its reputation. The defence of a collective interest, even if defined in the articles of association, is insufficient to grant an association standing.

The Cour de cassation (Hof van cassatie) decisions notwithstanding, there is a tendency to broaden the right for associations to sue for damage to unowned environmental values. There is also a limited, but growing, number of cases in which moral damages have been awarded to environmental associations against acts that violate general environmental interests.[24]

Certain courts have utilised an interesting rationale based on Article 714 BW,[25] which defines *res nullius* and *res communes* as things which belong to nobody but which can be used by everybody (creating a common right of use of the common parts of the environment). The argument is that, if part of the common environment is damaged or threatened, so that humans can no longer fully exercise their collective right to use the environment, any individual citizen may claim for personal damage. Furthermore, the individual(s) can appoint an association as their representative in court. This standing principle was successful in a number of cases mainly calling for injunctive relief. In a few cases, lower courts have also awarded nominal damages.[26]

Another basis derives from the rule that damage in fact is sufficient, and infringement of a legal right is not required for standing to sue for damages. Thus, the fact that one is actually prevented from exercising an established use of part of the common environment may constitute compensable damage. Thus, a decision of the criminal court of Leuven of 20 November 2000[27] found that the defendant's poisoning of nine birds of prey interfered with the claimant's (an association for the protection of birds) activities, granting the claimant the right to sue for damages. The court awarded €500 in damages. The Cour d'appel de Bruxelles[28], in a decision of 12 March 2003,[29] also recognised that the

[23] Arr. Cass., 1982–83, No. 172.
[24] Carette 'Herstel van en vergoeding', 123 with references
[25] *Ibid*., 510.
[26] See e.g.: Corr. Eupen, 22 November 1989, *Aménagement*, 1990, 41; Pol. Bastogne, 6 May 1991, *Aménagement*, 1991/3, 173.
[27] Unpublished. [28] Court of Appeal of Brussels, Hof van Beroep te Brussel.
[29] Unpublished.

association could not claim compensation for the ecological value of the birds, but based its decision in favour of the association on the fact that the extermination of the birds hindered the normal exercise of the association's activities and the realisation of its objectives. Since the damages could not be precisely calculated, the amount was determined *ex aequo et bono* at €18.500, which also took into account, *inter alia*, the ecological value of the animals.

After a lengthy debate, on 12 January 1993, the legislature adopted the Act on the standing of environmental associations. It grants environmental associations (upon meeting certain criteria)[30] the right to sue in summary proceedings for *injunctive relief* pursuant to a violation of environmental law or the threat thereof. The Act does not in any way affect the standing requirement of personal damage in the context of a claim for compensation. Individual citizens, who have no personal interest in the land, will not be eligible for damages. There is no *actio popularis* in Belgian law. It should be mentioned, however, that Article 271 of the Local Government Act allows an individual citizen to sue in the name of their municipality if the latter neglects to protect its interests. Generally, again, these actions aim at injunctive relief.[31]

The requirement of personal damage implies that the state and other public authorities will not be able to claim compensation for damage to the unowned environment. They may not act as owner or trustee of the common natural resources. The situation is different if proprietary interests are infringed or if the pollution causes additional costs in carrying out their duties. Agencies entrusted with water quality management, for example, have been compensated for the expense of restocking a river with fish after a pollution incident.[32]

Question (d)

There is no doubt that economic loss resulting from pollution affecting private property will be compensated. For example, loss of revenue from a hotel whose grounds are polluted, or loss to crops or beehives or loss of licensing of fishing rights in a non-navigable river will be compensated.[33]

[30] And also the public prosecutor and certain administrative authorities.
[31] E.g. Antwerp, 30 September 2002, No. 015744, unpublished.
[32] Corr. Turnhout, 18 February 1992, unpublished, No. 498.
[33] Where the owners of the river banks exercise private fishing rights.

'Pure' economic loss that results from the impairment of the environment without accompanying physical injury or property damage should also qualify. An example of such loss is the cost of clean-up measures undertaken by the government. The loss of benefits from the use of a common natural resource or from its presence nearby is equally compensable, if it is sufficiently certain that the plaintiff would have continued deriving the benefits had the environment not been polluted. There is a limited number of cases illustrating this point. Compensation has been granted for loss of income to a café-owner who lost part of his clientele due to the pollution of a nearby river.[34] On the other hand, in another case, the state was not compensated for the loss of taxes on unsold fishing licences, based on the uncertainty of the loss.[35]

Finally, compensable loss of benefits derived from the common environment are not limited to economic losses. Even the pleasure of fishermen spoiled by river pollution has been deemed compensable.[36]

Question (e)

It would not make any difference if the nature reserve were state-owned.

England

Question (a)

If *A* was negligent in maintaining the vehicle, he would have to pay for the clean-up costs, provided the damage was foreseeable. Liability in *Rylands* v. *Fletcher* cannot apply, as none of the requirements are satisfied. A claim might lie in nuisance, provided the claimant has a legal interest in the affected land.

The Environment Agency has the power to serve a works notice requiring clean-up work where a river has been polluted by the entry of poisonous, noxious or polluting matter, under section 161A of the Water Resources Act 1991. This notice is to be served on the person who caused or knowingly permitted the entry of the polluting substance. Such a person would include the lorry driver, but, in accordance with the House of Lords ruling on the interpretation of 'cause' in *Empress Cars (Abertilly)* v. *National Rivers Authority (now the Environment Agency)*,[37] the

[34] Corr. Turnhout, 18 February 1992, unpublished, No. 498.
[35] Pol. Chimay, 14 August 1931, JJP, 1932, 378. [36] See previous note.
[37] *Empress Cars (Abertilly)* v. *National Rivers Authority (now the Environment Agency)* [1998] Env LR 396.

definition could also include *A* as the owner of the lorry if the skid occurred because the vehicle was not properly maintained. The House of Lords held in that case that any positive operation which results in the pollution constitutes 'causing' the pollution.[38]

The Environment Agency also has the power to carry out remedial works under section 161 of the 1991 Act. If they do so, they may recover the reasonable costs of doing so from *A*.

Question (b)

It would be hard to see how a private association undertaking this work for the public benefit could recover common law damages unless they were the owners of the land. There is no statutory remedy.

Question (c)

Under negligence, nuisance (following *Cambridge Water* v. *Eastern Counties Leather*) and *Rylands* v. *Fletcher* (see the answer to Question 1(a)), the defendant is only liable for harm that was foreseeable. The issue of remoteness is relevant here and would turn on the type of harm involved. If it can be established that damage to vegetation was foreseeable, then the defendant would be required to 'take his victim as he found him'.[39] In other words, it would not be necessary that the defendant actually foresaw the presence of this particular rare plant, nor that he foresaw the gravity of the harm to the plants.[40] However, the difficulty will lie in the fact that a commercial value cannot be assigned to the extinction of a plant species. The cultural or moral value of the plant is irrelevant.

Question (d)

This is a case of pure economic loss. Pure economic loss is not recoverable in negligence, unless the economic loss flows from physical damage to the property of the claimant.[41] In this case, there is no liability because *D* is not the owner of the water.

However, if *D* owns the land bordering the river he may be a riparian owner. A riparian owner has the right, at common law, to receive the water in his stream in its natural state and flow.[42] For historic reasons, interference with riparian rights is actionable as a nuisance, although it

[38] See also *Alphacell* v. *Woodward* [1972] All ER 475.
[39] *Smith* v. *Leech Brain & Co.* [1962] 2 WLR 148.
[40] *Hughes* v. *Lord Advocate* [1963] AC 837.
[41] *Spartan Steel & Alloys Ltd* v. *Martin & Co. (Contractors) Ltd* [1973] 1 QB 27.
[42] *John Young & Co.* v. *Bankier Distillery Co.* [1893] AC 691. See also *Pride of Derby Angling Association* v. *British Celanese* [1953] Ch 149.

is not subject to the normal nuisance rules, which are described above. The riparian claimant need not suffer any actual harm, merely 'sensible alteration' in the state of the water.[43]

Question (e)

No, as best may be observed, there is no distinction.

Finland

Question (a)

Yes, the polluter (or his insurance company) must pay the costs of cleaning up the contaminated site.

Question (b)

No, these economic damages are not compensable.

Question (c)

No, the Environmental Damages Act does not cover ecological damages, as they are not compensable. Only pecuniary damages are compensable. In criminal law, fines may be imposed on the polluter for the killing or other destruction of a representative of a protected species.

Question (d)

Yes, *D* can claim compensation from *A* for lost profits.

Question (e)

No, there is no distinction.

France

Question (a)

Defendant *A* will be liable for the accident on the basis of the vicarious liability found in Article 1384 § 5 CC (though *A* may bring an action against the driver if the accident was caused by the driver's fault),[44] and consequently will have to pay for the clean-up costs.[45] If the dangerous chemicals are toxic waste, the producer may also be liable.[46]

[43] *Nicholls* v. *Ely Beet Sugar Factory Ltd* [1936] Ch 343.
[44] See Starck, Rolland and Boyer, *Obligations I*, p. 373.
[45] Cass., Civ. III, 4 January 1990, *Bulletin* III, 1990, No. 3.
[46] Cass., Civ. II, 5 January 1956, *Dalloz*, 1957, p. 261; Cass., Civ. III, 12 June 1969, *Bulletin* III, 1969, No. 473.

Question (b)

Given that *A* is obliged to restore the reserve, the costs of the restoration programme should be paid by *A*. Thus, *C* may claim payment from *A*, provided *C* is entitled to use the nature reserve (as a manager of the reserve or as a contractor for the restoration programme). However, if *C* has no right to the nature reserve, but spontaneously started the programme, it will have no standing to claim money from *A*. If *C* is not starting its programme with the consent of the owner of the reserve, it could even be denied access and incur potential liability.

Question (c)

The owner of the land (because the plant was his or her property), the manager of the reserve (because he or she is in charge of maintaining the reserve), public authorities (because they should protect biodiversity according to Article L.110-1 of the Code de l'environnement) or even registered associations (if the protection of flora is in their statutes) could sue *A* before civil or criminal courts for the extinction of the plant. The evaluation of damages will not be easy, since there is no market for extinct species and restitution in kind is impossible.[47]

French case law provides some examples of the evaluation of pure environmental damage: the Parc national des Ecrins ('national parks' are the most protected natural areas in France) received FF3,000 (€450) as moral compensation from a person who picked hundreds of thistles (a protected specie) on his own property, which section of property was also included within the perimeter of the park.[48] The defendant also had to pay a FF10,000 (€1,525) fine on the basis of a provision of the Code rural which makes the picking of protected plants a criminal offence.[49]

In a case involving the pollution of a pond, the local fishing industry obtained compensation for economic loss, but the administrative court refused to compensate the loss of biological diversity.[50] On the other hand, a civil court assessed the damage caused by the pollution of a river (the destruction of biological diversity) at one franc (€0.15) multiplied

[47] Viney and Jourdain, *Les effets de la responsabilité*, p. 178.
[48] Cass., Crim., 13 June 1989, *Bulletin*, 1989, No. 93.
[49] G. J. Martin, 'Réflexions sur la définition du dommage à l'environnement', in *Droit et environnement* (Presses universitaires d'Aix-Marseille, 1995), p. 118.
[50] TA Bastia, *Planet*, 16 July 1993, *Revue juridique de l'environnement*, 1994, p. 623.

by the surface of the river (34,400 m^2) and ordered the polluter to pay this sum to associations for the protection of the environment.[51]

Question (d)

As seen above, *D* has a right to claim compensation for economic loss. Even if he or she did not suffer loss of profits, *D* could be eligible to compensation for moral damage.

Question (e)

No. There would be neither a substantial difference, nor a procedural one; a nature reserve or a state-owned forest are not part of the *domaine public* (inalienable and imprescriptible public property), but part of *domaine privé* (public property more or less managed like a private property). Civil or criminal courts have jurisdiction over the case.

Germany

Question (a)

I. It is questionable whether the vehicle is an installation within the meaning of § 3(2), (3)(a) UmweltHG. To be covered, it would have to be spatially connected to an installation (i.e. within the vicinity of the installation[52]) and by its technical operation. As the accident occurred outside the installation, the vehicle is unlikely to be covered by the UmweltHG.

II. Defendant *A's* vehicle might constitute an installation within the meaning of § 22(2) sentence 1 WHG. The concept is interpreted broadly and not restricted to fixed installations, in contrast to the UmweltHG.[53] Accordingly, a tanker that transports fuel, not needed for its own propulsion, falls under the concept of an installation (being intended to transport such substances). Thus, a claim will lie under § 22(2) WHG. However, it should be noted that only damage caused through the water pollution is subject to compensation, whereas damage based solely on the contamination of the soil is not compensable under the Act.

III. A claim under § 7(1) StVG (Road Traffic Act)[54] may also be possible, since a truck constitutes a vehicle within the meaning of § 1(2) StVG. During the journey, that is, during operation of the vehicle, a 'thing' (the river as well as the soil) was contaminated and thereby damaged, thus constituting an actionable incident. Fault is not required, and *force*

[51] CA Rennes, 19 December 1997, *Droit de l'environnement*, No. 58, 1998, Panorama III.
[52] Salje and Peter, *Umwelthaftungsgesetz* §§ 1/3 n. 50.
[53] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 43. [54] 19.12.1952, BGBl. I p. 837.

majeure constitutes a defence (§ 7(2) StVG). Thus, *A* is liable for the clean-up, limited to a maximum of €300,000 (§ 12(1) No. 3 StVG).

IV. There is potentially liability under § 823(1) BGB, due to property damage. Here, fault is required, however, which may be corporate fault on the part of *A*.

V. There is also a claim under § 6 USchadG, assuming that the preconditions of § 3(1) No. 1 USchadG in conjunction with Appendix 1 No. 8 are satisfied.

Question (b)

A claim derived from *negotiorum gestio* (conducting another's affairs without authority to do so) may be actionable under §§ 677, 683 and 670 BGB. The restoration of the nature reserve to its previous condition is *A's* responsibility, as he was under a duty to restore under the provisions detailed above. It seems unlikely that *A* would authorise a private organisation to conduct the work. Section 679 BGB could be applicable here (restoration of the nature reserve corresponds with the public interest), such that even *C's* actions could be compensable notwithstanding the contrary desires of *A*; otherwise, compensation would depend on whether the employer, *A*, had impliedly or expressly consented to *C's* execution of *A's* duty to restore (§ 683 sentence 1 BGB).

§ 10 USchadG does not allow defined associations to undertake their own measures. § 10 USchadG only allows them to appeal to the public authority competent for enforcing the decontamination obligation.

Question (c)

The liability requirements of § 22(2) WHG are satisfied, and the damage is the destruction (extinction) of unique plants. Compensation is due under §§ 249 *et seq*. BGB, in the form of natural restitution. However, this is precisely the kind of compensation that is not possible. Thus only monetary compensation would be awarded (§ 251(1) BGB) and would be evaluated by the court (notably, neither market value nor objective value are good indicators).

Question (d)

I. The requirements of § 22(2) sentence 1 WHG are basically satisfied (see (a) above). The only remaining issue is whether *D* is the injured party. Only those who are themselves directly affected by the altered condition of the body of water have standing.[55] The requirement is

[55] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 29.

always satisfied if the injured party uses the water itself,[56] but not if the adverse condition only affects the party's operation indirectly. In this case, *D* does use the water himself, and, as such, is an injured party who may claim lost profits pursuant to § 252 BGB.

II. Again, an infringement to property would be required to affirm a claim under § 823(1) BGB. Unless the defendant is the owner of the part of the river he uses, *D* could only satisfy this requirement in relation to his canoes. However, this does not concern not the general ability to use the canoes, but only their use on the contaminated part of the river. Thus, there is no injury here sufficient for a property infringement. Nevertheless, an interference with an established and practised commercial operation might exist if the pollution is aimed at *D's* operation. However, this cannot be assumed, since there was an accident, and its effects could have affected a number of operations.

Question (e)

I. Ownership of the nature reserve is immaterial with regard to § 22(2) sentence 1 WHG; a non-owner can also claim compensation, inasmuch as the claim depends not on a violation of a legal interest but on the existence of the damage that the legislation is intended to avoid.

II. Another right potentially infringed lies within the scope of § 823(1) BGB. According to the systematic scheme of the provision, neither an absolute right of use nor an exclusion are prerequisites. Rather, even a rental right of use is sufficient. With an infringement, a violation of a legal interest is thus affirmed. However the question of fault also has to be clarified here.

Greece

Questions (a) and (b)

Article 20 of Law 1650/1986 states that plants and wildlife are to be protected. This, however, is mainly addressed to administrative authorities, so that they take all necessary measures for the protection of nature reserves. Therefore, though penal and administrative sanctions may be imposed on *A* for the pollution of the environment (Law 1650/1986), there is no provision in the Greek legislation obliging him to pay for the clean-up costs or for restoration of the ecological balance of the impaired environment. Similarly, then, *C* does not have a right to claim its costs from *A*. Greek legislation has not yet addressed the issue of liability for damage to nature.

[56] *Ibid.*, § 22 n. 22.

Question (c)

For the same reasons as under (a) and (b), *A* is not liable either for the extinction of the extremely rare plant, and fault is of no importance. There are no rules in Greek law for the evaluation of such ecological damage. The extinction of an extremely rare plant has effects not only on the rights of use of a vital area, but also on all other legal goods that are related to this plant, such as life, ownership, biodiversity, balance and evolution of the ecosystems etc. Therefore, an economic valuation of the extinction of an extremely rare plant cannot be easily made.

Question (d)

Plaintiff *D* has the right to claim damages from *A* for this total loss of profits, according to Articles 914 *et seq*. AK and Article 29 of Law 1650/86. From the moment the contamination of the environment entails damage to traditional legal goods such as life, ownership, etc., this damage is compensable.

Question (e)

It would make no difference if the nature reserve was state-owned. However, the special legislation for the protection of land belonging to the state would apply (Legislative Decree 86/69, 'Code for the woods', Article 61, as amended by Article 2 of the Legislative Decree 996/71).

Ireland

Question a

Defendant *A* may be required to pay clean-up costs incurred by a local authority or fisheries board in accordance with the legislation outlined in answer to Question 15(c). He or she may also be required to pay clean-up and investigation costs incurred by an individual if the individual claims them in an action for an injunction under section 10 of the Water Pollution Act 1977.

In addition, if *A* is held liable in damages to the owner of the reserve (either in tort or under the statutory civil liability regimes), the measure of damages would probably include the cost to the owner of carrying out the clean-up.

Question (b)

Plaintiff *C* can claim clean-up costs in an action under section 10(1) of the Water Pollution Act 1977.

Question (c)

Defendant *A* is generally liable to the owner of the land for all damage caused to persons or property. Liability exists, as before, under the Water Pollution Act and the laws of negligence, nuisance, trespass and/or the rule in *Rylands* v. *Fletcher*.

Fault would be important in establishing liability in negligence. Under the other torts, there is sufficient fault in the fact that *A* brought the dangerous chemical into the area and allowed it to escape.

Damage would be evaluated in terms of the loss to the owner. The measure of damages is the cost of restoring the victim to the position in which he or she would have been had the accident not occurred, plus a sum to cover pain and suffering (if applicable), including emotional distress. The owner would not be able to recover for the general loss to humanity arising from the extinction of the rare plant; the measure of the owner's loss would be the loss to him or her personally (for instance, loss of revenue from visitors who might have paid to see this rare plant). One can only speculate on how serious a loss the courts would estimate this to be.[57]

Question (d)

Plaintiff *D* has not suffered an injury to any property, but, rather, pure economic loss. Whether *D* can recover, therefore, depends on the courts' attitude to recovery of pure economic loss in tort. One suspects the courts might be more sympathetic to *D's* plight than to the plight of *C* in (b), considering that *D's* business has been wiped out by *A's* act, and *A* should reasonably have foreseen that, if pollution of the river occurred, all users of the river would be deprived of its use. Nonetheless, *D* would bear a heavy burden in establishing liability.

Under section 20 of the Local Government (Water Pollution) (Amendment) Act 1990 (which establishes civil liability for water pollution), the type of damages recoverable will presumably be the same as those recoverable in tort.

[57] It should be borne in mind that the state might choose to prosecute *A* under the Water Pollution and Air Pollution Acts, and might also prosecute for a public nuisance for the extinction of the plant. Public nuisance is equivalent to the private nuisance for which the owner could sue, but is regarded as a crime rather than a tort, and normally can only be pursued by the state, not by an individual. If the state is the owner of the nature reserve, as would normally be the case in Ireland, it can pursue the remedies available to an owner as well as those available to it as the state.

Question (e)

If the reserve were owned by the state, it would be more likely that the enforcement powers under the Water and Air Pollution Acts would be used.

Italy

Question (a)

According to Article 18 of Law 349/86, the polluter will have to accomplish a full restoration in kind, whenever materially feasible.[58] Thus, the polluter will pay clean-up costs where necessary to restore the environment to the state prior to the occurrence of damage. Only if this is no longer possible should the court award monetary damages.[59]

Question (b)

It is doubtful whether a private association *C* may start a programme on its own initiative to restore the ecological balance of the area because, according to Italian law, this is a duty of the state. Hence, *C* would not have a right to reclaim costs.

Question (c)

The Italian statute of 1986 provides that ecological damages *senso strictu* must also be contemplated within the assessment of damages.[60] According to Article 18, the state, the municipality or the region affected by the damage has the right to damages (see the Introduction above). As far as fault is concerned, Article 18 states that liability may be ascertained only if there has been 'fraudulent or faulty acts in violation of statutory provisions or of measures adopted according to the law' (again, see the Introduction above). Nonetheless, Italian case law, despite the express provision of the statute, has reintroduced the strict liability regime of Article 2050 CC.[61]

For evaluating the damage, the statute of 1986 establishes that, if the damage cannot be exactly evaluated (in this case there is no market price for the natural resources destroyed), the judge must decide

[58] Article 18.8: '[I]l giudice nella sentenza di condanna, dispone, ove sia possibile, il ripristino dello stato dei luoghi a spese del responsabile.'

[59] Cf. Pozzo, *Il danno ambientale*, collana *Il diritto privato oggi*, a cura di Paolo Cendon, Milan, 1998.

[60] See *Ibid.*, Chapter 7.

[61] For an exhaustive treatment of Italian case law on this matter, see *Ibid.*, Chapter 6.

according to equity, taking into account the 'gravity of individual fault', the 'restoration cost', and the 'profit gained by the tortfeasor' in performing the wrongful action. These criteria have been hardly criticised by Italian scholars,[62] yet there is only one decision that quantifies the damage according to these criteria.[63]

Question (d)

Plaintiff *D* would have a right to claim damages, but only if he is able to prove fault, based on the general rule established in Article 2043. The idea that pure economic loss must also be considered a damage in the sense of Article 2043 CC has developed from case law, albeit in a rather arbitrary manner.[64]

Question (e)

No, there would not be any difference.

The Netherlands

Question (a)

In the *Motorway 12* case,[65] the Hoge Raad introduced rules for torts against the state. In that case, a tanker filled with dangerous substances was involved in an accident and spilled the substance over a public road, requiring the state (which has the statutory duty to manage and maintain the road) to take special safety measures. As a result, the state sued the driver who had been responsible for the accident to recover clean-up costs, road repair measures and the costs related to pollution prevention. The Hoge Raad held that the driver of the tanker acted unlawfully against the state in its capacity as administrator of the road, not as owner. The 'unlawfulness' was therefore based on breach of a statutory duty, not on infringement of a right.[66] The subsequent case, *State* v. *Hal*,[67] extended *Motorway 12*, even if no written public law places a duty to maintain the public good, actual administration or management by the authority can make the act unlawful against the public authority.

[62] For a comprehensive overview see *Ibid.*, Chapter 6.
[63] Pret. Milano-Rho, 29 giugno 1989, *Foro Italiano*1990, II, 526, note by De Marzo; and *Diritto e Pratica dell'Assicurazione*1989, 867, note by Bossi.
[64] For an overview see Monateri, 'Le fonti delle obbligazioni', p. 574 ss.
[65] HR 19 December 1975, NJ 1976, 280 GJS (Rijksweg 12).
[66] Betlem, *Civil Liability for Transfrontier Damage* (1993), pp. 361–2.
[67] HR 26 May 1978, NJ 1978, 615 (GJS).

The Hoge Raad has also changed the relevance of the ownership criterion for standing under Article 6:163 BW. In *State* v. *Akzo Resins* and *Van Wijngaarden* v. *State*,[68] the Hoge Raad clarified its earlier decision in *State* v. *Van Amersfoort*,[69] holding that the interest of the state in the clean-up operation is that those operations lead to pecuniary loss therein. The polluter has to be aware of the costs and, after 1975, is presumed to be aware, the state will have to incur for the clean-up operation at the moment he or she pollutes his or her *own* property. Accordingly, as long as the underlying case took place after 1975, which is presumed here, the vehicle owner acted unlawfully against the state.[70] Thus, *A* will have to pay the remediation costs, since the duty of due care for public goods has been breached.

Question (b)

The exceptional plants and wildlife can be considered *res nullius*, generally defined as objects that are not owned. For years, when environmental damage was inflicted on *res nullius*, environmental organisations were not permitted to bring action against the polluters since they could not fulfil the ownership criterion, or had insufficient interest for a claim. The landmark *Nieuwe Meer* decision changed the Hoge Raad's position.[71] In that case, three environmental organisations jointly requested the prohibition of further depositing contaminated sludge. In the lower court, the plaintiffs were granted standing, given their object and purpose in the articles of association. The appellate court, however, reversed the decision for lack of any other traditionally recognised private law interest, such as a proprietary interest. Ultimately, the Hoge Raad held that 'the joint interests at hand are of a kind which are protected by Article 1401 BW [old]'[72] and granted the plaintiffs the injunction. In general, it means that environmental organisations whose object and purpose (under their articles of association) is environmental protection need not satisfy any requirements in

[68] HR 24 April 1992, NJ 1993, 643, note Brunner.
[69] HR 9 February 1990, 409, BR 1990, 375.
[70] In the *State* v. *Shell* case, the Hoge Raad stated that this 'date of clarity' also applies to the polluting activities on someone else's property (HR 30 September 1994, NJ 1996, 196, note Brunner).
[71] HR 27 June 1986, NJ 1987, 743, note Heemskerk. [72] *Ibid*.

addition to the formulation of their object, in order to sue for injunctions to protect their interests under Article 6:162 BW.[73]

In the subsequent *Kuunders* case,[74] the Hoge Raad decided that *any* breach of a norm, which purports to protect the environment, constitutes a tort against public interest groups and entitles them to apply for an injunction. Furthermore, it was confirmed that the plaintiff's right to sue is justified solely on the grounds of combining the diffuse ecological interests of citizens in pursuit of legal protection.[75] The approach in the *Kuunders* case has been codified and extended to collective actions in general. Article 3:305a(1) BW states that 'an association or foundation is entitled to an action for the purpose of protecting the interests of other persons, to the extent it promotes those interests according to its articles of association'. Article 3:305a(3) BW, however, prohibits monetary reparation, such that an action for recovery of costs by a public interest group is not possible.

Notwithstanding this restriction, in the *Borcea* case[76] in 1991, the Rotterdam district court ruled in favour of a claim for monetary damages. In that case, a Romanian bulk carrier (*Borcea I*) leaked oil close to the Dutch coast and affected thousands of birds. The Dutch Association for the Protection of Birds stepped in and cleaned, fed and looked after the birds in their bird-shelters until they were healthy enough to be set free. The association then sought reimbursement for their costs. The court held that, 'although sea birds are not bound to any country and do not belong to anyone, the conservation and protection of sea birds according to current societal norms is a public interest which deserves protection. In view of the objectives of the Dutch Association for the Protection of Birds (included in their articles of association) and its activities, which have developed over a period of 90 years, this public interest must also be seen as the plaintiff's own interest. The plaintiff was therefore entitled to prevent or terminate an infringement of its own interests and was entitled to claim compensation for the damage it

[73] Betlem, *Standing for Ecosystems* (1995), p. 161. In order to have standing to sue, it is no longer necessary that the articles of association show that there is interference with a private law interest of the environmental organisation. Frenk 'Kollektieve akties in het privaatrecht' (1994), p. 86. After the *Nieuwe Meer* case, the ruling of the Hoge Raad was confirmed in a number of later judgments. See e.g. Pres. Rb. Alkmaar, 22 April 1993, [1994] TMA/ELLR 52 (Save the Toad).

[74] HR 18 December 1992, NJ 1994, 139 MS and CJHB.

[75] Betlem, *Standing for Ecosystems* (1995), p. 161.

[76] Rb. Rotterdam 15 March 1991, (1992) 23 NYIL 513, TMA 1992, 27 note by Van Maanen.

suffered as a result of the infringement.'[77] Despite the explicit exclusion of the action for financial damage, the recovery of costs will not be affected by Article 3:305a BW if the claim is related to the organisation's own financial interests (sufficient individual interest).[78] The progressive approach of the district court of Rotterdam has not been addressed in the higher courts in the Netherlands, and it is therefore difficult to predict whether this ruling created a precedent or stands on its own.[79]

There is one other case at the district court of Roermond, upheld on appeal by the Court of Justice at 's-Hertogenbosch.[80] In this case, a photochemical plant produced unpleasant smells (a nuisance claim), prompting three foundations (NGOs), all of which were interested in a cleaner environment, to file a claim. Their claims for financial compensation included the costs incurred to measure whether odour emission norms were being violated and an injunction which ordered the operator to comply with the regulations as set out in his licence. Both claims were granted, which gave rise to a new category of compensable costs incurred by a public interest group: detection or assessment costs (claimed under Article 6:96(2)(b) BW). This case can be considered an extension of the *Borcea* ruling. However, it does not express any general understanding of other kinds of recoverable costs incurred by public interest groups.

Thus, in Question16(b), it could be argued that the private association *C* could have legal standing against *A*, as long as the interests involved (restoration of the ecological balance of damaged nature reserves and rivers) fall within the scope of its policy objectives. Following the *Borcea* case, it could also be argued that *C's* related costs are also compensable.

Question (c)

Under Dutch environmental tort law, there are four different categories of material damage: (i) personal damage (such as damage to health caused by the emission of polluting substances into the air);[81] (ii) damage

[77] Brans, 'Liability for Damage to Public Natural Resources' (2001), pp. 42–3. The parties eventually reached a settlement of 100,000 Dutch guilders (€45,378).

[78] Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 507, Kottenhagen-Edzes, 'Onrechtmatige daad en milieu' (1992), pp. 122–3 and Bastmeijer, 'Schadevergoeding in geval van aantasting van naturgebieden' (1992), p. 529.

[79] Bauw, 'Collectieve acties, milieuschade en massaschade' (2004), pp. 123–127.

[80] Hof Den Bosch, 26 August 1998, [1999] *Milieu & Recht*, No. 22 note Verschuuren (*Edelchemie* v. *Stichting Omgeving Heel Schoon*), affirmed Hof Den Bosch, 4 October 1999, [2000] *Milieu & Recht* No. 1.

[81] HR 12 December 1986, NJ 1987, 958 note CJHB (Poly/Rockwool).

to property (damage to soil caused by dumping or groundwater pollution, and including damage to the paintwork of a car caused by air pollution); (iii) pure economic loss (economic loss, unconnected with personal injury or property damage; fishermen who are no longer able to fish/earn a living as a consequence of sea pollution; hoteliers, shopkeepers and restaurant-owners, etc., when tourists avoid the area because the beach is polluted, etc.);[82] (iv) ecological damage or damage to the environment *per se*, also called damage to natural resources.[83]

The last category is the most recent and the most controversial. The difficulties that often arise in this context are problems of legal standing and restoration. When damage is done to *res nullius* or *res communes omnium*,[84] no one suffers direct loss to the person or property. Nevertheless, it is clear that damage has been inflicted on nature when the result of pollution is the extinction of an extremely rare plant or a certain animal or the destruction of a biotope or nature reserve. Another problem that arises in this context is the problem of valuing the damage. A nature reserve (in which extremely rare plants can grow) can have two different kinds of value: *economic value*, which is often low because of the lack of a market, the limited use-values and benefits that can be directly drawn from it; and *intrinsic nature value*, the importance of the flora and fauna or of the biological balance. The latter damage may result in a claim not only for the economic value (if possible to assess), but also for the costs of measures necessary to create a similar site in a different location. Under Dutch law, Article 6:97 BW governs this issue: 'The judge evaluates the damage in the manner best corresponding to its nature. Where the extent of the damage cannot be determined precisely, it is estimated.' The legislature has explicitly referred to it.[85] In accordance with Article 6:97 BW, the judge has to determine what measures are reasonably equivalent to restoration.

For years, the general opinion was that, in situations of damage to property, the tortfeasor had to compensate all objective costs of

[82] Wetterstein (ed.), *Harm to the Environment* (1997), p. 30.

[83] Bauw and Brans, *Milieuprivaatrecht* (2003), pp. 51–6.

[84] *Res communes* are generally defined as objects which are not in their entirety subject to exclusive appropriation because of their extensiveness and uncontrollability. They are required as a means to sustain life for all and may be used for all as such. Traditional examples are the air, sunlight, running water and the sea. See Carette, *Herstel van en vergoeding voor aantasting aan niettoegëeigende milieubestanddelen* (1997), p. 14.

[85] Proposal 21202 to Supplement Books 3, 6 and 8 of the New Civil Code with Rules Regarding Liability for Dangerous Substances and for Air, Water and Soil Pollution, the Dutch Lower House, 1988–9, 21202, No. 3, p. 19.

restoration. However, in *'s-Gravenhage* v. *Van Schravendijk*,[86] the Hoge Raad decided that, in determining the compensable restoration costs, the first step is to determine whether, as a result of the damage, the value of the property has decreased. If this is the case, and restoration is still appropriate, the compensable damage is generally the cost of restoration, except if such costs exceed the reduced value of the damaged property, allowing recovery only under limited circumstances.[87]

Finally, pure ecological damage, as such, is not recoverable under Dutch law. The reason for this can be either that the costs are disproportionately high, or that recovery is simply impossible, where both restoration and reinstatement are not applicable.[88]

In the case at hand, *A* can be held liable for environmental damage done to natural resources or for ecological damage, as long as the damage is recoverable. Similarly, *A* will be held liable for the costs of necessary measures to restore the habitat, that is, the objectively computed costs of restoration.[89] The legislature has explicitly stated in an explanatory memorandum that restoration of the environment need not result in the exact equivalent of what was damaged, and it is possible to introduce other kinds of vegetation or animals that will lead to an improvement of the natural situation in that particular area or give the particular area a different kind of recreational purpose.[90] In accordance with the reasoning of the legislature, as long as the restoration costs of the contaminated habitat are considered to be reasonable (not necessarily lower than the value of the property) and do not

[86] HR July 1993, RvdW 1993, 158 (Den Haag/Van Schravendijk) and more recently in HR 7 May 2004, RvdW 2004, 71.

[87] The Hoge Raad presented these circumstances as follows: 'Whether this is the case depends on different aspects of the case: the function the property had for the owner (did he possess it for his own use or for investment purposes), the possibilities of acquiring an object with similar characteristics regarding use values, location, price and other similar relevant factors. Finally, also the extent to which the costs of restoration overstate the reduction in value of the damaged property have to be taken into account.'

[88] Brans and Visser, 'Aansprakelijkheid voor schade aan bomen' (1996), p. 132. As has been stated above, the recent Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage provides for regulations on how to evaluate damage to natural recources or ecological damage.

[89] See HR 13 December 1963, NJ 1964, note by GJS (Schreuder-Van Driesten).

[90] Proposal 21202 to Supplement Books 3, 6 and 8 of the New Civil Code with Rules Regarding Liability for Dangerous Substances and for Air, Water and Soil Pollution, the Dutch Lower House, 1988–9, 21202, No. 3, p. 19.

disproportionately exceed the reduction in value of the damaged habitat, *A* will be held liable for the costs of restoration.

To hold *A* liable under the general tort Article 6:162 BW, the question whether *A* needs to be 'at fault' must be considered under the prerequisite of 'unlawfulness'. Defendant *A* will have acted unlawfully when the contamination for which he is responsible is either a breach of a statutory duty, an infringement of a right or a breach of due diligence. As has been presented in the answer to Question 15(a), for example, the state has sufficient interest in clean-up operations as regards polluted soil and will therefore have standing in a private lawsuit concerning soil pollution. The judge will evaluate the damage in accordance with Article 6:97 BW,[91] based on *restitutio in integrum* (which will put victim in a position that is as close as possible to the position that would have existed but for the unlawful act). However, since this case is not about soil damage, but extinction of an extremely rare plant, there are no laws in the Netherlands that explicitly authorise the state and/or others to recover damages for this injury to unowned nature.

Question (d)

In accordance with Article 6:95 BW, the categories of damage that may give rise to compensable claims are pecuniary and non-pecuniary losses. The first category includes damage to goods, damage to persons and (pure) economic loss due to, for instance, environmental damage.[92] As discussed under Question 15(d), in *Van Hees* v. *Esbeek*, the Hoge Raad allowed compensation for pure economic losses as long as so-called first or second degree damage is involved, but denied third or more remote damage.[93] Pure economic damages were also granted by the Hoge Raad

[91] If the extent of the damage cannot be calculated precisely, courts may estimate the damage using, for example, the costs of the preservation measures as a starting point. It is not specified what assessment methods can be used by courts or under what conditions courts may decide to estimate the damage. The general view is therefore that courts have a considerable margin of discretion in this area. See Brans, 'Liability for Damage to Public Natural Resources' (2001), pp. 274–5.

[92] In the legislative proposal on the rules regarding strict liability for dangerous substances and for air, water and soil pollution, it was held: 'not only damage to property or to persons can be recovered by the actual victim of the loss, but also the damage that occurs when someone's property is damaged, and someone else suffers from this'. Proposal 21202 to Supplement Books 3, 6 and 8 of the New Civil Code with Rules Regarding Liability for Dangerous Substances and for Air, Water and Soil Pollution, the Dutch Lower House, 1988–9, 21202, No. 3, pp. 17–19.

[93] HR 1 July 1977, NJ 1978, 84 (Van Hees/Esbeek).

in several other judgments.[94] Specifically, the *Voorste Stroom III* case[95] may apply to the case at hand. There is no need for economic damage to have already occurred or that it resulted in actual pecuniary loss, so *D*, being the owner of the outdoor entertainment business, will be compensated for his 'second degree' pure economic loss.

Notably, non-pecuniary losses such as loss of use and enjoyment of the river due to a significant impairment of its aesthetic qualities are not necessarily compensable under tort law.[96] This will of course differ if the damage can be considered pure economic loss. Some authors have considered the category of pure economic loss to be part of the concept of ecological damage. In their view, the economic damage must be suffered as a result of the reduced use of the environment or the loss of unowned natural resources.[97] Others contend that ecological damage should be distinguished from damage to a natural resource itself.[98] For example, fishermen whose earning capacity is adversely affected by an oil spill in a coastal area have been awarded damages as compensation for individual economic losses (i.e. loss of earning capacity), not for non-pecuniary loss by destruction of the wild fish or other resources. It should be mentioned, however, that under Dutch law there is no obligation to use damages awards to restore the harmed natural resources.

Question (e)

When damage is done to natural resources that are subject to property rights, the property owner is entitled to sue for damages because his private rights have been infringed (patrimonial damage). This is a type of harm that comprises all financial and material losses incurred.[99]

[94] See HR 14 March 1958, NJ 1961, 570 (Stroomafnemers), HR 1 July 1978, NJ 1978, 84, note by GJS (Dragline or Van Hees/Esbeek); cf. HR 18 April 1986, NJ 1986, 567, note by G (ENCI/Lindelauf). See also Rb. Dordrecht 24 December 1986, TMA 1987, p. 109 (Wervenbosch supermarkt en slagerij/Dordrecht).

[95] HR 29 January 1937, NJ 1937, 570.

[96] Brans, 'Liability for Damage to Public Natural Resources' (2001), p. 255.

[97] Bocken, *Preventie, toerekening en herstel van schade door milieuverontreiniging* (1983), pp. 19–20.

[98] Brans, 'Liability for Damage to Public Natural Resources' (2001), p. 18.

[99] E.g. damage to goods and persons, loss of profit, impairment of earning capacity and the loss of value of real property due to nuisance and the reasonable cost incurred in assessing damage and liability. See Brans, 'Liability for Damage to Public Natural Resources' (2001), p. 256.

However, the private property owner is not obliged to sue, nor, if successful, to use the compensation for restoration.[100] Herein lies a distinction between private and state-owned natural resources. If natural resources are state-owned, reparation is guaranteed.

As noted above, according to case law, public authorities have standing to sue polluters (*Bensicker*,[101] *State* v. *HAL*,[102] and the *Windmill* case[103]). Also, from the Hoge Raad ruling in the *State* v. *Kabayel* case,[104] the state can raise any civil law claim on the basis of the promotion of the general interest, codified in Article 3:303 BW. Thus, based on these cases and those in (a) above, here, the state can file a claim if it owns the reserve because damage is done to soil that is subject to ownership of the state and because the state has a general interest in soil throughout the Netherlands.[105] No distinction is made between owned and unowned natural resources. Finally, where the state is owner, as long as the restoration measures were actually taken (or are going to be taken) according to the state's duty, the costs are recoverable if reasonable.[106]

Portugal

Question (a)

Article 23 LAP refers to an *objectively dangerous activity*. Therefore, the transportation of dangerous chemicals could constitute a basis for strict liability under the LAP. However, Article 73 DL 268/98, which requires fault, applies to the *ecological damage* to the water and would be appropriate here, if fault is established.

[100] As was mentioned above, this problem has been acknowledged by the European Commission, who proposed an environmental liability regime in which the state is awarded a primary right of standing in cases of damage done to natural resources in so-called Natura 2000 sites. The state may recover damages for injury to natural resources, and it is immaterial whether the natural resources are owned or not. Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage, in force 30 April 2004, Pb EG 2004, L143/56.

[101] HR 14 April 1989, NJ 1990, 712. [102] HR 26 May 1978, NJ 1978, 615.

[103] HR 26 January 1990, NJ 1991, 393. [104] HR 18 February 1994, NJ 1995, 718.

[105] This development has been confirmed in the legislative memoranda to the 1994 Dangerous Substances Act, where it is also laid down that the cost of measures taken to repair damage to natural resources may be recovered.

[106] Brans, 'Liability for Damage to Public Natural Resources' (2001), p. 258.

Question (b)

Yes, *C* should recover from *A* under Article 73 DL 268/98 and the *actio popularis* regime in the LAP. However, any further pecuniary compensation for damage to the environment, etc. would be due to the state.

Question (c)

The destruction of extremely rare plants is an ecological damage which can be claimed under Articles 22 and 23 LAP, Article 41 LBA or Article 73 DL 268/98 (if it also constitutes a damage to the marine environment). The remedy for ecological damage is generally natural restitution (Article 48 LBA), or, if natural restitution is not possible or is unreasonable, pecuniary compensation may be granted to the state. In Portuguese law, the possibility of pecuniary compensation for *harm to the environment* is provided for in Article 48(3) BLE and in Article 41 BLE. However, the compensation provided for in these Articles has not yet been regulated by the legislature.

It should be noted, however, that the possibility of attribution of pecuniary compensation is expressly regulated in Article 73 DL 236/98, as regards harm to water. According to that Article, when it is impossible to determine precisely the amount of damage to the environment, the court is empowered to fix the quantum of damages by using *equitable* criteria. This means that the judge must take into particular consideration the damage to the environment, the foreseeable cost of restoring the situation to what it was before the harmful act occurred, and the economic gain potentially obtainable by the defendant from the act (vide Article 73(2) of DL 236/98).

Question (d)

The environmental statute that protects water quality also directly protects the use of the river for recreational proposes, and, therefore, the economic interest of *D* is compensable under Articles 22 or 23 LAP and Article 483, § 2 CC.

Question (e)

No, there is no difference in the legal position.

Scotland

Question (a)

Those who carry dangerous substances are subject to the duties imposed by the Carriage of Dangerous Goods and Use of Transportable

Pressure Equipment Regulations 2007.[107] While these regulations do not provide expressly for civil liability, criminal conviction for breach of the regulations would probably carry weight in a civil action for damages based on common law.

A 'nature reserve'[108] is designated as such by the decision of Scottish National Heritage (SNH).[109] SNH may then buy the land, or simply enter into a lease or management agreement with a private owner. In any case, SNH has the power to make such bylaws as it sees fit, 'for the protection of the reserve'.[110] Based on these facts in Scotland, it is assumed that the land here is privately owned and there are no relevant bylaws in place governing the issues raised by the question.

I. Common law

It is assumed that the lorry was being driven at the time of the accident either by *A* or by an employee for whom *A* is vicariously liable. The carriage of dangerous chemicals is a hazardous activity, carrying with it a heightened duty of care, although no specific strict liability regime applies. Depending upon the circumstances in which the driver lost control of the vehicle, it is likely that a case in negligence could be made. In such circumstances, it would seem that damage to the surrounding area is, moreover, a directly foreseeable result of such an accident. The general principle when physical harm has occurred is to assess damages by the difference in value of the affected property before and after the accident. The clean-up costs would be a relevant, though not necessary, consideration and need not determine the exact demanded figure of damages.

II. Statutory law

If, as a result of the spill, the nature reserve has become 'contaminated land' within the meaning of section 78A of the Environmental Protection Act 1990, the local authority may apply the procedure

[107] SI 2007 No. 1573.

[108] Defined as land managed for the purpose of providing special opportunities for the study or preservation of flora, fauna or geological or physiological features of special interest, National Parks and Access to the Countryside Act 1949, section 15.

[109] A public body formed in 1992, under Part 1 of the Natural Heritage (Scotland) Act 1991, to bear responsibility for nature conservation in Scotland.

[110] National Parks and Access to the Countryside Act 1949, section 20.

outlined under Question 15(c) above to serve a remediation notice upon the person responsible for the spill and require action to clean up the land.

Under regulation 29 of the Water Environment (Controlled Activities Scotland) Regulation 2005, the Scottish Environmental Protection Agency has certain powers to take immediate steps in order to remedy the consequences of a polluting activity and to recover the costs from the person identified as responsible.[111]

Question (b)

As an unrelated third party, *C* has no standing to recover its costs. On the other hand, as discussed in (a), the Scottish Environment Protection Agency has powers under regulation 29 of the Water Environment (Controlled Activities Scotland) Regulations 2005 to undertake works and recover clean-up costs.

It is unlikely, on the other hand, that *C* could claim from the owner for acting as *negotiorum gestor*. It is only possible to recover such if the owner was unavailable and unable to manage the restoration programme itself, and it was reasonable to assume that the owner would have given authorisation to *C* for the measures taken.

Question (c)

While in a damages action for personal injury the defendant must 'take the victim as s/he finds him/her', there is authority that this rule does not apply with regard to damage to heritable property.[112] If, however, a claim based on the plaintiff's unique weaknesses were to be admissible under the exception, the person with the right to claim damages is the owner or tenant, and the level of damages would not be contingent on fault.

Question (d)

First of all, one must determine who owns the river. As discussed in the answer to Case 14, tidal rivers belong to the Crown, whereas non-tidal

[111] SSI 2005 No. 348.

[112] In *Armistead v. Bowerman* (1888) 15 Rettie 814, proprietor *B* carried out routine forestry operations which sent mud down a stream in which *A* was attempting to hatch delicate fish eggs. *B* was held not to be liable for loss relating to this ultra-sensitive use of his neighbour's property.

rivers may be privately owned. If the river belongs to the Crown, or to SNH or another private individual, then the loss suffered by *D* is secondary economic loss, and thus unlikely to be recoverable.[113] But, if *D* owns the river, it is possible that *D* may be able to recover loss of profits due to his inability to use the river for the purpose of his business. This may be admissible under both the law of nuisance[114] and the law of negligence.[115]

Question (e)

See (d) above. This would mean that *D's* loss was secondary economic loss and thus unrecoverable.

Spain

Question (a)

Damage caused by road traffic falls within the scope of the Ley de responsabilidad civil y seguro en la circulación de vehículos a motor (Road Traffic Liability Act (LRCSCVM)).[116] Pursuant to this Act, '[T]he driver of motor vehicles is liable, by virtue of the risk created by its driving, for the damages caused to persons or to property in the course of traffic' (Article 1.1 LRCSCVM). This liability is strict, and, according to legal doctrine, it also includes the shedding of attachments, objects, substances and products from a vehicle.[117] Moreover, neither 'the defects of the vehicle, nor the breaking or the failure of any of its parts or mechanisms' are considered a defence under *force majeure*, since liability only ceases when *force majeure* is 'not related to the functioning or operation of the vehicle' (Article 1.2 LRCSCVM).

The determination of who is liable under the Act is quite complex. Legal doctrine distinguishes between two scenarios: (i) If a crime or misdemeanour has been committed on the occasion of the use of a motor vehicle (applying the tort liability rule contained in the Penal

[113] See the answer to Question 15(d).
[114] See E. Reid, 'Financial Loss and Negligent Nuisance' 2000 SLT (News) 151.
[115] See *Hunter* v. *Canary Wharf* [1997] AC 655, *per* Lord Hoffmann at 706.
[116] Decreto 632/1968, de 21 de marzo (BOE No. 85, 8 April 1968). This Decree has been affected by different legal reforms, the most important of which is Ley 30/1995, de 8 de noviembre, de Ordenación y Supervisión de los Seguros Privados (BOE No. 268, 9 November 1995).
[117] See Martín, Ribot and Solé, in Koch and Koziol, *Unification of Tort Law*, p. 297, with further references to case law.

Code), the owner is subsidiarily liable for the damage caused by his 'dependants, agents or other persons authorised by him' (Article 120.5 CP). This subsidiary liability is strict. Nothing is said about the keeper of the vehicle but often the owner will also be its keeper. (ii) If the wrongful act does not qualify as a crime or misdemeanour, the LRCSCVM applies. Thus, the owner (who is not the driver) will be liable for bodily harm and for damage to property caused by the driver when he is related to the owner by one of the relations listed in Article 1903 CC (employee, child, etc.). However, this liability will cease when the owner proves that he acted with the standard of care of a reasonable person (*bonus paterfamilias*) to prevent the harm (Article 1.5 LRCSCVM). The provision reproduces verbatim Article 1903 VI CC, which is commonly interpreted as imposing fault liability (*in eligendo* or *in vigilando*) with a reversal of the burden of proof.[118] As a result, the keeper would be liable according to the LRCSCVM if he was at the same time the driver (Article 1.1 LRCSCVM), whereas the owner of the vehicle would be liable if the requirements of Article 1.5 LRCSCVM were met because, in such a case, the keeper is a dependant of the owner. The introduction *de lege ferenda* of a sort of keeper's liability is to be found in legal doctrine only.[119] Of course, the keeper could always be brought to court on the basis of Article 1902 CC, but then liability would be fault-based. Finally, the owner is usually held liable in practice.[120]

With regard to the clean-up costs, they have to be seen as a measure to restore the damaged goods to fall within the scope of the liability. In addition, as noted above, administrative legislation contains several provisions subjecting the polluter to both administrative fines and criminal sanctions, as well as an obligation to compensate for the damage caused. Moreover, the Public Administration will be able to recoup its expenditures on protecting the environment or will otherwise be able to assess the damages award of the liable person (see the answer to Question 15(c)).

[118] The distinction is taken from *ibid*., p. 303.

[119] See, *inter alia*, Fernando Reglero Campos, 'Comentario a la sentencia de 23 de septiembre de 1988', CCJC 1988, No. 18, 850–61, p. 858; Alma M[a] Rodríguez Guitián, 'Breve reflexión sobre la responsabilidad civil extracontractual del propietario no conductor en la Ley 30/1995, de 8 de noviembre, de ordenación y supervisión de los seguros privados', *La Ley* 2000, 1534–9, p. 1536.

[120] See Miquel Martín Casals and Jordi Ribot, 'La responsabilidad objetiva: supuestos especiales *versus* cláusula general', in Cámara, *Derecho privado europeo*, p. 836.

Question (b)

Different hurdles obstruct environmental NGOs which seek to bring a claim for damages before a civil court under Spanish law. According to the Organic Act of the Judicial Power (Ley Orgánica del Poder Judicial),[121] these kinds of 'corporations, associations and groups' could only sue if there was an explicit statutory authorisation (Article 7 LOPJ). As a result, currently, these groups may only bring a claim in damages before a civil court as individual victims for damage to their own legal interests.[122] According to a minority of authors, this would allow an association to recover the costs of measures adopted (or to be adopted) to remediate the damage to the environment.[123] However, the prevalent opinion seems to be the contrary, at least *de lege lata*. Some even argue that a broad regulation of legal standing which allowed everyone to restore the damaged environment and afterwards recoup the costs incurred from the polluter would be most undesirable, since only the Public Administration has authority to ensure that the proper measures will be adopted.[124]

Interestingly, environmental NGOs are generally in a worse situation than associations representing the legal interests of consumers which, as has already been noted, have legal standing to represent general interests. NGOs could probably play an important role in the future if the legal regulation were broadened to allow them standing in environmental cases.[125] According to legal doctrine, one may not apply the legal regime governing the standing of consumerist associations *per*

[121] Ley Orgánica 6/1985, de 1 de julio, del Poder Judicial (BOE No. 157, 2 July 1985).

[122] See, *inter alia*, César J. Lorente Aznar, *Empresa, Derecho y medio ambiente. La responsabilidad legal empresarial por daños al medio ambiente* (Barcelona, J. M. Bosch, 1996), p. 44; cf., also restrictively, Santos Morón, in Cabanillas *et al.*, *Estudios jurídicos*, p. 3024; and Huerta and Huerta, *Tratado de Derecho ambiental*, p. 1067.

[123] See Arbues and Labrador, *El seguro de responsabilidad civil por daños al medio ambiente*, p. 20; apparently also de Miguel, *La responsabilidad civil por daños al medio ambiente*, p. 375.

[124] See Jordano, in Asociación de Derecho Ambiental Español, *III Congreso Nacional de Derecho Ambiental*, pp. 41–2.

[125] Complaints by NGOs were, for instance, part of the determinative factors to cause the Spanish Government to adapt national law to the Directive 90/313/EEC on the freedom of access to information on the environment. On this chapter of the history of Spanish environmental law, see Fe Sanchis Moreno, 'Spain', in Ralph E. Hallo (ed.), *Access to Environmental Information in Europe: The Implementation and Implications of Directive 90/313/EEC* (London, The Hague and Boston, Kluwer Law International, 1996), pp. 225–48, at p. 240.

analogiam to expand legal standing for ecologist associations.[126] Moreover, case law seems to have adopted quite a restrictive approach when the claimant associations have not suffered damage to their personal or patrimonial interests.[127] In fact, environmental NGOs do not have standing even to ask for an injunction in order to bring to an end the polluting activity.[128] In support of retaining current trends, some scholars think that conferring legal standing on NGOs would promote legal uncertainty, which would impair the interests of industry and open up the possibility that two claims with the same purpose are brought to court in relation to the same problem.[129]

In practice, the penal procedure has turned out to be somewhat more fruitful to environmental NGOs. For example, a landmark decision held a well-known entrepreneur liable for damage caused to the environment and was the first one in Spain to sentence someone to jail for having perpetrated an environmental crime.[130] The Tribunal Supremo even entrusted the execution of the court's decision on liability in tort to the environmental NGOs, Grup de Defensa del Ter, which had reported the crime.[131] Accordingly, the NGO had to ensure that the polluted river was restored to its previous state, and it was entitled to recover damages in compensation to be used for restoration. The

[126] See, for instance, García Rubio, in Torres Feijó, *Prestige*: *a catástrofe que despertou a Galiza*?, p. 138.

[127] As Gómez Pomar, *La responsabilidad por daño ecológico*, p. 50, points out.

[128] See Parra, *La protección al medio ambiente*, p. 20.

[129] See, for instance, Díez-Picazo, in Vercher, Díez-Picazo and Castañón, *Responsabilidad ambiental*, p. 163; and Eduardo Serrano Gómez, 'La protección medioambiental', *Actualidad Civil*, 2001, 273–301, p. 287. Also critically, Cordero, in Ortega, *Lecciones de Derecho del medio ambiente*, p. 454. For a more optimistic view, see Ballester, in Ayús, Ballester and Crespo, *Apuntes de Derecho Medioambiental*, p. 131. Although the risk of an avalanche of claims is serious, it may be resolved by granting legal standing to environmental NGOs with the compromise that awards be used to restore the environment under the control of the courts. For a convincing argument, see Gómez Pomar, *Iniuria* 8/1995, p. 38. Environmental NGOs must maintain their reputation, and this fact should counterbalance the risk of abusive claims against firms. See, again, Gómez Pomar, *Iuris*1999, p. 44. Finally, the *actio popularis* under public law, authorising administrative review, has turned out to be rather difficult and ineffective in practice. As Martin Führ, Betty Gebers, Thomas Ormond and Gerhard Roller, 'Access to Justice: Legal Standing for Environmental Associations in the European Union', in David Robinson and John Dunkley (eds.), *Public Interest Perspectives in Environmental Law* (Chichester, Chancery Law Pub., 1995), pp. 72–107, at p. 93, also highlight.

[130] STS 1.2.1997 [RJ 1997/687].

[131] Some information on the case can also be found on the association's website, www.gdter.org.

association reached an agreement with the polluting firm and commissioned research studies to be carried out by the University of Barcelona. According to the agreement, the restoration would be complete when the river water reached level 7 of biological quality according to the so-called FBILL index.[132] Although the case seemed promising for environmental NGOs,[133] the decision was something of a Pyrrhic victory, since the polluting firm was eventually unable to satisfy its liabilities due to financial difficulties.[134]

Had the governmental Draft Bill been passed, the definition of legal standing would have been substantially broadened, allowing anyone (thus, including environmental NGOs) to bring a private claim to recover restoration costs and seek preventive measures (Article 6.2).

Question (c)

Damage to the environment *per se* is not always easily restored, and restoration *in kind* may not even be possible. However, this does not mean that there is no liability for the damage. Some authors have tried to derive a right to a proper environment (*derecho a un medio ambiente adecuado*) from the constitutional provision granting 'everyone a right to enjoy an environment which is appropriate for the development of the person, as well as the duty to preserve it' (Article 45 of the Spanish Constitution (CE)).[135] However, prevalent opinion still seems contrary to such a proposal, arguing, in particular, that a subjective right is not necessary for liability, since liability in tort arises even without a violation of such a right.[136] Moreover, the Constitution would only establish a general principle as a guide for the social and economic policy, not a justiciable right.[137]

[132] The so called FBILL is a revised version of the biological index of the Besòs and Llobregat rivers (called BILL) developed in 1999 by researchers at the University of Barcelona.

[133] For an optimistic view, see Mar Aguilera Vaqués, 'Soil Pollution and Decontamination in Spain', *European Environmental Law Review*, 2002, 174–85, p. 183.

[134] The author of this report was personally informed about this fact by a member of the association.

[135] See, for instance, Jordano, *La protecciónde derecho*, pp. 455 *et seq.*; and Juan F. Delgado De Miguel, *Derecho agrario ambiental* (Pamplona, Aranzadi, 1992), p. 297.

[136] Santos Morón, in Cabanillas *et al.*, *Estudios jurídicos*, p. 3023; Andrés Crespo Llenes, 'Aproximación a la metodología de la responsabilidad civil medioambiental', in Ayús, Ballester and Crespo, *Apuntes de Derecho Medioambiental*, p. 102; see a slightly different opinión by Cordero in Ortega, *Lecciones de Derecho del medio ambiente*, p. 437.

[137] Díez-Picazo, in Vercher, Díez-Picazo and Castañón, *Responsabilidad ambiental*, p. 93; Crespo Llenes, in Ayús, Ballester and Crespo, *Apuntes de Derecho Medioambiental*, p. 98.

In the case decided by the STS, 2ª, 1.4.1993 [RJ 1993/9165], an environmental NGO, Fondo Asturiano para la Protección de los Animales Salvajes (FAPAS), reported that the defendant had killed a brown bear of a protected species (contrary to the Hunting Act), an environmental crime. In addition, FAPAS sued the defendant for damages in the same procedings, but the Appellate Court decided that the defendant should pay the compensation award not to the NGO but to the regional Public Administration. After the NGO challenged this decision, the Tribunal Supremo reversed it. In the view of the Court, the bear did not belong to any specific individual but to the public as a whole, so any claimant could have sued the defendant for compensation for the environmental harm caused. According to some authors, this decision is the forerunner of compensation for pure environmental harm under Spanish law.[138]

As to the assessment of damage, one should keep in mind that the Public Administration may assess its own damages, albeit under supervision by the administrative courts. These powers can even be applied to assess damage caused to private goods, according to some scholars.[139] Some scholars even think that the assessment of damage need not be governed by legislation, but the courts instead should just be granted wide discretion[140] to apply criteria (such as under the Draft Bill) initially addressed to the public administration to rule on damages.[141] Of course, this leaves a judge with tremendous difficulties, as the assessment of damage to natural resources is rather complicated (many resources lack a market value and are not interchangeable). If judges are given broad discretion, it is tantamount to giving them a blank cheque, as actually happened in STS 2.2.2001 [RJ 2001/1003]. In that case, the claimants alleged that they suffered damage consisting in a 'diminution or impairment of quality of life' due to pollution caused by the defendant neighbour's activity (the transport, crushing, classification and washing of arid materials). Nonetheless, the claimants did not introduce any evidence of the amounts of damages. The court, nevertheless, increased

[138] See Jordano, *La protección*, p. 525, who nevertheless criticises the legal reasoning used by the Court; similarly, see Cabanillas, *La reparación de los daños al medio ambiente*, p. 192.

[139] See Jordano, in Asociación de Derecho Ambiental Español, *III Congreso Nacional de Derecho Ambiental*, p. 39.

[140] So De Ángel, BIMJ, 1991, 2891–2, according to whom liability could be reduced on an equitable basis whenever the damages award could make the defendant go bankrupt. See similarly José F. Alenza García, *Manual de Derecho ambiental* (Pamplona, Nafarraoka Unibertsitate Publikoa, 2001), p. 123.

[141] Cf. Poveda and Vázquez, *Noticias UE*, 2001, No. 193, p. 66.

the damages award from one million pesetas to seven million pesetas (€42,000).[142]

Other approaches may be more certain. First, economic methods of valuation could be used, such as contingent valuation, although the method is criticised because its results may be biased. An alternative could be awarding exactly the cost of restoration or rehabilitation of the environment to the state prior to the harm (as is the approach of several public law Acts).[143] According to the public laws, the Public Administration should generally take into account: (a) the cost of restitution to the original state of the damaged goods; (b) their economic value; (c) the cost of the project or activity which has given rise to the environmental impairment; and (d) the profits earned by the developer of the activity.[144] Thirdly, a court may assess an award based on an abstract calculation of damages according to pre-established monetary tables, though the approach may be too rigid and not properly related to the circumstances of a case.[145] In fact, the concept of pre-established damages tables has already been introduced in the field of personal injury caused by traffic accidents.[146]

Finally, with regard to the relevance of the extinction of the species, it should be emphasised that the Draft Bill contained a provision requiring a liable person to carry out 'compensatory equivalent measures', should restoration in kind be impossible. If all non-pecuniary measures were impossible, the liable person would be forced to pay a monetary compensation, 'which will be used for the realisation of environmental means of compensation and improvement of the damaged environment' (Article 2(d)).

Question (d)

After the oil spill of the *Prestige* in 2002, some legal scholars pointed out that professional fishermen and workers in the shellfish industry were

[142] See García Rubio and Lete, in Koziol and Steininger, *European Tort Law* (2001), p. 438, who express their surprise for this reason.

[143] See Gómez Pomar, *Iniuria* 8/1995, 36–7.

[144] See, for example, Vera, *La disciplina ambiental de las actividades industriales*, p. 206.

[145] Cf. Gomis, *Responsabilidad por daños al medio ambiente*, p. 272.

[146] See Miquel Martín Casals, 'An Outline of the Spanish Legal Tariffication Scheme for Personal Injury Resulting from Traffic Accidents', in Helmut Koziol and Jaap Spier (eds.), *Liber Amicorum Pierre Widmer*, (Vienna and New York, Springer, 2003), pp. 235–51, with further indications.

the clearest victims of the environmental catastrophe.[147] Despite this, however, the Spanish courts usually adopt a restrictive position as to compensation for loss of earnings. The Tribunal Supremo usually requires very strict proof and often refuses to award damages for loss of earnings, arguing that the damage was too speculative or that the earnings were 'contingent and doubtful'.[148]

A good example of the Court's reluctance is the case in which pure economic losses allegedly suffered by fishermen and other maritime workers were denied after the oil spill by the *Aegean Sea* off the coast of Galicia in 1992. According to the final decision of the Appellate Court of 18 June 1997,[149] the claimants had not specified the negative effects alleged and the economic consequences of the pollution on their activities, but relied upon mere speculation.[150] Therefore, in the case at hand, *D* would indeed have a claim in damages against *A*, but he or she would have to bring sufficient evidence as to the existence and extent of the loss in order to recover. However, the mere fact that the damage to the environment may be difficult to assess, or even that there is no plaintiff with standing to claim for pure ecological damage, is irrelevant to compensation for loss of earnings or pure economic loss. As some scholars have convincingly argued, it is the legislature that should provide the rules governing this type of case and make clear who is compelled to restore the environment as well as the extent of compensation due to those suffering economic losses.[151]

Question (e)

As has already been explained, where the polluted waters belong to the public domain, an administrative system of compensation applies, *autotutela demanial*.[152] The public character of the damaged good

[147] So Eugenio Llamas Pombo, 'Chapapote y responsabilidad civil', *Diario de noticias La Ley* '*Especial responsabilidad civil*', April 2003, p. 7.

[148] See Yzquierdo, *Sistema de responsabilidad civil*, p. 151 and Díez-Picazo, *Derecho de daños*, p. 687.

[149] Unpublished. Copy on file with the author.

[150] See Mireya Castillo Daudí, 'La responsabilidad civil por daños de contaminación por hidrocarburos y el siniestro del buque *Aegean Sea*', REDI, 1998, 69–90, p. 86. On the implications of this decision from the point of view of private international law, see Javier Maseda Rodríguez, 'O caso do buque Mar Egeo', *Revista Xurídica Galega*, 1998–1, 339–56.

[151] In this sense, see Martín and Ribot, in Van Boom, Koziol and Witting, *Pure Economic Loss*, p. 917.

[152] See, *inter alia*, Parra, *La protección al medio ambiente*, p. 61.

justifies the establishment of a special regime, granting the Public Administration standing before administrative courts. When the damage caused falls outside the scope of this legal regime, the Public Administration has to resort to ordinary proceedings before civil or criminal courts, as would any other person.

Sweden

We can consider this situation in this question as purely one of domestic law and therefore take no account of international law ratified by Sweden.

The Environmental Code, Chapter 32, is not applicable *per se* to transportation, being movable sources of pollution, but the use of land for polluting activities could result in liability for the user of the land, for example a road authority or an owner of an airport.[153]

Generally, civil liability in domestic road accidents has been replaced with compulsory no-fault insurance in case of traffic accidents. The insurance is attached to the vehicle involved and is primarily focused on domestic transport, be it commercial or private transportation. The regulation is included in the Traffic Accident Act.[154]

Question (a)

According to this Act, the keeper of the vehicle will be considered 'liable' and his vehicle's insurance will compensate third parties suffering personal injury or property damage due to the road accident. It is considered possible that the insurance will also cover environmental damage due to an accident, meaning that clean-up could be covered as well up to a limit of SEK50 million.[155]

If the Traffic Accident Act is not applicable in a particular case, a substitutional financial source is the Rescue Services Act,[156] meaning that the municipality will both conduct and finance the clean-up through public funding, with the state budget as a final resource.

In the case at hand, with a nature reserve involved, a private claim is difficult due to a probable lack of standing. The Environmental Protection Agency has so far been successful once in claiming damages

[153] Governmental Bill 1985/86:83, p. 15. See also A. Eriksson, *Rätten till skadestånd vid miljöskador* (1986), s. 29.
[154] Trafikskadelagen (1975:1410).
[155] See e.g. K. Schalling, *Transportförsäkring* (1986), p. 20.
[156] Räddningstjänstlagen (1986:1102).

for loss of public interest.[157] It is not unlikely that the Agency will succeed again. The target for such action in civil liability would be a multiple choice: either the keeper of the vehicle in his role as the employer under the Tort Law Act (Chapter 3:1), or the road keeper under the Environmental Code, Chapter 32, permitting dangerous transports in sensitive areas and thus causing disturbance to the 'surroundings'.

Question (b)

The current rules does not provide for such an action,[158] but the fortcoming rules on class action from 1 January 2003 will include a possibility for organisations to claim compensation for such costs under the scheme of strict environmental liablity.[159]

Question (c)

As mentioned under Question 16(a), the Environmental Protection Agency has the possibility of claiming compensation from *A* by an action in civil liability, based on fault or on strict liability. In a case from 1995, standing for the Agency was based on the responsibility of Sweden under international conventions on environmental protection. It is possible that the courts would find such an argument appealing also in this case. As mentioned under Question 16(b), organisations will soon have the possibility of claiming damages.

The valuation of the damage would initially be based on a replacement theory. Secondly, courts are subject to rules permitting a 'reasonable estimation' of the value if evidence of the true value cannot be presented. In the 1995 case, the Supreme Court used its discretion and based the valuation on presumed 'costs for safeguarding the rare species' rendered extinct by the accident.[160]

[157] NJA 1995 s. 249. The case concerned liability for illegal hunting of two wolverines. The hunter was found liable in damages to the Agency for a lump sum of SEK 20,000 each. No analysis of the assessment was presented. For comments, see J. Kleineman, Ideell skada eller förmögenhetsförslust, JT 1995/96, p. 101.

[158] Cf. NJA 1994 s. 751 and the issue whether a foundation could be granted standing. It could, but only based on rights transferred to the foundation by agreement with the founders.

[159] Environmental Code, Ch. 32 § 14.

[160] On assessment of damage, see Hellner, *Skadeståndsrått* (2000), Ch. 24; and Larsson, *The Law of Environmental Damage* (1999), Ch. 4.4.

Question (d)

D cannot turn to the compulsory no-fault traffic insurance for compensation. Loss of profit is not an accepted heading of damage under that scheme.[161]

But, if he can be considered as a 'qualified user' of the water, he can claim damages for loss of profit under the strict environmental liability scheme in the Environmental Code, Chapter 32.

The general Tort Law Act does not generally recognise claims for pure economic losses.[162]

Question (e)

It makes no difference whether the property is publicly or privately owned.

[161] Cf. the Traffic Accident Act § 8. [162] Cf. the Tort Law Act, Ch. 2 §§ 1 and 4.

Case 17 The oil spill

A is the keeper of a super-tanker. Due to a breakdown of instruments the tanker springs a leak and a huge amount of oil is spilled. A thick oil slick gets washed ashore, where it covers a popular beach area and lots of sea birds and some mammals.

a) Who is obliged to take clean-up measures? Are private organisations entitled to bring legal action and/or to undertake clean-up measures?
b) Is *A* liable for the costs of clean-up measures undertaken by public authorities and/or private organisations?
c) The local fishing industry and tourism facilities suffer severe loss of profits. Do they have a right to claim damages from *A*?
d) Large amounts of seawater are contaminated. Is *A* liable for this damage? Who has the right to claim this damage, and how is the damage evaluated?

Comparative remarks

1. Comparison

(a) Clean-up costs (Cases 16, Question (a), and Case 17, Question (a))

In nearly all European countries, remediation costs for water pollution are covered by tort law. This includes *fault-based liability* and recovery according to the *laws of the neighbourhood*, or *nuisance* in the common law countries.

Most countries also provide for *strict liability* remedies. In Finland, strict liability for water contamination is governed by the Environmental Damages Act 1994. In Portugal, strict liability applies if the damage is caused by an objectively dangerous activity (Article 23 LAP). Compensation for significant ecological damage can be obtained both according to Article 23 LAP and according to the Base Law on the

Environment (LBA). Article 41 LBA provides compensation for significant ecological damage, and Article 43 LBA requires mandatory insurance for activities that pose a high risk to the environment. For the assessment of compensation for ecological damage, Article 51 LBA proposes specific regulations that have not yet been enacted. Some scholars express doubts as to whether Article 41 LBA is already in effect, while others are of the opinion that this provision is directly applicable, since the reference to secondary law only concerns the quantification of damages. As long as specific regulations for the assessment of the damage are lacking, these scholars suggest that courts apply the relevant rules of the Código Civil or restrict the available remedy to the restoration of ecological damage provided for by Article 48 LBA. In Austria and Germany, depending on the cause of the water pollution, one of the sector-specific strict liability laws may apply. In England, strict liability with regard to water pollution depends on the applicability of the rule in *Rylands* v. *Fletcher*. As this rule is not applied to motor accidents, water pollution caused by tankers or other road vehicles (contrary to the situation in Austria, Germany, Greece, France, Portugal and Spain where special laws provide for strict liability in motor accident cases) is not covered by a strict liability regime. The same is true in Belgian and Scots law, which do not provide for strict liability for traffic accidents caused by motor vehicles. Under Belgian law, strict liability of the custodian of a thing, according to Article 1384 § 1 Burgerlijk Wetboek, will apply if the damage was caused because of the defectiveness of the vehicle. If the transported good consisted of toxic waste, the producer of the waste may be liable under the Toxic Waste Act of 22 July 1974. In England and Scotland, with regard to tanker accidents, the duty of care is heightened by the criminal provisions in the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007. In France, there is no comprehensive specific strict liability system for road traffic accidents either. The keeper of a tanker, however, will be strictly liable under Article 1384 § 1 Code Civil, which provides for the strict liability of the custodian of a thing. Strict liability will also apply if the transported good consisted of toxic waste. In most European jurisdictions, the keeper of the vehicle is also liable according to vicarious liability, if the driver was at fault.

In Sweden, the situation is completely different. With regard to domestic road accidents, civil liability is replaced by a compulsory no-fault insurance scheme under the Traffic Accident Act that covers

personal injury and property damage caused by the keeper of a motor vehicle. The scope of coverage of this insurance also includes environmental damage. Clean-up costs, therefore, are covered up to SEK 50 million. Strict liability, according to Chapter 32 of the Environmental Code, can be applied if the contamination is attributable to negative interference from the use of land. Clean-up costs can also be recovered from the tortfeasor by the municipalities under the Rescue Services Act, or by the Coast Guard if the pollution occurs in coastal waters.

Under Scots law, a direct action for remediation is not available. If water contamination occurs, the plaintiff is only allowed to sue for the difference in value of the affected property before and after the accident. Incurred clean-up costs are only an indication for the assessment of the compensable amount. In Italy, Article 18 of Statute 349/86 also covers the clean-up of polluted water.

In addition, many countries provide for *specific liability regimes* governing remediation of water pollution. According to § 31 of the Austrian WRG, anyone who creates the risk of water pollution is obliged to take all the necessary measures to prevent or minimise water pollution. In the absence of sufficient preventive action by the polluter, the competent authority is entitled to undertake all the necessary measures at the expense of the person who caused the risk, or, under certain conditions, at the expense of the owner of the property where the damaging plant or activity is situated or carried out. Liability under § 31(3) WRG is unrestricted in amount. In Germany, damage to water is covered by the strict liability system of § 22(2) WHG. If the damage is caused by an installation within the meaning of § 3(2) and § 3a UmweltHG, the strict liability regime of the UmweltHG may also apply. In order to counter an actual risk of water pollution, public authorities are entitled to undertake emergency and restoration measures, and to recover their costs, according to public law.

In England, section 161A of the Water Resources Act 1991 empowers the Environment Agency to serve a clean-up notice on the person who knowingly caused or knowingly permitted the entry of the polluting substance into the water, or the Agency may carry out remedial works itself and claim the costs from the person responsible (section 161 of the Water Resources Act 1991). If the spillage contaminated land, clean-up obligations under the Environmental Protection Act 1990 may also apply. In Scotland, the Scottish Environment Protection Agency may also claim the costs of cleaning up controlled under regulation 29 of the Water Environment (Controlled Activities Scotland) Regulation 2005.

Under Irish law, the local authority, the fisheries board, and, under certain conditions, even an individual who incurred the costs, have the right to claim remediation costs under section 10 of the Local Government (Water Pollution) Act 1977. Under section 13, and, if there is a hazard to human health, also under the Public Health (Ireland) Act 1878, the local authority is entitled to remedy water pollution and recover the costs. In Portugal, Article 73 DL 268/98 establishes specific fault-based liability, providing compensation to the state for water pollution.

In Belgium, the Act of 20 January 1999 for the Protection of the Marine Environment enacts a special strict liability regime for the prevention and remediation of the marine environment in the Belgian territorial sea, the continental shelf and the exclusive economic zone. It covers damage to persons and property, and impairment of the environment. The preferred method of compensation is restoration in kind, but monetary compensation is also possible. The problem of the damage assessment is not explicitly addressed by the Act. It is currently within the court's discretion, but may be regulated by ordinance in the future. Oil pollution damage of the sea that falls within the scope of the oil pollution conventions is, due to the exclusiveness of the conventions, not covered by the Belgian Act.

In the Netherlands, contamination of water or land can give rise to a tort action by the public authority on the basis of fault liability, if the public authority is in charge of the administration or management of the polluted good. The polluter then is liable for the breach of a duty of care owed to the state.

Spanish law confers on the public authority a general duty to take care of the environment, including the territorial sea, which is part of the public domain. In case of water pollution, the state, and also the regions within their competence, are obliged to undertake preventive and remedial measures and may thereafter recover the costs from the polluter. The Ley 27/1992, de 24 noviembre, de Puertos des Estado y de la Marina Mercante, explicitly provides so for sea pollution and also contains specific provisions for damage assessment by the public authority.

In Greece, there are no specific rules requiring a polluter to pay for the clean-up of polluted water. If the polluter is obliged to undertake clean-up measures according to tort law, public authorities are entitled to rely on *negotiorum gestio* (Articles 730 *et seq*. Astikos Kodikas) or unjust enrichment (Articles 904 *et seq*. Astikos Kodikas) in order to recover their expenses.

(b) Lost profits and pure economic loss (Case 16, Question (d), and Case 17, Question (c))

Under all analysed jurisdictions, the water damage claim covers the costs of clean-up and restoration. In several European countries, however, persons who are economically dependent on a water resource, but who do not own it, such as a rafting or canoeing outfitter, can also claim compensation for their loss of income due to water pollution. In Finland and Sweden, such a claim can be based on strict liability under the specific environmental liability laws. Under the general rules of tort law, however, such a loss is qualified as a pure economic loss and is not compensable. In Belgium, the loss of benefits from the use of a common natural resource is also compensable, provided that the plaintiff can show with sufficient certainty that he or she has suffered harm. Thus, the owner of a café who lost part of his clientele due to the pollution of a nearby river was granted compensation for the loss of income by the court. The scope of compensable damages is comprised not only of economic harm, but also of non-pecuniary damage, such as the loss of pleasure sustained by fishermen because of river pollution.[1] The same applies in France, the Netherlands and Spain, where claimants are also entitled to compensation for economic loss and non-pecuniary damage. The Spanish reporter, however, stressed that the plaintiffs are obliged to bring clear and convincing evidence with regard to the existence and extent of the harm. In Italy, claimants are granted legal standing under Article 2043 Codice Civile, which allows for compensation on the condition that fault can be established. The same applies to lost profits of the fishing or the tourism industries caused by the pollution of the sea.

In England and Scotland, on the other hand, reporters stated clearly that such loss constitutes pure economic loss and is not recoverable. In England, an exception would only apply for the riparian owner who has the right to receive the water in its natural state and flow and who, for historic reasons, has the right to sue under nuisance if there is a alteration in the state of the water. With regard to pollution of seawater, there may also be damages claims in negligence or nuisance by fishermen who have been granted exclusive rights to fish on certain shellfish beds, according to section 2 of the Sea Fisheries (Shellfish) Act 1967. Damage to stocks of fish in tidal waters, to which the public has

[1] See the answer to Question 16(d) of the Belgian report.

access, may constitute a public nuisance and entail criminal proceedings by the local authority or the Attorney General. Claims under section 153 of the Merchant Shipping Act 1995 are also possible, but in most cases not very promising because courts restrict such claims to economic loss and consequential damage to the property or the person of the claimant.

In Austria and Ireland, compensation for pure economic loss is also rather restricted. The Irish reporter, however, stated that courts might award damages if the occurrence of the loss was foreseeable and of a certain significance. Lost profits of the fishing or tourism industries caused by an oil spill on the sea can be compensated under the Oil Pollution of the Sea (Civil Liability and Compensation) Act of 1988. In Austria, compensation would be available, if the claimant's right to use the river or the lake has some degree of exclusiveness comparable to a lease. Fishing rights, however, are distinct property rights and, therefore, the diminution in value of these rights or a loss of profit therefrom is compensable under tort law. Loss of profits from a fish processing plant or loss of profits from tourism facilities are qualified as indirect damage and are not recoverable. In Greece, the outfitter, or the local fishing or tourism industries, may claim damages according to the general rules of tort law or according to Article 29 of Law 1650/86 if they can show that the water pollution caused damage to property or personal injury to them. German law is more liberal. Section 22 WHG only requires that the injured party be directly affected by the altered condition of the body of water, which is already the case if the injured party uses the water itself. Thus, § 22 WHG enables claimants to gain lost profits pursuant to § 252 BGB. The same applies to fishermen or the fishing industry, if their economic interests are directly affected by the pollution of the sea through an oil spill. Lost profits of the tourism industry, however, are regarded as indirect damage and are not recoverable. Legal standing under § 823 BGB requires the claimant to show property damage. If the injured party does not own the river or the beach, lost profits due to water pollution will not be compensable under general rules of tort law. An exception will only apply if the claimant can show that his business constitutes an 'established and practised commercial operation' and that the pollution was directly intended to interfere with it. In Portugal, economic losses that are a direct consequence of water pollution, such as lost profits of fishermen and of the owners of tourism facilities, can be compensated under Articles 22 or 23 LAP and Article 483 § 2 Código Civil.

(c) Natural resource damage (Cases 16, Question (b), (c) and (e), and Case 17, Question (d))

Among all the countries analysed, only Italy and Portugal have enacted *specific legislation* for the compensation of natural resource damage. In Italy, the right to recover for natural resource damage lies exclusively with the public authority (Article 18 of Law No. 349/1986, replaced by Articles 311 *et seq.* of Legislative Decree 152/2006). Under Portuguese law, the entitlement to sue for natural resource damage also lies with the individual citizen. According to Article 48 LBA, any citizen is allowed to sue under Articles 22 or 23 LAP for remediation of ecological damage suffered by the community, either through restoration or by means of pecuniary compensation to the state. This right also applies to private environmental organisations. Restoration means to restore the lost ecological functions of the damaged good or to replace the damaged natural resource with an equivalent one in a different location. In deciding on the best method to remedy natural resource damage, the option of natural recovery must also be considered. Restoration in kind, however, is only required if its costs are in reasonable proportion to the ecological value of the damaged good. With regard to water, Article 73 DL 236/98 explicitly provides for pecuniary compensation. If the damage cannot be assessed otherwise, courts are allowed to assess the damage by equity. Relevant criteria for the assessment are the nature and the seriousness of the damage, the prospective restoration costs, and the economic profit the tortfeasor obtained by the harmful act.

In other countries, compensation for natural resource damage is not explicitly provided. In Sweden, however, case law indicates that courts will permit the Environmental Protection Agency to sue for such losses in a tort claim, based on both fault and strict liability. Damage assessments can be based on the restoration costs or are within the discretion of the court. In a case from 1995, concerning damages for the illegal hunting of two wolverines, the court based the valuation on the costs that were spent for the protection of this species.[2] In 1993, a similar case was decided in Spain. There, the Spanish Tribunal Supremo awarded an environmental organisation monetary compensation against the defendant for illegally killing a brown bear. Since the bear belonged to

[2] See the Case NJA 1995 s 249, comments in Larsson 1999, pp. 497–501.

the public, the court was of the opinion that any claimant could have sued the hunter and sought compensation. Dutch law, which allows public authorities and environmental organisations to sue, is also very generous with regard to legal standing in cases concerning environmental damage.

In all the other European countries, the right to claim compensation for natural resource damage lies primarily with the *owner* of the impaired environmental resource, be it land, water, plants or wildlife (Austria, Belgium, England, Finland, Germany, Greece, Ireland, Scotland). The owner is entitled to claim the costs incurred for the restoration of an environmental good, up to a certain limit.[3] Most jurisdictions even entitle the owner of the good to claim compensation for the costs of restoration. In the Netherlands, this can be derived from Article 6:97 Burgerlijk Wetboek. According to an explanatory memorandum of the Dutch legislature,[4] restoration of an impaired environment does not necessarily mean the creation of the exact equivalent of the impaired environment, but rather a comparable situation. For example, restoration may mean the introduction of other kinds of vegetation or animals into the impaired environment. Recovery of restoration costs, however, is limited to reasonable costs. Thus, restoration costs that disproportionately exceed the reduction in value of the damaged property are in general not recoverable.[5]

Problems arise, however, if the impaired good is not privately owned or if it cannot be restored to its original condition by adequate and reasonable measures. In cases of *irreparable damage to natural resources*, many national jurisdictions do not provide for adequate compensation (Austria, Belgium, England, Finland, Germany, Greece, the Netherlands and Scotland). According to these jurisdictions, the public interest in biodiversity cannot justify a monetary claim by an individual person. The behaviour of the tortfeasor is only subject to criminal sanctions. In England and Ireland, however, the impact of this problem is mitigated by the fact that the state is entitled to sue for damages on the basis of a public nuisance.

French law is more open and allows the courts to award nominal damages or an arbitrary lump-sum in order to compensate for ecological damage. In France, the entitlement to sue for such damages is

[3] See Part C I.1. [4] See the answer to Question 16(c) of the Dutch report.
[5] When evaluating Dutch law, it is, however, necessary to bear in mind that Dutch law follows a generous approach with regard to legal standing.

attributed to the owner of the environmental good, as well as to the manager of a nature reserve, public authorities that are in charge of the protection of biodiversity, and environmental organisations that are dedicated to the protection of the environmental good concerned. According to these principles, the Parc National des Ecrins received FF 3,000 (€450) as non-pecuniary compensation from a landowner who picked hundreds of protected thistles on parkland. In another case, the court obliged the polluter to pay one franc (€0.15) per square metre of the polluted surface of a river (34,400 m^2) to concerned environmental organisations.[6] In Belgium, courts have also awarded compensation to associations and public authorities that have a limited real or personal interest in a specific natural resource or who act as its manager. With regard to harm to unowned environment, however, associations and public authorities are denied legal standing, as they cannot show a sufficient personal interest or personal damage, as required by the Cour de cassation (Hof van cassatie). Lower courts, however, try to circumvent these restrictions by legal interpretation and grant legal standing. In most decisions, associations were awarded only nominal damages. An exception is an unpublished decision of the Cour d'Appel of Brussels of 12 March 2003 which ordered the defendant who poisoned six birds of prey to pay €18,500 to an association for the protection of birds.

In some countries, such claims will not be based on tort law, but on the law of unjust enrichment (Austria: § 1042 ABGB) or *negotiorum gestio* (Austria: §§ 1036 *et seq* ABGB; Germany: §§ 677, 683, 670 BGB; Greece: Article 730 Astikos Kodikas). With respect to compensation according to *negotiorum gestio*, the crucial issue is whether the person who conducted the restoration needed the authorisation of the tortfeasor in order to do so. This is not necessary under German law, where it is, according to § 679 BGB, sufficient that the activity was in the public interest.

In several European countries, *private organisations* that incur restoration costs have legal standing under tort law. In Portugal, this is explicitly provided by Article 48 LBA, and, in Sweden, the rules governing a class action also entitle private organisations to claim costs under the strict liability regime of Chapter 32 of the Environmental Code. In Ireland, private environmental organisations are allowed to claim clean-up costs according to section 10(1) of the Local Government (Water Pollution) Act 1977. According to the Irish reporter, it is, however,

[6] See the answer to Question 16(c) of the French report.

to be expected that courts will oblige them to demonstrate an interest in carrying out the clean-up, such as a property interest in the area damaged, as the Irish courts do not look favourably upon self-appointed environmental guardians. In the Netherlands, Article 3:305a Burgerlijk Wetboek provides that any association is entitled to sue in court in order to protect the interests it promotes according to its bylaws. This right also applies to environmental organisations, which have legal standing with regard to environmental damage that is covered by their bylaws. This right relates equally to 'owned' and 'unowned' environmental goods. Article 3:305a § 2 Burgerlijk Wetboek also requires that the association must have full legal capacity, generally acquired, when legally established by a Dutch public notary. According to Article 3:305a § 2 Burgerlijk Wetboek, however, the action may nevertheless be inadmissible when attempts to settle the case out of court have been insufficient. The right of an organisation to sue primarily covers the right to claim an injunction. The right to claim monetary compensation is, in principle, excluded by Article 3:305a § 3 Burgerlijk Wetboek. Despite this explicit restriction, the District Court of Rotterdam allowed an environmental organisation to recover its costs incurred for the protection of seabirds after an oil spill from the polluter.[7] The court was of the opinion that Article 3:305a § 3 Burgerlijk Wetboek was not applicable, since the polluter infringed not only a public right, but also an individual right of the environmental organisation, which was obliged by its bylaws to incur the relevant costs. Although other courts have followed this ruling, the Dutch reporter indicates that it is still unclear what sort of costs can be recovered by such organisations.

In Belgium, environmental organisations, the public prosecutor and certain administrative bodies are entitled to sue for an injunction in response to a violation, or the threat of a violation, of environmental law (Act on the Standing of Environmental Associations of 12 January 1993). Private citizens have the right to file an injunction in the name of their municipality, according to Article 194 of the Local Government Decree of 15 July 2005, if the municipality itself does not protect its own interests. Damages claims, however, still require proof of individual damage. Thus, environmental organisations, private citizens, the state and other public authorities are not eligible for damages if they have no personal interest in the land. This also applies to damage to unowned

[7] See the answer to Case 16 Question (b) of the Dutch report; *Borcea* case, Rb. Rotterdam 15 March 1991, (1992) 23 NYIL 513, TMA 1992, 27 note by Van Maanen.

environmental goods. Environmental organisations, or the state, cannot act as trustee of common natural resources. Despite this strict interpretation by the Cour de cassation (Hof van cassatie) in the decision of 19 November 1982,[8] there is, nevertheless, a tendency among the courts to allow environmental associations to sue for damages if 'unowned' environmental goods are harmed. According to the Belgian reporter, there is a limited but growing number of cases in which environmental associations were awarded non-pecuniary damages for the harm to 'unowned' natural resources. Some courts have even derived legal standing for individual citizens from the common right to use common parts of the environment, according to Article 714 Burgerlijk Wetboek, which defines *res nullius* and *res communes* as things which belong to nobody, but which can be used by everybody. This reasoning was successful in a number of cases, mainly involving injunctive relief. In a few cases, lower courts have awarded nominal damages as well. This restrictive interpretation of legal standing does not apply to the compensation of restoration costs. Reasonable restoration costs can be awarded if the measures are carried out by a person who is entitled to do so. Restorative actions that violate the interests of the owner are not compensable. Thus, agencies entrusted with water quality management have been compensated for the expense of restocking a polluted river with fish.[9] Several lower courts have already compensated environmental organisations for the costs incurred in the treatment of injured birds, or, for example, in a case concerning the poaching of a protected animal, the costs for the maintenance of such animals in a nature reserve.[10] Compensation of such costs, however, can only be obtained where the organisation did not intend to bear the loss permanently. With regard to the protection of the marine environment, Article 37 § 5 of the Act of 20 January 1999 on the Protection of the Marine Environment explicitly grants the right to claim compensation for restorative measures to any person who took such measures. Finally, despite a lively scholarly debate on this issue, Spanish law does not grant environmental organisations legal standing, unless they can show individual damage.

[8] See the answer to Question 16(c) of the Belgian report; Arr. Cass., 1982–3, No. 172.
[9] See the answer to Question 16(c) of the Belgian report.
[10] See the answer to Question 16(b) of the Belgian report.

2. *Conclusions*

The comparative overview shows clearly that, in all European countries, remediation costs for water pollution are covered by tort law. This includes fault-based liability and recovery according to the laws of the neighbourhood, or nuisance in the common law countries. Many national strict liability rules also include damage to water. Strict liability rules for motor accidents, as provided by several countries (Austria, Germany, Greece, Portugal and Spain), also cover water pollution damage caused by motor vehicles. In Sweden, the compulsory no-fault insurance scheme of the Traffic Accident Act, which covers harm caused by domestic road accidents, also applies to water damage. In addition, many countries provide for specific rules governing the remediation of water pollution. The applicable legal devices provided by the states, however, vary considerably. They range from civil liability rules to clean-up obligations provided by public law.

Fundamental differences also exist with regard to compensation for economic loss of a private person caused by the pollution of a public water resource. While Austria, England, Greece, Ireland and Scotland rather deny compensation for such 'pure economic loss', Belgium, France, the Netherlands and Spain grant such claimants legal standing and provide for the compensation of pecuniary and even non-pecuniary damage. In other countries, such loss is compensable under specific conditions or under specific liability regimes (Finland, Sweden: environmental liability statutes; Germany: § 22 WHG; Portugal: LAP). In many countries, special provisions apply for the loss suffered by fishermen due to pollution, especially in the case of oil pollution.

Specific legislation on *natural resource damage* used to be rather rare in Europe. With the implementation of the 2004 Environmental Liability Directive into the national laws this will substantially change. In the 'pre-directive' times, among all the countries analysed, only Italy and (in a very comprehensive manner) Portugal provided specific legislation for the compensation of natural resource damage. In Belgian law, the Act on the Protection of the Marine Environment explicitly also covers the impairment of the environment.

In several countries (Belgium, France, Spain and Sweden), case law regarding protected species shows that courts are ready to grant public authorities, or private persons and organisations that have a qualified interest in the damaged natural resource, legal standing for a damages claim. Dutch law is also rather generous with regard to legal standing in cases concerning environmental damage.

In all the other European countries, the right to claim compensation for natural resource damage under private law lies primarily with the *owner* of the impaired environmental resource, be it land, water, plants or wildlife (Austria, Belgium, England, Finland, Germany, Greece, Ireland, Scotland). The owner is entitled to claim the costs incurred for the restoration of an environmental good, including compensatory restoration. Problems arise, however, if the impaired good is not privately owned or if it cannot be restored to its original condition by adequate and reasonable measures.

In some countries (Austria, Germany, Greece), the entitlement to claim incurred remediation costs may also be derived from the law of unjust enrichment or *negotiorum gestio*.

Fundamental differences exist with regard to the legal standing of private organisations. Only a few countries (Belgium, Portugal and Sweden) allow private organisations to claim for incurred costs under tort law. Under Dutch law, which explicitly provides only for a right to claim an injunction, courts are ready to grant cost recovery, if the organisation can show a sufficient individual interest in the resource. In Ireland, private environmental organisations are allowed to claim cleanup costs according to section 10(1) of the Local Government (Water Pollution) Act 1977.

Discussions

Austria

This hypothetical situation will not occur in a landlocked country such as Austria. Therefore, the relevant legal problems will be discussed using the example that a ship causes oil pollution in a lake.

Question (a)

The obligation to take clean-up measures lies with the driver and operator of the ship and with public authorities according to § 31 WRG.[11]

Private organisations do not have a right to compel *A* or the public authority to undertake clean-up measures. Moreover, if such private organisations intend to undertake clean-up measures themselves, they need the consent of the owner of the beach to enter the beach area. Most of the beaches in Austria are private property, and Austrian law does not

[11] For further details, see the answer to Question 16(a).

provide a general right of public access to beaches. Similarly, private organisations will not be able to carry out clean-up measures against the will of the public authority. Even if there is public access to a beach, the public authority may close the beach in order to ensure public safety and the proper undertaking of the clean-up operation.

Question (b)

Private organisations are not generally entitled to claim damages in tort to recover their expenses for clean-up. However, based on the obligation imposed by § 31 WRG, requiring the polluter to take all the measures necessary to prevent and minimise water pollution, private organisations should be able to recover their expenses under § 1042 ABGB. Another legal basis for the possible compensation of expenses is *negotiorum gestio* provided by §§ 1036 *et seq*. ABGB.

Question (c)

Fishing rights are distinct property rights.[12] Thus, the diminution in value of a fishing right and the loss of profits suffered by fishermen is compensable under tort law. Loss of profits of a fish processing plant and even loss of profits for tourism facilities will be deemed 'consequential' damage, and not recoverable.

Question (d)

The situation of a polluted lake is rather different from the pollution of sea water, as lakes are owned either by a private person or by the state. The owner of the lake, therefore, may claim compensation for the clean-up costs and, if total clean-up is not possible, will also have the possibility of claiming monetary damages for the diminution of market value. Monetary recovery of mere ecological value of the water and the wildlife is not legally granted.

Belgium

Question (a)

City governments have the responsibility to take clean-up measures with the assistance of fire brigades and civil protection services. In the event of a major incident, the provincial government or the ministry of the interior will coordinate operations.

[12] Spielbüchler, in Rummel, ABGB I^3 § 383 n. 4; Klicka, in Schwimann and Verschraegen (eds.), *ABGB* II^3 § 383 n. 4.

Private organisations are allowed to assist the authorities, such as by cleaning a beach or by rescuing and treating seabirds. Should there be a conflict concerning procedure, the local authorities may issue police regulations.

As indicated before, private organisations are generally allowed to bring legal action to recover expenses they have made at the occasion of a remediation or rescue operation, provided their intervention was reasonable.

Question (b)

Belgium has ratified the Civil Liability Convention (CLC) and the 1992 Protocol.[13] Thus, clean-up costs are recoverable under Article 6(a) of the Convention, which defines 'pollution damage' as 'loss or damage outside the ship by contamination resulting from the escape or discharge of oil from the ship . . . provided that compensation for the impairment of the environment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken'. It includes 'the costs of preventive measures and further loss or damage caused by preventive measures'.

It is not relevant who took the reasonable clean-up measures; public authorities as well as private persons may recover.[14]

Question (c)

If these industries can establish the causal link, they may recover their losses (see above). One should also look to the International Oil Pollution Convention Fund that distinguishes between (i) claimants who sell their goods directly to tourists and whose business is directly affected by a reduction in visitors to the area affected by the spill and (ii) those who provide goods or services to other businesses in the tourist industry, though not directly to tourists. Claimants of the second type will normally not have standing to sue for economic damages.[15]

Question (d)

Under the CLC convention, ecological damage, as such, is not compensable. As indicated above, compensation for impairment of the environment is limited to the cost of remediation measures actually undertaken or to be undertaken. The International Oil Pullution

[13] Act of 20 July 1976, as amended. [14] Carette, *Herstel van en vergoeding*, 257.
[15] IOPCF, *Claims Manual*, June 2000, 22.

Compensation Fund (IOPCF), in fact, specifically rejects assessment of compensation by abstract quantification of damage according to theoretical models.[16]

The Belgian Act of 20 January 1999 for the protection of the marine environment under Belgian jurisdiction[17] should is relevant here. The Act provides for the prevention and remediation of the marine environment in the Belgian territorial sea, the continental shelf and the exclusive economic zone. With respect to liability, it distinguishes between 'damage' (which corresponds to traditional personal damage) and 'impairment of the environment' (effects on the environment not within the definition of 'damage'). The Act imposes strict liability on polluters. Restoration *in natura* is the favoured remedy, but, in the event of impairment of the environment, monetary compensation (in the absence of clear indication in the text to the contrary) does not seem to be excluded. No indication is given, however, on how to assess the damages. Further rules may be forthcoming by regulation; but the current absence thereof should not prevent the judge from granting monetary compensation.[18] Notwithstanding its relevance, the Belgian Act on the protection of the marine environment will not be applied in the event of pollution of the sea by oil, due to the exclusive character of the CLC and IOPCF conventions.[19]

England

Question (a)

As mentioned in Question16(a), *A* would have to pay for the clean-up costs if he was negligent, and private organisations would not have standing to bring a legal action at common law. The government is considering developing a form of representative action, but the issue will be which claims such representative bodies would have the right to seek.

Sections 153 and 154 of the Merchant Shipping Act 1995 impose strict liability on owners of ships for any damage caused in the territory of the

[16] *Ibid*., 26.

[17] See, generally, P. De Smedt, 'Aansprakelijkstelling voor en herstel van schade door de aantasting van het mariene leefmilieu: beroerde baren van de vergramde Neptunus', TPR, 2002–2, 1067.

[18] See *ibid*.

[19] Article III, para. 4, first sentence, CLC provides that no claim for compensation for pollution damage may be made against the owner of the tanker otherwise than in accordance with this convention.

United Kingdom by contamination resulting from the discharge of oil from tankers and other ships. Liability is strict, but not absolute, and sections 155 and 155A exclude damage wholly resulting from acts of war and other hostilities, the acts of third parties, and negligent acts of governments. There are financial limits on liability upon any individual vessel owner, depending on the tonnage of the vessel concerned. Any additional losses are made up by a claim against the International Oil Pollution Compensation Fund.

Actions may be brought under these provisions by any person who has suffered damage. As well as compensating for property damage or personal injury suffered by individuals, *A* will also be required to meet the reasonable costs of any remedial action undertaken and the costs of any damage caused by that remedial action.

Question (b)

As mentioned in the answer to Question 15(c), there are several problems regarding claims by public authorities and private organisations seeking to recover clean-up costs. However, if the entities bill the persons whose land was affected, then these remediation costs should be recoverable by those entities.

Defendant *A* may also be liable under the Merchant Shipping Act 1995: see (a) above.

Question (c)

I. Common law

Economic losses consequent upon physical harm are recoverable (see the answer to Question 16(d)). The issue would turn on whether these damages were too remote. This would be less of a problem for the fishermen where the impact could be viewed as fairly direct; on the other hand, the losses to the tourism industry may be more difficult to relate directly to the spill.

There is also a common law right to fish in tidal waters. An act which damages stocks of fish in such waters (to which the public has access) may constitute a public nuisance.[20] However, it would be difficult for an individual fisherman to show the special damage necessary to bring a claim for damages in public nuisance.

Fishermen can be granted exclusive rights to fish on certain shellfish beds, under section 2 of the Sea Fisheries (Shellfish) Act 1967. According

[20] *Jan de Nul (UK) Ltd* v. *NV Royale Belge* [2000] 2 Lloyd's Rep 700 (721).

to section 7(2) of this Act, these fishermen are regarded as the owners of the shellfish on these beds. If the shellfish or the shellfish beds have been damaged by the pollution, the fishermen might have a claim in negligence or nuisance.

II. Statute law

There may also be liability under the Merchant Shipping Act 1995. The wording of section 153 refers to 'any damage', and it has been held in *Landcatch International Ltd* v. *International Oil Pollution Compensation Fund* (an action based on similar wording in the Merchant Shipping Act 1971) that the damage contemplated does not preclude a claim for economic loss.[21] However, the courts made it clear that they would not be willing to entertain a case for pure economic loss, which is not consequent to damage to the property or the person of the claimant. Thus, many of the claims made under the Merchant Shipping Act 1971, following the *Braer* oil pollution incident, failed because the claimants had not suffered damage to any property interest, and the court held that the losses were too remote, being attributable to adverse publicity rather than to the actual oil pollution.[22] It is unlikely that fishermen or hoteliers would succeed in a claim in these circumstances.

Defendant *A* would be liable for the remedial operations to clean oil pollution at sea, subject to the financial limits imposed by the size of the vessel (see (a)). If an argument arose over whether the costs claimed were 'reasonable', the matter would be resolved by litigation in the civil courts.

Question (d)

Defendant *A* would not be liable because there is no owner of the sea water. Moreover, it would be difficult to determine what damage was actually suffered, and the cost of clean-up.

Finland

Question (a)

Defendant *A* has strict liability in this case and is obliged to take clean-up measures or to pay the costs of undertaking them. Private organisations are not entitled to take legal action against *A*, generally.

[21] *Landcatch International Ltd* v. *International Oil Pollution Compensation Fund* [1999] 2 Lloyd's Rep 316.

[22] See *Skerries Salmon Ltd* v. *Braer Corporation*, 1999 SLT 1196; *P&O Ferries* v. *Braer Corporation* [1999] 2 Lloyd's Rep 535.

Question (b)

Yes; as noted above, the obligation is upon *A*, and he will have to pay, as private organisations may not undertake clean-up measures.

Question (c)

Yes, loss of profit loss caused by oil damage is compensable.

Question (d)

Defendant *A* will be liable. However, only pecuniary losses (such as the loss of profit to fishing industry) can be compensated, not pure ecological damages. Public authorities may also claim compensation for remediation costs.

France

Question (a)

Taking clean-up measures is a duty of public authorities.[23] Private organisations may be allowed to assist the authorities (cleaning a beach, treating affected seabirds, etc.), if their intervention is considered reasonable, and they may bring legal actions to recover their expenses by suing *A* before a specialised court.[24]

Question (b)

France has ratified the 1969 Brussels Convention on Civil Liability and its 1992 Protocol.[25] According to Article 6(b) of the Convention, *A* should compensate the impairment of the environment, such as the costs of

[23] The state acts through the *préfet maritime* (an admiral in charge of policing the EEZ, territorial waters and the coast) who coordinates the actions on the territory of the *préfet(s)* of the affected *département(s)*; local authorities have a subsidiary role.

[24] Decree No. 2002-196 of 11 February 2002 establishes the following courts as specialised courts for marine pollution: TGI of Le Havre for pollution in French territorial waters and the EEZ of the Channel and the Northern Sea, TGI of Brest for pollution in French territorial waters and the EEZ in the Atlantic Ocean, TGI of Marseilles for pollution in French territorial waters, the EEZ and special protection zones of the Mediterranean Sea, TGI of Fort-de-France for pollution in French territorial waters and the EEZ of the French West Indies, TGI of Saint-Denis-de-la-Réunion for pollution in French territorial waters and the EEZ of the Indian Ocean, the Tribunal de première instance of Saint-Pierre-et-Miquelon for pollution in French territorial waters and the EEZ of Saint-Pierre-et-Miquelon, and TGI of Paris for pollution in the EEZ of French Guyana, French Polynesia and New Caledonia, as well as in high sea (in this case, only the owners of French vessels may be sued).

[25] Respectively by Law No. 71-1148 of 16 December 1971 and Decree No. 75-553 of 26 June 1975, and by Law No. 94-478 of 10 June 1994 and Decree No. 96-718 of 7 August 1996.

(reasonable) clean-up measures and preventive measures to avoid or limit further damage, regardless of who carried out those measures.

Question (c)

Yes, if these industries can establish the causal link between the oil spill and the *damnum emergens* or the *lucrum cessans*, they will recover. In the case of accidental pollution, *A* is nevertheless strictly liable if *A* is the real ship manager or the company that exerts real command and control over the ship (the real custodian, not a 'single ship company' located in a tax haven).[26] Victims may claim compensation from *A's* insurance company.[27] If victims do not have to prove that there was fault, however, they will obtain only a partial compensation because limitation of liability is a general principle of maritime law. Victims may also benefit from compensation from the International Oil Pollution Compensation Fund, but here also there is a limitation of the amount of compensation[28] (for example, victims of the *Erika* only received 15 per cent of their stated claims).

In the case where *Montedison Co.* (a land-based industrial plant) spilled 'red mud' in the Mediterranean Sea along the Corsican coast, the local fishing industry was compensated for economic loss caused by a diminution of fish populations, and the local authorities were compensated for economic loss from the decline in tourist numbers (less tourists means less taxes).[29] Note also that, in the *Amoco Cadiz*

[26] In the *Franck* case (*Recueil Dalloz*, critique, 1941, p. 485), the Cass. considered that the custodian of the ship was the *armateur*, but this word is not a legal term (English translations are 'shipowner' and 'ship's manager') but a maritime term. Therefore, French case law considers that the custodian is the person who exerts command and control over the ship, i.e. sometimes the shipowner, other times the ship's manager, and, even in a few cases the charterer. It could be quite difficult to determine who is the real custodian: in the *Tanio* case there were two naked-hull charterers, a charterparty, an undertaking responsible for the equipment, another one for maintenance, and a subcontractor for technical management: see Chao Wu, *La pollution du fait du transport maritime des hydrocarbures* (Pédone, 1994), p. 66, n. 109.

[27] Insurance for tankers is compulsory under the Civil Liability Convention.

[28] IOPC Fund capacity is limited to €200 million; see Christian Buchet, *Les voyous de la mer* (Ramsay, 2003), p. 133; see also Alain Piquemal, 'L'indemnisation des dommages écologiques par le FIPOL', *Espaces et resources maritimes*, vol. XIV, 2001, p. 123. At a recent diplomatic conference, France and other European Union members urged IOPC Fund to increase its reimbursement capacity to €620 million from 1 November 2003.

[29] TGI, Bastia, 8 December 1976, *Dalloz*, 1977, J., p. 427; Cass., civ. II, 3 April 1978, *Revue juridique de l'environnement*, 1979, p. 20; J. Littman-Martin and C. Lambrechts, 'La spécificité du dommage écologique', in SFDE, *Le dommage écologique en droit interne, communautaire & comparé* (Economica, 1992), p. 63.

case,[30] Justice McGarr of the seventh Circuit Court applied French rules of civil liability to compensate French victims (mainly local authorities, but also the Ministry of Youth, Sports and Leisure subrogating individuals).[31]

Question (d)

Generally, see the principles above. Victims could be members of the fishing industry, or mussel or oyster breeders, because they will suffer economic loss from the contamination of water (unmarketable products), but also may include persons living from tourism income, if they show that they will suffer economic loss. Local authorities or the state may also claim compensation for decontamination or prevention measures.

Note that, in case of voluntary pollution, the master is liable, but the ship owner could also be liable, given that the master cannot be considered the 'custodian' of the ship.[32] French courts generally order the owner to pay 75–80 per cent of the fine (according to the present wording of Article L.218-10 of the Code de l'environnement, it could be up to € 1 million, a sum equal to the value of the vessel, or a sum up to four times the value of the cargo[33]). The master could also be sentenced to ten years' imprisonment if he is a French national (foreign masters avoid such penalties by virtue of Article 230 of the United Nations Convention on the Law of the Sea[34]).

Germany

Question (a)

The obligation of remediation applies against both the polluter and public safety authorities who are generally responsible for ensuring public safety. If a private beach is damaged, it is also possible that the owner be held liable by the public authorities to repair the damage, particularly if the actual polluter cannot be discovered quickly and it is

[30] 954 F 2d 1279, *Matter of Oil Spill by the Amoco Cadiz* (7th Cir. 1992).
[31] See Chao Wu, *La pollution*, p. 391.
[32] CA Paris, *Champolion*, 4 July 1956, *Dalloz*, 1956, p. 688.
[33] Article 30 of the Law No. 2004-204 of 9 March 2004 adapting the justice to new criminality ('loi portant adaptation de la justice aux évolutions de la criminalité') has recently modified the Code de l'environnement to deter wilful pollution.
[34] Art. L.218-10-I of the Code de l'environnement.

necessary to take action immediately (Article 7(3) BayLStVG (Bavarian Penal and Regulation Code)).[35]

Private organisations can also undertake repair of the damage under the conditions of *negotiorum gestio*.

For claims under USchadG, the question for private organisations is answered (as in Case 16) pursuant to § 10 USchadG.

Question (b)

The authorities carrying out safety/mitigating measures can claim the necessary costs from *A* on the basis of a public-law compensatory claim or compensatory claim under the public order and administrative powers of the Länder (states)[36] (in Bavaria: Article 7(3) BayLStVG and by analogy to Article 9(2) BayPAG (Bavarian Police Duty Code)).[37]

As noted, private organisations are entitled to claim compensation under conditions of *negotiorum gestio* pursuant to §§ 677, 683, 670 BGB.

There is environmental damage pursuant to § 2 No. 1 (b) USchadG in conjunction with § 22a WHG. Assuming that the preconditions of § 3(1) No. 1 USchadG in conjunction with Appendix 1 No. 8 are satisfied, A must bear the costs of the public authorities. For private organisations, the question is answered (as in Case 16) pursuant to § 10 USchadG.

Question (c)

Fishing industry

I. A violation of a legal interest must be present for a claim under § 823(1) BGB. In this case, if the fishing industry can no longer use its plant (within the meaning of § 903 BGB), there may be an infringement of property rights for § 823(1) purposes. However, here, the physical property is not directly affected, but rather the potential for commercial use, so that no property infringement is present. Another absolute right could be affected, however, the right to fish in the body of water which is enforceable against anyone who infringes the right. Ultimately, however, *A* has not arguably reduced the scope of this fishing right and has not affected the entitlement itself. Finally, there may be an interference with the legal interest of commercial operation. However, the interference needs to be intentional, and specifically aimed against this operation. Such an intentional interference is not apparent from the facts here, given that a number of operations could

[35] 13.12.1982, BayRS 2011-2-I.
[36] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 31.
[37] 14.9.1990, BayRS 2012-1-1-I.

be affected by the spill, and the effect on the actual operation concerned is accidental, occurring because of geographic location rather than intentional targeting by *A*. Thus, a claim under § 823(1) BGB will fail.

II. Since the oil entered the water by accident, there is no introduction or discharge according to § 22(1) WHG; therefore, § 22(2) WHG, which does not require the introduction or discharge, will apply. Under this provision, a ship constitutes an installation because it may be moveable or stationary, in contrast to the UmweltHG's definition of an installation.[38] Clearly, here, a tanker ship, intended for the transport of oil, a substance which has the propensity to change the properties of the water, is an 'installation'. Thus, the damage to the fishing industry (loss of profit from the sale of the catch) will be compensable,[39] falling within the protective ambit of legal norms.

Tourist facilities

Assuming there is no direct use of the body of water by the industry, only a claim under § 22(2) sentence 1 WHG will apply. The issue is whether the damage, caused in a way governed by the provision, still falls within the protective ambit of legal norms of compensable damage. An adverse effect on the claimant, based on a change in the condition of the water, is required for recovery. Here, the damage first occurred because tourists would not visit due to the water's contamination. The direct cause is, thus, the absence of the tourists. Since the change in the water quality has only an indirect effect on the operation itself, the effect is no longer within the range contemplated by the legislative purpose of the legal norm.[40] The claim ultimately fails.

Question (d)

Several theories for recovery may be contemplated here, but few will be potentially successful. A compensatory claim pursuant to § 906(2) sentence 2 BGB appears applicable. It requires, however, an impact on one property (land) from another property. No such impact exists here, and the claim fails. Moreover, persons whose absolute legal interests are violated by the pollution could demand removal of the pollution by a claim analogous to § 1004 BGB. Once again, however, the infringement simply does not exist here, based on the facts.

Only a claim under § 22(2) sentence 1 WHG could be relied on for compensation of the (ecological) damage caused by the contamination. Since the tanker is an installation within the meaning of § 22(2)

[38] Czychowski, *Wasserhaushaltsgesetz* § 22 n. 43. [39] *Ibid.*, § 22 n. 22. [40] *Ibid.*, § 22 n. 22.

sentence 1 WHG, anyone who sustains damage from infringement of the direct use of the water may claim damages. Finally, a compensatory claim by public authorities is conceivable (see (b) above), as they have a duty to maintain public safety. Compensation is based on the actual expense incurred in removing the pollution.

A must bear the costs pursuant to § 9(1) USchadG. Private organisations only have the right under § 10 USchadG.

Greece

Question (a)

The 1969 Brussels Convention on civil liability for damages from oil pollution has introduced strict liability for the ship-owner, and has been enacted in Greece by Law 314/1976. So, if *A* is not only the keeper, but also the ship-owner, he is obliged to pay damages and undertake clean-up measures. If *A* is only the keeper, and only if he is at fault, will he be responsible *in solido* with the ship-owner for remediation. The keeper's responsibility is based on fault (Law 743/1977), while the ship-owner will be strictly liable, according to the 1969 Brussels Convention.[41]

There is no provision in Greek law giving private organisations the right to bring a legal action and/or to undertake clean-up measures.

Question (b)

As mentioned above, Law 314/1976 (Article 1) introduces strict liability on the ship-owner, who must restore (*in natura* compensation) the sea and shore to its condition prior to the oil spill. If *A* is the ship-owner, but does not undertake remediation measures, the public authorities must carry out the measures at *A's* expense. Public authorities will have recourse to the provisions of *negotiorum gestio* (Articles 730 *et seq*. AK) or unjust enrichment (Articles 904 *et seq*. AK) in order to be reimbursed for costs.

Question (c)

As mentioned in the answers to Case 16, damage is compensable from the moment contamination of the environment entails damage to traditional legal goods, such as life, ownership, etc. Consequently, the local

[41] All provisions of Law 743/1977 contrary to the provisions of Law 314/1976 have been superseded by the latter, as Law 314/1976 originates from an international convention (see Article 28 of the Greek Constitution; P. Filios, II, § 205 C, pp. 502–3; and I. Karakostas, *Perivallon kai Dikaio*, p. 355).

fishing industry and tourism facilities have a right to claim damages from *A* for the loss of profits they have sustained, according to Articles 914 *et seq*. AK and Article 29 of Law 1650/86.

Question (d)

If *A* is the ship-owner, he is also strictly liable for contamination of the sea. He may be exempt from liability if he proves that the contamination is due to a *force majeure*, to an intentional act or omission of a third person, etc. (in other words, one of the reasons set out in Article III(2) of the Brussels Convention). Again, if *A* is only the keeper of the ship, he will be liable only if he has acted with fault according to Law 743/1977.

Everyone who makes use of the sea may claim damages according to Articles 57 *et seq*. AK. The contamination of the sea, as ecological damage, however, cannot be evaluated, so a court considers only the damage suffered to life, property etc.

Ireland

Question (a)

Only the owner of land is entitled to take any actions on the land. In Ireland, all land between the high water and low water marks belongs to the state. Above the high water mark, land may be privately owned. In practice, however, a popular beach will probably be publicly owned and the local authority will be responsible for it. Thus, there are likely to be two owners in this case: the state and the local authority. The state will exercise its powers through the Minister for the Marine, while the local authority will exercise its own powers. The local authority may be obliged to take steps to clean up a health hazard under the Public Health (Ireland) Act 1878. There is no such express obligation on the state to take any action.

The local authority is entitled under section 13 of the Local Government (Water Pollution) Act 1977 (as amended), to take steps to remove polluting matter from waters within its functional area and to remedy and mitigate the polluting effects within its functional area or any seashore adjoining its functional area. Thus, where oil is discharged to the sea and pollutes either above or below the high water mark (the boundary of the authority's 'functional area') the authority has the right to take remedial action. Section 13(2) entitles the authority to recover the costs from the liable parties as an ordinary contract debt.

A private organisation which has no property in the area would not be entitled to take remedial action, unless the local authority contracted with it to do so. A private organisation which does have property in the area, such as the owner of a fish farm or a boat, could take remedial action and also subsequently could claim damages and the cost of the remedial action.

Question (b)

Liability is covered by the Oil Pollution of the Sea (Civil Liability and Compensation) Act 1988. The Act gives effect to the International Convention on Civil Liability for Oil Pollution Damage 1969, and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 (which shall be referred to as the Liability Convention and Fund Convention, respectively).

Under section 7 of the 1988 Act, the owner of a ship carrying a cargo of oil in bulk is strictly liable for all damage occurring within the state. Liability exists even if the ship was outside the state's waters at the time of the accident. Where two ships cause damage, they are jointly and severally liable. All other rules of liability, including rules of liability in tort or under statute, are inapplicable. Only the owner is liable, not the owner's servants or agents, so the captain and crew of the ship are exempt. However, the Act does not affect any right the owner might have to claim damages against a third party.

There are a number of exceptions to liability set out in section 8. Liability is excluded if damage was caused by an act of war, hostilities, civil war or insurrection. A natural phenomenon of an exceptional, inevitable and irresistible character (whether this would cover an exceptionally severe storm is unclear) is also a defence. Liability is excluded if the damage was caused intentionally by a person other than the servant or agent of the owner. Finally, liability is excluded if the damage was due wholly to the wrongful act of a public body responsible for navigational aids, such as lighthouses and buoys.

The owner of the ship may limit liability for any one discharge if the discharge occurred without his or her actual fault or privity. A cap on liability is set at 133 'units of account'[42] per ton of the ship's tonnage (section 10). If this calculation would result in a figure greater than 14

[42] A 'unit of account' is defined as a 'unit of account of Special Drawing Rights of the International Monetary Fund'.

million units of account, liability can be capped at 14 million by applying to the court hearing the case to limit the liability. In Ireland, the relevant court is generally the High Court, and the Court must limit liability if there is no fault or privity. When the Court limits liability, it orders the payment into court of the limited amount. It then disburses the amount paid to the various claimants in proportion to the damage suffered by each. Where any other person who may be liable under any other legal provision has taken steps to minimise or prevent pollution, that person can also recover against the ship-owner (section 12).

Under the Fund Convention, money is paid into a fund to provide additional compensation to those who suffer damage as a result of oil spills. The people liable to pay into the fund in Ireland are set out in domestic regulations, but the Fund itself is international. The fund may be called on where liability does not arise under section 7. It may also be called on where a claimant has been unable to recover from the ship-owner, or where the ship-owner's liability has been limited by court order. However, there is no liability where the claimant suffered the damage either wholly or partly as a result of his or her own negligence or malice.

The Fund also indemnifies the ship-owner for approximately a quarter of the liability incurred provided there was no wilful misconduct or breach by the owner (through actual fault or privity) of any relevant international convention relating to safety at sea or marine pollution.

Thus, here *A* is theoretically liable for the damage suffered by other parties, including the clean-up costs incurred by them. However, a private organisation which has suffered no damage cannot recover for clean-up costs voluntarily undertaken, where the private organisation would not otherwise have been liable therefor (see section 12(7)).

Question (c)

There is nothing in the Act which would appear to exclude recovery of damages for lost profits, and there is no reason to extend any tort rule which might exclude liability for such damage. Moreover, the definition of pollution damage in Section 3 is sufficiently broad to include pure economic loss.

Question (d)

Defendant *A* is liable for all pollution damage. The state may claim for the contamination damage, particularly for the cost of cleaning it up and rescuing injured animals and flora. Fishermen whose livelihood is

also affected, for instance, by the pollution of shellfish beds, might also be able to claim their damages.

Damage is evaluated by the High Court. It is presumed that the court will apply the usual rules for calculation of damages and allow recovery for the value of any damage which a claimant can prove he or she suffered.

Italy

Question (a)

A special statute in Italy establishes rules relating to this case. Law 225 of 24 February 1992 creates the new National Service for the civil protection of the nation, and establishes the duties of the Department of Civil Protection. Where an oil spill affects beaches and animals, the Department of Civil Protection will be responsible for taking immediate clean-up measures. The party responsible for the leak (the owner of the ship and the captain of the ship under joint liability, according to the UN Convention on the Law of the Sea) would then be responsible for damages, including clean-up costs. Private organisations are not entitled to bring legal action and/or to undertake clean-up measures, according to Italian legislation.

Question (b)

Yes. See under (a) above concerning *A's* cost liability.

Question (c)

Yes, on the basis of Article 2043, as interpreted by the courts.[43] Damages for pure economic loss are conditioned upon the existence of negligence.

Question (d)

If the contaminated sea is a 'national' sea, that is, if the polluted waters are considered Italian according to international rules, the statute of 1986 will apply. If, on the other hand, the polluted sea cannot be considered Italian under the *principle of extraterritoriality*, then the relevant international conventions will apply to determine liability, damages and the rights to compensation.

[43] See again Monateri, *Le fonti delle obbligazioni*., p. 574, with further references to case law.

The Netherlands

Question (a)

Generally, the person who is responsible for the unlawful act that causes the damage will be obliged to pay for the remediation measures. The damages may simply be the objectively computed costs of restoration ('restoration cost method'), but, if they exceed the reduced value of the damaged property, the restoration costs are only recoverable under certain circumstances.[44]

The landmark *Nieuwe Meer* decision by the Hoge Raad in 1986 granted private organisations standing to bring tort actions to protect the interests stated in their articles of association.[45] The Hoge Raad held, *inter alia*, that: 'the point of departure must be that the mere description of the purpose of a legal person does not entitle it to institute proceedings before a civil court relating to harmful effects to the interests which – according to its purpose – the legal person is promoting,[46] but exceptions are conceivable. The case at hand constitutes such an exception.'[47] The fact that the interests involved ('unpolluted, sustainable environment') were suitable for aggregation and that legal action to prohibit the particular polluting activity was an efficient method of legal protection for a large group of citizen made this action a suitable exception.[48] Following this decision, a private organisation does not have to suffer specific, material damage to its interests beyond general harm being done to the environment in order to be granted standing to sue under the general tort Article 6:162 BW.[49] Moreover, in the subsequent *Kuunders* case,[50] the Hoge Raad decided that any breach of a norm, which purports to protect the environment, constitutes a tort against environmental organisations and entitles them to sue for an injunction. It was also confirmed that the plaintiff's right to sue is justified solely on the grounds of combining the diffuse ecological interests of citizens in pursuit of legal protection.[51]

[44] HR 1 July 1993, RvdW 1993, 158 and HR 7 May 2004, RvdW 2004, 71 (see also the answer to Question 2(a)).
[45] HR 27 June 1986, NJ 1987, 743.
[46] See also HR 11 December 1987, NJ 1990, 73 (Staat/VEA).
[47] Cited from Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 309.
[48] Brans, 'Liability for Damage to Public Natural Resources' (2001), p. 41.
[49] Betlem, *Civil Liability for Transfrontier Pollution* (1993), p. 312.
[50] HR 18 December 1992, NJ 1994, 139.
[51] Betlem, 'Standing for Ecosystems – Going Dutch' (1995), p. 161.

The direct approach in the *Kuunders* case has been codified and extended to collective actions in general and can now be found under Article 3:305a BW. This codification entitles private organisations to bring legal actions as long as these organisations meet certain conditions. The most relevant conditions are (i) that only associations with full legal capacity (legally established by a Dutch public notary) have the right to sue (Article 3:305a(1) BW); (ii) that the action can be held inadmissible if there have not been sufficient attempts to settle the case out of court (subsection 2); and (iii) that collective actions for financial damages are inadmissible (subsection 3).

Question (b)

As already discussed in the answers to Questions 16(a) and (b), case law shows that *A* can be held liable for the costs of clean-up measures undertaken by public authorities.[52] This also applies to the costs of certain clean-up measures undertaken by private organisations. Our hypothetical case of the oil spill that causes damage to sea birds and mammals has many similarities with the facts of the *Borcea* case mentioned above.[53] In the *Borcea* case, however, the claim by the Dutch Society for the Protection of Birds was only for consequential losses; the owner of the Romanian bulk carrier was held liable only for the costs of cleaning the surviving birds and not for the birds that had already died as a result of the spill. It can be deduced from the case that compensation for remediation costs incurred by *A* will depend on the private organisation's interests as set out in its articles of association.

Question (c)

The pure economic losses to the fishing and tourism industries fall under the category of pecuniary loss, which is compensable under Article 6:95 BW. The answers to Questions 15(d) and 16(d), however, note that remoteness of damage is a relevant issue.[54] Pure economic losses are to be compensated as long as they can be considered first or second degree damage. Third or more remote damage is not compensable. As already concluded previously, the losses contemplated here are second degree economic losses and therefore compensable (by *A*).

[52] HR 24 April 1992, NJ 1993, 643, HR 30 September 1994, NJ 1996, 196.
[53] Rb. Rotterdam, 15 March 1991 (1992) 23 NYIL 513 (*Borcea I*); NJ 1992, 91, see the answer to Question 16(b).
[54] HR 1 July 1977, NJ 1978, 84 (Van Hees/Esbeek).

Compensation is not available for the destruction of fish or the polluted beach area, but rather for individual losses (i.e. loss of earning capacity). Again, any monetary compensation received for economic losses need not be used to restore the polluted natural resources.

Question (d)

To put this question in a legal context, it is first necessary to determine what kind of damage oil-contaminated sea water is. Note that objects that cannot be exclusively appropriated due to their size, ubiquity and unmanageable nature are generally *res communis*.[55] Classic examples are the air, sunlight, running water and the sea.[56] They are for the use and enjoyment of all and cannot be individually owned (or at least not in their entirety).[57] Because *res communis* are non-corporeal and cannot be controlled by humans generally, this category of resources does not fit into the legal definition of an object or thing. Under Dutch law, these *res communis* have to be accessible to all, and no one may be excluded from them, as they are collective or public goods. On the other hand, if damage is done to these goods, there is no legal private law basis for any person to claim compensation.

The state is likely the most interested party in respect of pollution of collective goods, or *res communis*. When the state restores the damage done to these objects, it only acts on the grounds of its general interest/obligation in those objects. Article 21 of the Dutch Constitution refers to the duty of the state to ensure the protection of the national environment. It reads: '[I]t shall be the concern of the [public] authorities to keep the country habitable and to protect and improve the environment.' This is a norm of instruction, rather than a norm of obligation; the state cannot be forced to restore the environment at the behest of individual citizens.

For recovery of damages for environmental pollution, 'ownership' of the polluted natural resource is *the* most important element. Since it is

[55] *Res nullius* are generally defined as objects that are not subject to ownership.

[56] Carette, *Herstel van en vergoeding voor aantasting aan niet-toegeëigende milieubestanddelen* (1997), p. 14.

[57] H. Grotius, *The Freedom of the Seas* (New York, 1916), p. 28 (trans. R. van Deman Magoffin); Carette, *Herstel van en vergoeding voor aantasting aan niet-toegeëigende milieubestanddelen* (1997), p. 15; cited from: Brans, 'Liability for Damage to Public Natural Resources' (2001), p. 37. Dutch property law characterises ownership as the most comprehensive right a person can have in a thing (*zaak*: Article 5:1 BW). Under Article 5:2 BW, a property right is enforceable against anyone who interferes with its exercise, and the owner who loses it is entitled to claim the object from any person who detained it without a right.

difficult, and in most cases impossible, to establish a right of ownership in collective goods or in *res communis*, it is likely that the solution to damages must be sought in the area of public law rather than in private law.

However, as discussed in the answers to Cases 16 and 17, public authorities and environmental interest groups can, under certain conditions, recover damages from the source (defendant *A*), if they incur costs when restoring the environment. The damages will then be evaluated on the basis of the costs incurred to restore the polluted resource.[58]

Portugal

Question (a)

Public authorities have a constitutional obligation to take clean-up measures. However, the keeper of the supertanker also has a legal duty to prevent further risks to the environment, and consequently a duty to take clean-up measures under the control of the public authorities.

Private organisations and NGOs may also undertake measures under the conditions of *negotiorum gestio*.

Question (b)

The public authorities could claim the payment of the clean-up measures under Article 73 DL 236/98, Articles 22 and 23 LAP and Article 41 LBA.

On the other hand, private organisations can demand compensation under the conditions of *negotiorum gestio*.

Question (c)

If the environmental statute that protects the water quality also directly protects the fishing and recreational use of water (and, therefore, the

[58] As has been stated above, the recent Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage authorises states to recover damages for injuries to certain public natural resources and to grant standing to qualified NGOs if the public authorities are unwilling to act or do not act properly. Some authors consider this an effective way to safeguard the interest the public has in certain natural resources and a clean environment; see Brans, 'Liability for Damage to Public Natural Resources' (2001), p. 49.

economic interest of fishermen and tourism facilities), the losses could be compensated under Articles 22 or 23 LAP and Article 483(2) CC.

It should be noted, however, that only the direct damage (loss of profit) to legally protected assets is compensable, not indirect damage (e.g. the loss of profit suffered by the local distributor of drinks to the tourism facilities).

Question (d)

Here, the answer to Question 16(c) applies.

Scotland

Question (a)

It is not clear from the question who owns the beach, or, for that matter, the foreshore. (The foreshore may be in Crown or private ownership, most frequently the former. Beaches, on the other hand, may be the Crown's, but are more often privately owned.) Assuming the beach is private, the owner may, of course, undertake remedial work against pollution, subject to recovering costs as detailed in answer (b) below. In addition, the relevant government minister has power to order certain intervention measures to reduce the immediate dangers of pollution, under Schedule 3A to the Merchant Shipping Act 1995, even the relocation or destruction of the offending vessel.

Question (b)

Under section 153 of the 1995 Act, strict liability is imposed on the ship owner when oil escapes from a loaded oil tanker. Liability extends to all types of physical damage caused by contamination, whether to land, internal waters or the marine environment, and also to the cost of reasonable measures to prevent or reduce the damage. Indeed section 165 allows the ship's insurer to be sued directly by third parties where liability is incurred under section 153.

Question (c)

Since these losses are secondary economic losses, these loss-of-profits damages are not recoverable.[59]

[59] *Landcatch Ltd* v. *International Oil Pollution Compensation Fund*, 1999 SLT 1208.

Question (d)

Defendant *A* is liable for this damage, regardless of whether it was caused by the initial spill (section 153(1)(a)) or by any remediation measures (section 153(1)(c)). The Crown has right of ownership over the seabed[60] and, in most cases, the foreshore, and, therefore, it has right to claim damages from *A* under section 153.

Spain

Question (a)

First, the public administration has a duty under the Constitution (Article 45 CE) to safeguard the environment. The Constitution also establishes that territorial waters belong to the public domain (Article 132 CE, developed by Article 3 Coasts Act (Ley 22/1988, de 28 de julio, de Costas)).[61] Therefore, the administration is obligated to take all measures necessary to restore the environment, and measures to counter sea pollution are considered a public service (Article 87.1 State Ports and Merchant Shipping Act, Ley 27/1992, de 24 de noviembre, de Puertos del Estado y de la Marina Mercante (LPEMM)).[62] The body tasked with these duties is the Sea Rescue and Security Agency (Sociedad de Salvamento y Seguridad Marítima (SASEMAR)),[63] a legal entity with legal personality created by the LPEMM and governed by the Ministry of Promotion (Ministerio de Fomento).

In practice, different public agencies, depending on their constitutionally mandated competences/authority, may intervene and cooperate, as occurred after the *Prestige* oil spill. Regions generally have authority in the field of management of environmental protection (Article 148.1.9 CE), but authority over merchant shipping and ports of general interest belong to the Spanish state exclusively (Article 149.1.20 CE). Problems arising from a lack of coordination may arise for this reason.[64] In the *Prestige* case, both the state and the Galician regional administration undertook emergency measures to fight the spill (later the oil slick affected other regions as well), but their behaviour has

[60] *Crown Estate Commissioners* v. *Fairlie Yacht Slip Ltd*, 1976 SC 161.
[61] BOE No. 181, 29 July 1988, pp. 23386 *et seq*.
[62] BOE No. 283, 25 November 1992, pp. 39953 *et seq*.
[63] Further details can be found on the website of SASEMAR under, www.sasemar.es.
[64] See the criticism by Leonor Rams Ramos, 'El reparto competencial en los casos de catástrofes marítimas por vertido de hidrocarburos: el caso del 'Prestige'', RGLJ, 2002, 617–41, p. 637; cf. also Blanca Lozano Cutanda, *Derecho ambiental administrativo* (Madrid, Dykinson, 2000), p. 76.

been widely criticised as poorly coordinated from the beginning. Nevertheless, it is the authority of the state which ultimately prevails, according to the Constitutional Court (STC No. 40/1998, 19 February 1998 [RTC 1998/40]).[65]

More often than not, the pollution of the coast is considered an administrative law violation, so the Public Administration may impose a fine on the polluter, under such laws as the Coasts Act (Article 91). In addition to administrative liability, the Act establishes obligations to restore of the environment (to its previous condition) on the liable person, even if the limitation period for imposing the corresponding fine has expired (Article 92). This special administrative rule reinforces the obligation to restore the environment that is imposed on the polluter under private law liability rules.

With regard to the role of private organisations, see the answer to Question 16(b).

Question (b)

The Public Administration in Spain does not seem to resort very often to private law in order to recover the costs of clean-up of environmental damage. Public law usually provides a way to recover without involving court procedures (see the answer to Question 15(c)). In the hypothetical case here, the Administration could resort to the provisions on administrative liability under the LPEMM and proceed against the ship-owner (*naviero*), owner, insurer and the captain, if pollution came from a ship, or the owner, operator and insurer of the platform or facilities, all of whom would be jointly and severally liable (Article 118.2(d) first part). The Administration could recover from the defendants the costs of necessary emergency measures adopted to preserve the environment (Article 118.2(d) *in fine*). If no one then carried out the measures needed to restore the environment, the Public Administration could do it and seek reimbursement *ejecución subsidiaria* (Article 126.2 LPEMM and Articles 93 *et seq*. LRJAP). The fact that protection of the marine environment is a public service is no defence. However, note that the keeper does not appear among the liable persons according to this regime.

[65] In legal doctrine, see also María Zambonino Pulito, *La protección jurídico-administrativa del medio marino: tutela ambiental y transporte marítimo* (Valencia, Tirant, 2001), pp. 92–3, with some critical remarks to the reasoning of this decision.

Legal doctrine fills in the gap with general rules of administrative liability established by the LRJAP.[66]

If a claim is actually brought, it is most often before the criminal courts. A famous example is the failure of the Los Frailes mine tailings dam in Aznalcóllar, which affected the surroundings of the National Park of Doñana. The regional Public Administration, the Junta de Andalucía, carried out clean-up work and prosecuted the firm, Boliden Apirsa SL, which managed the dam. The Appellate Court of Sevilla dismissed the claim, however, because it found no criminal act had taken place.[67] Nevertheless, the Swedish parent company paid compensation for the lost value of the agricultural crop and contributed to the clean-up costs.[68] Unfortunately, although Boliden paid the costs of part of the clean-up operations, it helped in the smallest polluted area only. Another action was brought to court on 16 November 2002, after the Junta brought a civil claim to recoup restoration costs (€90 million). Both the trial judge and the Appellate Court of Sevilla decided that the claim had to be brought before the administrative courts instead (since Boliden was an administrative concessionaire) and declared that they had no authority to determine the merits of the case.[69] In the end, the Spanish government fined Boliden some €600,000, and ordered it to pay compensation in the amount of €2.8 million for damages to the public domain and €41 million for restoration costs.[70] The firm has not been able to pay these costs because of its poor financial situation. Nevertheless, the case does illustrate that private law plays a very restricted role in Spain in respect of environmental protection in cases such as our hypothetical case.

Private organisations will not be able to recover their costs from the polluter, according to prevalent opinion, as they lack legal standing to sue. See the answer to Question 16(b).

[66] See Zambonino, *La protección jurídico-administrativa del medio marino*, pp. 239 and 265.

[67] Auto Juzgado de Instrucción, Sevilla, Sanlúcar la Mayor, 22.12.2000 [JUR 2001/129392]. See also *Información de Medio Ambiente* No. 92, 2003, p. 10, and *Boletín Noticias Ambientales*, Junta de Andalucía, 7.2. July 2002, www.juntadeandalucia.es/medioambiente/SNA.

[68] Report issued by Boliden, www.boliden.ca/environment/Library/Pond_failure_spain.pdf, pp. 7–8.

[69] See Auto AP Sevilla, Sección 6ª, 2.10.2003 [JUR 2003/275806]. See also *Boletín Noticias Ambientales*, Junta de Andalucía, 1.2. January 2003, www.juntadeandalucia.es.

[70] Boliden challenged the punishment without success. See Auto TS, Sala 3ª, Sección 3ª, 13.11.2002 [JUR 2002/258931].

Question (c)

Some legal economists argue that, in many cases, private economic loss caused by a tortious act is not a cost to society, and, therefore, pure economic loss should not be compensated.[71] On the other hand, the case for recovery of economic loss in cases of damage to common property resources such as by an oil spill in the sea is overwhelming, giving potential injurers the wrong incentives to preserve valuable resources. A legal regime that clearly specifies those entitled to claim for these economic losses is still lacking in Spanish law.

The problem of economic loss recovery arose subsequently as a result of the *Prestige* oil spill. This notorious spill caused a catastrophe in the northern region of Galicia at the end of 2002. Some of its consequences have been dealt with by the Royal Decree-Act 4/2003, of 20 June 2003, 'regarding measures for the payment of compensation related to damage caused by the accident of "Prestige"'.[72] In spite of its title, the Royal Decree-Act 4/2003 does not grant recognition of any civil liability of the Spanish state (see Article 1 III). Quite to the contrary, in order to bring actions under the Decree, victims are required to assign their rights against 'national or international organisations or entities, or against third parties' to the Spanish state (Article 5.1),[73] thus foregoing further recourse (Article 6 I). The latter requirement can only refer to claims in

[71] See W. Bishop, 'Economic Loss in Tort', 2 *Oxford J. Legal Stud*. (1982), 1–29, pp. 4 and 25; for support of Bishop's view, see also Mauro Bussani and Vernon Valentine Palmer, 'Liability for Pure Financial Loss in Europe: An Economic Restatement', 51 *American Journal of Comparative Law*, (2003), 113–62, pp. 132 and 134. In Spain, similarly, see Fernando Gómez Pomar and Juan Antonio Ruiz García, 'La noción de daño puramente económico: Una visión crítica desde el análisis económico del derecho', *InDret* 4/2002, pp. 14, 22 and 26.

[72] BOE No. 148, 21.6.2003. Ratified by the Spanish Parliament on 8 July 2003 (BOE No. 169, 16.7.2003). For further detail, see Jordi Ribot and Albert Ruda, 'Spain', in Koziol and Steininger, *European Tort Law 2003* (New York and Vienna, Springer 2004), pp. 383–409, at pp. 385 *et seq*.

[73] On the civil liability arising from the 'Prestige' oil spill, see the analysis by García Rubio in Torres Feijó, *Prestige: a catástrofe que despertou a Galiza?*, pp. 113–39; cf. also Llamas, *Diario de noticias La Ley* '*Especial responsabilidad civil*', April 2003, p. 7; Pedro del Olmo García and Jesús Pintos Ager, 'Responsabilidad civil por vertido de hidrocarburos. ¿Quiénes deberían pagar los daños causados por el Prestige?', *InDret*2003/1, www.indret.com; Fernando Nieto Martín, 'Quien contamina, paga. El caso *Prestige*', *La Ley* 2003, No. 5712, pp. 1 *et seq*.; Víctor L. Gutiérrez Castillo, 'Cronología y responsabilidades de una catástrofe', *Iuris* 71/2003, pp. 26–33; Íñigo A. Navarro Mendizábal, 'La responsabilidad civil y el Prestige', RGLJ, 2002–4, 595–615; and Albert Ruda, 'La tipología de los daños causados por el Prestige', in M. P. García Rubio (ed.), *La responsabilidad por los daños causados por el hundimiento del Prestige* (Madrid, 2007).

tort *against* the Spanish state,[74] whose actions after the accident were widely criticised. The amount of compensation is to be determined in each case using the criteria laid down in the International Convention on Civil Liability for Oil Pollution Damage and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Article 4).[75] A maximum global liability of €160 million was established (Article 6 I). This sum is a little less than the maximum global amount that the Fund, the ship-owner and the insurer together could be obliged to pay (135 million SDR, approximately €179 million). In spite of this fact, it is suggested that victims might nevertheless accept the assignment proposal of the Spanish government because the probability of obtaining a higher amount by suing the Spanish state is small.[76] In any case, the compensation scheme allows ship-owners, fishing boat crews and collectors of shellfish to receive monthly payments to ease the economic impact that the spill has had on their activities.

Question (d)

Assessment of the damage to common natural resources, such as sea water, is generally irrelevant in Spanish law. According to existing legislation, sea water does not belong to the public domain, unless it is desalinated and incorporated into the public domain outside the desalination plant (Article 2(e) LA). However, pursuant to the Coasts Act, the territorial sea and the natural resources which make up the economic economic zone and the continental shelf are considered public domain (Articles 3.2 and 3.3).

Nevertheless, some courts have assessed damage to waters belonging to the public domain, such as rivers, and the fish living therein. While the Public Administration must assess possible damage, the Tribunal Supremo requires proof that damage to the fish species has actually happened, not just that water appears altered (STS, 4ª, 9.12.1978 [RJ 1978/4564]). Damage is assessed 'using appropriate technical means' and 'through reasonable formulae or criteria . . . known and used by experts in this field . . . provided that the result obtained by the Public

[74] See García Rubio, *La Ley* 2003, pp. 1812 *et seq.*

[75] On this issue in Spanish literature, see Mª José Rodríguez Docampo, *La obligación de indemnizar del propietario del buque-tanque* (Valencia, Tirant lo blanch, 2003).

[76] See Antonio Rubí i Puig and José Piñeiro i Salguero, 'El blindaje del Gobierno en la crisis del 'Prestige'. Comentario al Real Decreto Ley 4/2003, de 20 de junio, de ayudas a los damnificados', *InDret* 3/2003, 5–6 (www.indret.com).

Administration is not actually distorted by the defendant through the proof of the contrary'.[77] By contrast, when damage consists of a diminution of the quality of the waters, it is assessed by reference to the cost of the disposal of the polluting release, which cost, in turn, is calculated by objective criteria, such as the cost of disposal facilities, amortisation costs and maintenance costs (STS, 4ª, 8.5.1987 [RJ 1987/3564]). Legal doctrine has further suggested *de lege ferenda* that a special Act should establish guiding objective criteria to assess the damage to the environment.[78]

As a matter of fact, such criteria already exist, but the approach adopted by the Spanish legislature only applies in some areas within public law. For instance, LPEMM provides the criteria that the Public Administration should use to evaluate damage from an infringement against the provisions on ports and merchant shipping, provided that the evaluation would otherwise be too complex (Article 124). The relevant sum in damages will be the highest sum resulting from any of the enumerated criteria, including the theoretical cost of restitution and restoration,[79] the value of the damaged goods, or the profits earned by the offender by means of the illegal activity.

A leading Spanish case deals with harm to private interests from the pollution of the sea water. In January 1972, the tanker *Compostilla* caused an oil spill while it was transferring its cargo in the port of La Coruña. Remediation required a large amount of detergents, which caused the oil to slowly precipitate on the seabed. The claimants (the owners of a mussel farm) brought suit because they could not sell their produce due to the taste of oil in the mussels from the residue of oil on the seabed. The Tribunal Supremo dismissed the claim, stating that the claimants should have destroyed the mussels (pursuant to orders by public authorities), rather than trying to put them into the market (STS 19.6.1980 [RJ 1980/2410]).

[77] For a discussion of the criteria used by the courts, see Parra, *La protección al medio ambiente*, p. 68.

[78] See, for instance, Javier Gálvez Montés, in Fernando Garrido Falla, *Comentarios a la Constitución* (3rd edn, Madrid, Civitas, 2001), Article 45.3, p. 919.

[79] Zambonino, *La protección jurídico-administrativa del medio marino: tutela ambiental y transporte marítimo*, pp. 317–19 footnote 82. This is the most interesting discussion of pollution damage to the sea environment. The restoration cost will include preventive measures and losses caused by such measures.

Sweden

Question (a)

Sweden has ratified the international conventions on oil pollution through the Law of the Sea Act, Chapter 10, but the answer here is based on domestic circumstances and law. In domestic clean-up matters, both the Environmental Code and the Rescue Services Act apply. To attach liability for such matters generally, both the Environmental Code and the general Tort Law Act are applicable, as described in the previous case studies. Regarding private organisations, see Questions 1(b) and 16(b).

If the spill occurs in coastal waters, the Coast Guard has the responsibility to initiate clean-up measures (under the Rescue Services Act) using public treasury resources. If the spill occurs in an aquatic area regulated by the Environmental Code, Chapter 10, the keeper/operator is obliged to clean up; thus, *A* has that obligation in this case. If *A* fails to do so, the authorities have the right to take the necessary measures at *A's* expense.

Question (b)

A is liable explicitly under the Environmental Code, Chapter 10, and also under the Rescue Services Act, since it is possible for the Coast Guard to claim compensation for clean-up costs under the Rescue Services Act.

Question (c)

Provided each industry has legal standing, either through title to property or as 'qualified users', these businesses can claim compensation for loss of profits under the civil environmental liability scheme of the Environmental Code, Chapter 32 § 3, as described above.

Question (d)

In domestic matters (i.e. Swedish citizens in waters under Swedish jurisdiction), the answer here would not differ from that described above.

However, in international situations or cases with direct international legal implication, claims handling would be in accordance with international law.

Case 18 Contaminated drinking water

Operator *A* is the operator of a site for the proper treatment of hazardous chemicals. After several years of site operation, chemical analysis show that the groundwater beneath the site is contaminated by certain chemicals known by medical science to cause leukaemia. The neighbours *B* and *C* can prove that their wells have been drawing from the contaminated water and that exposure to this contaminated water has caused them to suffer severe injuries. Neighbour *B* has already developed leukaemia. His wife *C* alleges that she suffers an increased risk of developing leukaemia in the future and that this fact is putting her in a state of constant fear and distress.

a) What kind of remedies do *B* and *C* have? Would it make any difference for the scope of damages if fault on behalf of *A* could be established? Does *C* have to show some actual physical damage as a prerequisite to sue? How severe must the harm be?
b) Plaintiff *B* has already died. Does *C* have a right to claim damages from *A* as a result of the death of a family member?

Comparative remarks

1. Comparison

(a) Scope of damages

In all the countries analysed, recovery of *personal injury* is usually comprised of damages for actual and future loss of income, medical expenses and compensation for increased needs, such as the costs of personal assistance. Recovery of non-pecuniary damages, especially damages for pain and suffering, are awarded in Austria, Belgium, Denmark, Finland, Greece, France, Italy, the Netherlands, Portugal, Scotland, Spain and

Sweden. In Greece, the majority opinion still holds the view that a claim for damages for pain and suffering is only available under fault liability, and the Greek reporter stressed that such compensation will be rather small in amount. This was also emphasised by the Belgian reporter, who related that courts may award about €40 per day of hospitalisation with severe pain. Austrian and Greek law also provide compensation for loss of professional and social advancement, if the injured person is disfigured (§ 1326 ABGB; Article 931 Astikos Kodikas).

When the victim has *died*, a cause of action for the funeral costs will be available, and the dependants will be entitled to claim maintenance (e.g. Austria, Belgium, England, Germany, Greece, France, Ireland, the Netherlands, Sweden, Scotland). Claims for non-pecuniary damage because of loss of consortium after the death of a relative are available under Belgian, Dutch, French, Italian, Greek, Irish, Scots and Spanish law. In Belgium, compensation is also available for the pain resulting from witnessing the suffering of a relative. The amounts, however, are comparatively low, for example €10,000 for the death of a husband or wife. In England, the surviving family member is entitled to a standard lump sum of £7,500 according to the Fatal Accidents Act 1976. In Austria, pain and suffering due to the loss of a family member is only compensated if the surviving relative suffers a syndrome of pathogenic character or if the injurer was grossly negligent or acted with intent. In Germany, Finland and Sweden, such a claim is not admissible.

(b) Emotional distress

In several countries (Austria, England, Germany, France, Greece, Italy, Scotland) damages for personal injury are only awarded to persons who are injured physically or who have already developed a certain physical or mental disease. The mere risk of getting hurt or developing a disease in the future because of a tortious act does not qualify as a personal injury. Thus constant fear and distress of becoming ill through the pollution do not lead to compensation for non-pecuniary loss in those countries. The Austrian and English reporters, however, stated that the costs of medical monitoring and the costs of preventive measures might be recoverable.

In other countries (Belgium, Finland, Ireland, Spain, Sweden), compensation for emotional distress would be available. Spanish law does not restrict the compensation of non-pecuniary loss. The plaintiff thus does not need to show a disease in order to obtain compensation. Mental

trauma, anguish, anxiety or uneasiness may already be sufficient. In exceptional cases, Belgian courts have already awarded damages for the fear of developing cancer or another severe disease. Such claimants are also eligible for compensation of the costs of medical monitoring. An action for a declaratory judgment would also be possible. In Finland, according to the Environmental Damages Act, damages for physical suffering can be awarded if the suffering substantially affects the injured party's life and health. Under Irish law, a claimant may argue for compensation for constant fear and distress as analogous to an award of damages in the case of nervous shock. The Irish reporter, however, stresses that the claimant has to bear in mind that, after actually contracting the expected disease, he or she will not be able to sue again. According to Irish law, a plaintiff can obtain only one award with respect to a cause of action. In Sweden, such a claimant can get compensation for non-pecuniary loss according to Chapter 32 of the Environmental Act, as supplemented by the Tort Law Act.

(c) Legal standing

The injured person usually has legal standing, be it the victim himself or a dependant who sues for loss of support or loss of consortium. Compensation for funeral costs can usually be claimed by the person who has incurred the expense (Austria, Greece, England, Scotland, Sweden).

2. Conclusions

Case 18 discusses some important issues concerning the scope of compensation for personal injury and loss of life. It is apparent that, with regard to the compensation of material loss, the national rules are very similar. A further clear convergence lies in the fact that, in principle, all the jurisdictions attribute pecuniary compensation for sustained pain and suffering.

Differences exist with regard to the availability of non-pecuniary damage after the death of a family member because of loss of consortium. In some countries (Germany, Finland and Sweden), such a claim is not admissible at all, and, in Austria, it requires as a precondition the gross negligence of the tortfeasor.

With regard to the compensability of emotional distress where there are no signs of physical or mental sickness, the jurisdictions analysed are clearly divided into two groups. The first group of countries (Austria, England, Germany, France, Greece, Italy and Scotland)

award damages for personal injury only to persons who are injured physically or who have already developed a certain physical or mental disease. The mere risk of getting hurt or developing a disease in the future because of a tortious act does not qualify for personal injury. Thus constant fear and distress because of the increased probability of becoming ill do not allow compensation for non-pecuniary loss in those countries. The Austrian and English reporters, however, stated that the costs of medical monitoring and the costs of preventive measures might be recoverable.

In the second group of countries, Belgium, Finland, Ireland, Spain and Sweden, compensation for emotional distress would be available. Spanish law does not restrict the compensation of non-pecuniary loss. The plaintiff thus need not show a disease in order to get compensation. Mental trauma, anguish, anxiety or uneasiness may already be sufficient. In exceptional cases, Belgian courts have already awarded damages for the fear of developing cancer or another severe disease. Such claimants are also eligible for compensation for the costs of medical monitoring. An action for a declaratory judgment would also be possible. In Finland, according to the Environmental Damages Act, damages for physical suffering can be awarded if the suffering substantially affects the injured party's life and health. Under Irish law, a claimant may argue for compensation for the constant fear and distress as analogous to awarding damages in the case of nervous shock. The Irish reporter, however, stresses that the claimant has to bear in mind that, after actually contracting the expected disease, he or she will not be able to sue again. According to Irish law, a plaintiff can obtain only one award with respect to a cause of action. In Sweden, such a claimant can get compensation for non-pecuniary loss according to Chapter 32 of the Environmental Act, as supplemented by the Tort Law Act.

Discussions

Austria

Question (a)

Personal injury entitles the injured person to claim the costs of medical treatment, the loss of actual and future earnings, and a lump sum covering reasonable compensation for pain and suffering (§ 1325 ABGB). If the injured person is disfigured, he or she may also obtain compensation for loss of professional and social advancement (§ 1326 ABGB). Adequate

compensation for immaterial loss is granted in both fault and no-fault liability.[1]

A personal injury is any damage to the physical (internal or external) or mental health of a person. A mere feeling of discomfort or reluctance on the part of the injured person is not sufficient.[2] The risk of being hurt or developing a disease is not regarded as personal injury, and is thus not compensable.[3] The costs of a medical examination to assess the risks of contracting a disease,[4] the costs of preventive measures, and pain and suffering deriving from such measures, however, are subject to compensation.[5]

Neighbour *B*, who has already developed leukaemia, is entitled to damages for personal injury. However, since *C* is not yet ill, but suffers an increased risk of developing the disease in the future, she will only be entitled to damages for any preventative medical treatment. Being in a state of constant fear and distress will lead to compensation only if it amounts to a syndrome of a pathogenic character.

Question (b)

Plaintiff *C* may claim compensation for loss of the support she would have received from *B*, according to § 1327 ABGB. On the other hand, pain and suffering because of the loss of a family member is only to be compensated if the surviving relative suffers a syndrome of a pathogenic character,[6] or if the injurer was grossly negligent or acted with intent.[7]

Belgium

Question (a)

Provided there is a basis for liability, *B* will be able to obtain compensation for the consequences of his physical injury. The relevance of

[1] E.g. § 13(4) EKHG, § 158 LFG, § 11 AtomHG, § 3 RHPflG, § 14 PHG.
[2] OGH 21.12.1995, 2 Ob 99/95, EFSlg 81.524; 12.7.2000, 9 Ob 147/00 h, ZVR 2001/155; 22.2.2001, 2 Ob 79/00 g, JBl 2001, 659.
[3] Koziol, *Haftpflichtrecht* II[2] (1984) 115.
[4] OGH 19.11.1907, No. 13.847 GlUNF 3983; 19.5.1908, Rv. I, 294/8 GlUNF 4243.
[5] Koziol, *Haftpflichtrecht* II[2], 115; Reischauer, in Rummel (ed.), *Kommentar zum Allgemeinen bürgerlichen Gesetzbuch* II/2b[3] (2004) § 1325 n. 2.
[6] OGH 16.6.1994, 2 Ob 45/93, ZVR 1995/46; 21.12.1995, 2 Ob 99/95, ZVR 1997/75; 22.2.2001, 2 Ob 79/00 g, ZVR 2001/52 (Karner).
[7] OGH 16.5.2001, 2 Ob 84/01v, ZVR 2001/73 (Karner); see Reischauer, in Rummel, ABGB II/2b[3] § 1325 n. 5a.

the anguish that *C* may suffer has been discussed in the responses to previous questions.

One case is reported where people died as a result of drinking well water contaminated by arsenic from a neighbouring plant.[8] In such a scenario, contributory negligence may play a role here, if *B* and *C* continued to use groundwater after they knew of the pollution.

Question (b)

Yes, see the description of compensable damage under the previous questions.

England

Question (a)

Plaintiff *B* would have a straightforward claim for personal injury damages. However, *C's* case is more problematic. An increased risk of leukaemia would not seem sufficient injury, though there is a possibility that the costs of medical monitoring might be recoverable, if England follows similar developments in the US.

Question (b)

The Law Reform (Miscellaneous Provisions) Act 1934[9] permits the estate of a deceased to maintain claims extant at the time of the deceased's death. Moreover, the Fatal Accidents Act 1976[10] creates a separate cause of action for dependants, which would clearly be available to *C* as *B's* spouse. This Act provides for a standard lump sum award of £10,000 to the spouse of the deceased, *inter alia*, and there is also provision for lump sum damages to cover pecuniary loss varying in size depending upon individual circumstances.

Finland

Question (a)

As a general matter, the Environmental Damages Act has no retroactive effect; the injurious activity must have been occurring after 1995 for the act to apply. For older injuries, the Water Act applies, but only to legal activities. The pollution of groundwater is always illegal. The general Damages Act applies to damage before 1995, but presupposes *culpa*,

[8] Corr. Tongeren, 14 May 1965, Bocken, *Het aansprakelijkheidsrecht*, 351.
[9] Section 1. [10] Section 2.3.

which would likely be an accurate presumption in groundwater pollution cases. The answers to Case 18 are based on the present legislation (post-1995).

Health injuries caused by contaminated groundwater are covered by the rules of the Environmental Damages Act. Strict liability attaches when health injuries and related losses (costs, cure etc.) occur. According to the Environmental Damages Act, compensable personal injuries can, in some cases, encompass physical suffering such as a permanent fear. The physical illness, however, must be severe enough to substantially affect the injured person's life and health.

There would be no difference, as far as the present legislation is concerned. In the previous legislation, the general Damages Act requires fault. But, as noted above, groundwater pollution has not been 'legal' since 1962, implying strict liability here.

The Environmental Damages Act requires 'probability' of the causal link between the activity and the damage, not full proof. The burden of proof is not reversed by the Act, so the plaintiff must produce sufficient proof to the court. In practice, it may be sufficient to prove that the activity would be the most probable reason for the pollution and the injuries and that other activities would not have been a sufficient reason (a medical certificate would suffice: see the decision of the Supreme Court 1990:47).

If there are other probable sources or reasons, the victim does not have to prove which one of them would be the most probable: anyone can be sued and ordered to pay (full) compensation under joint and several liability.

Question (b)

Yes, *A* would be required to pay under specific conditions of general tort law (health costs, medical treatment, etc.), but this kind of damage has rarely been compensated in practice.

France

Question (a)

Plaintiff *B* will be able to obtain compensation for his physical injury, i.e. the costs of medical treatment, loss of actual/future earnings, *prejudice d'agrément* and/or *prejudice esthétique* (see the answer to Question 1(a)). Plaintiff *C*, however, will not be compensated for 'an increased risk of developing leukaemia' because the damage is not certain. On the other

hand, *C* may obtain compensation for her psychological condition, if psycho-medical tests prove that she is unable to work or have a normal life.

Contributory negligence may play a role, as well, if *B* and *C* continued to use the groundwater after they knew of the pollution.

Question (b)

Yes, *C* may claim compensation for loss of support she would have received from *B*. Judges determine freely whether this compensation will be in indexed annuities or in capital; the latter solution is preferred by insurance companies.[11]

Germany

Question (a)

I. Neighbour B

If *B* is unable to show fault against *A*, *B* may have a claim for damages under § 22(2) WHG. Substances (chemicals) have entered the groundwater and the installation falls under the provisions applying to either the production or processing of chemicals. No exclusion of liability based on *force majeure* is apparent. Thus, *A* will be liable to *B* for damages, and the level of compensation is set according to § 249 sentence 1 BGB.

Plaintiff *B* may also have a strict liability claim under § 1 UmweltHG, as the chemical plant is a geographically fixed operation within the meaning of § 3(2) UmweltHG. It has caused an environmental impact under § 3(1) UmweltHG by the spread of chemicals in the groundwater. Furthermore, the leukaemia constitutes a resulting health impairment. Thus, *B* can claim compensation from *A* pursuant to § 1 UmweltHG.

Plaintiff *B* may have a claim against *A*, upon a showing of fault, for injury within the meaning of § 823(1) BGB. Although the injury is internal, rather than an infringement of external bodily integrity, it will be considered a health impairment (see Question 1(b) above). A health impairment is therefore concerned. Due to the evidential difficulties which regularly arise for affected parties, the BGH has instituted a reversal of the burden of proof, such that the defendant must establish that it has taken all reasonable precautions so to prevent damage to the affected party.[12]

[11] Viney and Jourdain, *Les effets de la responsabilité*, p. 250.
[12] BGH 18.9.1984, BGHZ 92, 143, 151 (*Cupola Furnace*).

Finally, *B* can bring a monetary compensation claim under § 253(2) BGB. He may also claim equitable compensation for immaterial damage. The level is set at the court's discretion pursuant to § 287 ZPO.

II. Neighbour C

Defendant *A* is liable to compensate *C's* damage pursuant to § 22(2) sentence 1 WHG. However, *C* will have to show an actual material damage, as a compensatory claim is only possible within the scope of tortious liability under §§ 823 *et seq*. BGB.

Otherwise, for claims under § 823(1) and (2) BGB in conjunction with § 229 StGB, the only requirement to claim compensation is a health impairment. The discussion of Question 1(b), therefore, applies.

Question (b)

Where *C* is an heir of *B*, *C* will bear the funeral costs pursuant to § 1968 BGB, but may then claim these costs from *A* pursuant to § 844(1) BGB.

Assuming *B* was legally obliged to support *C* under § 1360 BGB, *A* will be liable to compensate for the lost support pursuant to § 844(2) BGB. It should be noted, however, that, if *C* is *B's* heir, an adjustment (decrease) of compensation for benefits received will apply because *C* received the inheritance earlier.

Finally, *C* has a claim under § 12 UmweltHG, subject to a maximum award under § 15 UmweltHG (€85 million).

Greece

Question (a)

Neighbours *B* and *C* can sue *A* on the basis of the Articles mentioned above (Case 15).

If fault can be established against *A*, then Articles 914, 932 and 929 AK apply. In particular, according to Article 929 AK, where there is a resultant health problem, apart from the damages for the pecuniary injury and the hospital expenses, *A* will be obliged to pay to *B* an amount for *B's* future deprivation and extra medical costs. Also, *B* may seek compensation for his moral or non-pecuniary harm (Articles 932, 299 AK). According to tort provisions, *C* has to show actual damage as a prerequisite to sue.

Question (b)

If *B* has already died, then *C* may seek, in addition to the medical and funeral expenses and compensation for the loss of support (Article 928

AK), compensation for pain and suffering for the death of a member of his family according to Article 932(3) AK.

Ireland

Question (a)

The plaintiffs' remedies are the usual ones of statutory liability for damage caused by discharges of polluting matter to waters under section 20 of the Local Government (Water Pollution) (Amendment) Act 1990 and liability in tort.

The most usual tort to invoke in a claim for personal injuries is negligence. The claim against *A* might be formulated as follows: *A* should have foreseen that, if hazardous chemicals were discharged to groundwater, anyone extracting that groundwater from a well in the vicinity might be affected. *A* should not be able to claim that he or she was unaware of the nature of the chemicals, since a person who handles hazardous chemicals must know what they are in order to be able to treat them properly. Lack of knowledge on *A's* part would be proof of negligence. On the other hand, that *A* knew what the chemicals were and still failed to take proper precautions would also indicate negligence. Moreover, if *A* knew and took precautions, but the precautions turned out not to be adequate, *A* will still have been negligent because *A*, as an expert treating hazardous chemicals, should have known what was being treated and should have taken appropriate precautions. The failure to do so is an example of negligence.

It is also possible to recover damages for personal injury arising from a nuisance. If the contaminated well is on *B* and *C's* land, *A* has interfered with the use and enjoyment of land by contaminating the well. *A* should be liable for the resulting damage, including the leukaemia.

Under the rule in *Rylands* v. *Fletcher*, *A* has brought dangerous chemicals onto land and has allowed them to escape (into groundwater), causing damage. The damage is the leukaemia caused by the chemicals. Recovery for personal injury is allowed.

This may also be a case involving a trespass against the person. *A's* dangerous chemical has directly caused injury to *B* through ingestion. This may be classified as a technical battery, subjecting *A* to liability.[13]

[13] Battery is the direct application of physical contact upon the person of another without his or her consent, express or implied: McMahon and Binchy, *Irish Law of Torts* (2nd edn, 1990).

Fault does not exist as a separate concept in Irish tort law. A person who commits a tort is at fault for causing the tort, regardless of whether the person acted maliciously, recklessly, negligently or blamelessly. A tort is a legal 'wrong'. To do wrong to someone is to commit a tort, thus, in a sense, a fault. The fault in an action for negligence on the part of *A* is the negligent failure to take adequate steps to prevent injury. The fault in nuisance is the unreasonable interference with the use and enjoyment of land by contaminating the well. The fault under *Rylands* v. *Fletcher* lies in allowing the chemical to escape to groundwater. The fault in terms of trespass is the act of causing the direct physical contact. In essence, the tort is fault. Insofar as 'fault' appears to imply a moral judgment of blameworthiness, it may exist as an established concept in civil law countries, but it is not useful as an analytical tool in the context of Irish tort law. It is not necessary or useful to prove that *A* was at fault: *B* and *C* must prove that *A's* action or inaction creates liability in tort or under statute.

In theory, *C* may recover damages for the stress of living with the knowledge that he or she has been exposed to risk in the same way as *B*, and may in the future suffer the same consequences. This claim is analogous to cases relating to 'nervous shock',[14] though the cases did concern somewhat different facts, and it would be necessary to persuade the court to extend them to the present circumstances. There is, however, a compelling reason for *C* not to sue for constant fear and distress: if *C* were to contract leukaemia later, having already recovered damages for the fear of developing it, *C* would be unable to sue a second time. Plaintiff *C* can obtain only one award in a single cause of action. Therefore, by acting too soon, *C* would be barred from any award for actual injury later. If an action is begun now, however, further damages can be claimed later, provided the case has not been concluded.

Question (b)

Dependants can claim damages when the person on whom they are dependent is killed. The action may be brought by *B's* executor or personal representative, or by any of the dependants on behalf of all the dependants. A spouse would be entitled to recover for loss of support from her deceased husband. She would also be entitled to damages for the pain and suffering arising from the loss of her spouse.

[14] *Bell* v. *Great Northern Railway Co.*, 26 LR Ir 428 (Ex Div 1890).

Italy

Questions (a) and (b)

There are no statutory provisions, or case law that address this hypothetical case. The only scholarly writings on the issue are by comparative lawyers, who study American cases.[15] The only certain position of any of these issues, is that Italian case law has never recognised liability for increasing the risk of contracting an illness.

The Netherlands

Question (a)

As discussed above in the answers to Cases 1 and 3, in accordance with Article 6:175 BW, a person who uses a dangerous substance professionally can, under certain conditions, be held strictly liable for the damage caused by this substance. Under Article 6:175(1) BW here, one could question whether the requirement of using the substance in carrying out the business has been met sufficiently. However, the legislature drafted the rule to include the situation where a person has a dangerous substance in his possession or under his control because of his business. Thus, *A*, as an operator for the treatment of hazardous chemicals, is a potentially liable party under Article 6:175 BW. Article 6:175(4) BW states that, in the situation where the damage is a result of the contamination by substances emitted into the air, water or soil, the person causing the initial contamination is liable, if the danger caused personal injury. Thus, here, *A* is liable for *B's* leukaemia.

In general, to establish liability in tort, the element of fault or imputability has to be met. It is the plaintiff who must prove the defendant's fault, but, once the unlawful nature of the defendant's act is established, the court often presumes that the defendant was at fault. It is then up to the defendant to rebut the presumption. Here, the state-of-the-art defence could be important.[16] It must, however, be noted that Article 6:175 BW makes it possible to impose liability on *A*, even when *A*, who acted unlawfully, is not at fault. This is one of the provisions of the Burgerlijk Wetboek that imposes stricter liability.

[15] See Villa, 'Nesso di causalità e responsabilità civile per danni all'ambiente', in *Per una riforma della responsabilità civile per danno ambientale* (a cura di P.Trimarchi, Milano, 1994), pp. 93 *et seq.* On the problems of causal linkage, see Pozzo, *Danno ambientale e criteri di imputazione della responsabilità – Esperienze Giuridiche a confronto* (Milan, 1996), p. 315.

[16] Brans, 'Liability for Damage to Public Natural Resources' (2001), pp. 245–6.

As discussed in the answer to Question 1(a), in the case of personal injury caused by hazardous chemicals that contaminate drinking water, for example, Article 6:106(1)(b) BW provides for compensation for non-material loss (*C's* constant fear of contracting leukaemia). From the facts, *C* is entitled to an equitably determined reparation of harm other than patrimonial damage, if *C* has suffered physical injury, injury to honour or reputation or if *C* has been otherwise afflicted. In accordance with Article 6:106 BW, the victim is only entitled to an equitably determined reparation of harm other than patrimonial damage. When determining the damages, the judge must take all the circumstances of the case into account, including the way in which the victim has been affected, the nature of the defendant's behaviour, the nature of the liability, and the economic situation of both the victim and the defendant.[17]

The equitable requirement in Article 6:106 BW was elaborated by a judgment of the Hoge Raad in 1992.[18] The decision held that both the nature of the liability and the nature, duration and intensity of the pain and sorrow, and the impairment of enjoyment of property are to be considered in the equitable determination. When estimating damages, the judge may also take into account what awards are paid for the same kind of damage inflicted on people living abroad under different systems of liability. Under Article 6:106 BW, the sustaining of actual physical damage is not required.

Although this remedy for personal injury (for instance, health problems) seems quite attractive in theory, there are a number of causational difficulties to overcome in practice. The injury may have been caused by something else, or, as here, *C's* fear and mental distress is related only to her husband's (*B*) illness, not to her own risks of developing a similar disease. On the other hand, there are also other examples that show that the causation requirement is easily fulfilled. In a nuisance case, a lady was awarded 15,000 Dutch guilders[19] for her physical injuries that resulted from noise nuisance caused by an industry operating in her neighbourhood.[20]

[17] TM and Final Report I, Parliamentary History 6, pp. 377 and 388.
[18] HR 8 July 1992, NJ 1992, 714 (AMC/O). See also HR 17 November 2000, NJ 2001, 215.
[19] €6,800.
[20] Rb Roermond 15 August 1991 and 23 July 1992, *Milieurechtspraak* 1992, No. 30 (Geluidsoverlast te Panningen).

Question (b)

If *A's* polluting activities caused *B's* death, then Article 6:108 BW provides for a specific group of *B's* relatives to be compensated for their loss of support from *B*. What is important for recovery here is that the act must have been unlawful against the person who died. Furthermore, under subsection 1, only certain persons have standing: 'If a person dies as a result of an event for which another person is liable towards him, that other person must repair damage for loss of support suffered by: a. the non-separated spouse, the registered partner and the minor legitimate or illegitimate children of the deceased, at least up to the amount of the support to which they are entitled by law.'[21] It can be concluded from this subsection that *A's* actions were unlawful against *B*, and *C* can claim damages from *A* under Article 6:108 BW at least up to the amount of the support to which she is entitled by law. In addition, in accordance with subsection 2, *A* must compensate *C* if she has borne the reasonable costs of the funeral expenses. It must be noted, however, that, if *A* is sued for reparation of damage pursuant to the preceding subsections 1 and 2, he has the same defence as he would have had against the deceased *B* (subsection 3).

Portugal

Question (a)

Neighbours *B* and *C* can demand the damaging activity to be stopped under Article 1346 CC and Article 23 LAP (the treatment of hazardous waste is a dangerous activity). Under Article 1347 CC, *B* and *C* can demand compensation for the damages caused to their property. Moreover, Article 23 LAP provides the basis for claims by *B* and *C* for the damages caused to their health (regardless of fault).

Neighbour *C* does not have to show physical damage in order to recover, because Article 1347 CC and Article 23 LAP are based on risk.

Question (b)

Yes, if *C* is an heir of *B*, *C* may claim damages from *A* for *B's* death.

[21] Article 6:108(1)(a) BW.

Scotland

Question (a)

Liability in any case must be fault-based. Scottish courts would be likely to find fault in these circumstances because a heightened duty of care attaches to the handling of hazardous substances. Moreover, the dangers of contamination appear to be well known so that the risk of injury is a foreseeable one. Plaintiff *B* would, of course, be required to establish a causal link between his particular illness and the particular form of pollution. Assuming that this is possible, he may bring an action for personal injury.

If *C* has not developed any specific physical illness, she cannot claim merely because she is apprehensive about the possibility of illness. It is not possible to recover for mere fear and distress, as distinguished from identifiable psychiatric harm, suffered as a result of the negligent conduct of another.[22]

Question (b)

Yes, *C* may claim damages from *A* (see the answer to Question 12(a) above).

Spain

Question (a)

With regard to *B's* claim, as has been explained, he may seek full pecuniary compensation (see the answer to Question 15(a)). However, he must bring enough evidence on the causal link between his damage and *A's* activities. The hypothetical does not give enough information as to the reason why the groundwater beneath the site is contaminated. 'Proof by presumptions' could assist *B* here (see the answer to Case 11).

As to *C's* claim, it should be noted that Spanish law is an 'open-minded' legal system, which, unlike § 253 BGB in Germany or § 1324 ABGB in Austria or Article 2059 of the Civil Code in Italy, does not establish restrictions concerning the compensation of non-pecuniary loss.[23] Thus, courts consider 'mental trauma' a recoverable damage,

[22] See generally Scottish Law Commission, *Report on Damages for Psychiatric Injury* (Scottish Law Commission No. 196, 2004); see also *Johnson* v. *NEI International Combustion Ltd* [2007] UKHL 39.

[23] See Miquel Martín Casals and Josep Solé Feliu, 'El daño moral', in Cámara, *Derecho privado europeo*, pp. 857–81, at p. 861, according to whom this is due to the influence of the French Civil Code on the Spanish one.

regardless of whether it amounts to a psychiatric illness or not.[24] This problem has been tackled by case law on nuisance from excessive noise, when anguish, the feeling of impotence, anxiety or uneasiness have amounted to a compensable harm.[25] Moreover, no cases seem to have dealt with the question of the fear suffered before any physical injury has become manifest, but legal doctrine considers that it is likely that Spanish courts would compensate victims in such cases, as well.[26] In fact, the Tribunal Supremo has stated that, in order to compensate non-pecuniary loss, it is not necessary that the damage amounts to an illness (STS, 2ª, 16.5.1998 [RJ 1998/4878]). Thus, mere pain, affliction or suffering which do not qualify as medically verifiable pathologies may be compensable, provided that they are sufficiently relevant and certain (a question of fact).[27] Some scholars have also considered that the concept of *danno biologico*, developed by Italian legal doctrine, could be useful to deal with the consequences of harm to the environment on humans.[28]

Question (b)

Legal doctrine speaks about a '*daño moral puro*' or 'pure non-pecuniary loss' to refer to the grief, sorrow or sadness for personal injuries and for those of a beloved person, or for a loved one's death (*pretium affectionis*). It would include, along with the loss sustained by the victim, the French *dommage par ricochet*, or the indirect damage (*daño por rebote*) sustained by relatives of the victim and closely related persons.[29] Thus, *C* will recover damages from *A* here.

[24] For the cases, although unrelated to environmental matters, see Martín, Ribot and Sole, in Rogers, *Damages for Non-Pecuniary Loss in a Comparative Perspective*, p. 195.

[25] See Francisco J. Fernández Urzainqui, *La tutela civil frente al ruido* (Madrid, Civitas, 2003), p. 93, with further references to case law.

[26] See Martín, Ribot and Solé, in Rogers, *Damages for Non-Pecuniary Loss in a Comparative Perspective*, p. 202.

[27] See, for example, Martín and Solé, in Cámara, *Derecho privado europeo*, pp. 870–1.

[28] See Cabanillas, in Área de Derecho Civil de la Facultad de Derecho de la Universidad de Zaragoza, *Estudios de Derecho civil*, p. 212.

[29] See Elena Vicente Domingo, *Los daños corporales: tipología y valoración* (Barcelona, J. M. Bosch, 1994), p. 323 and Martín, Ribot and Solé, in Rogers, *Damages for Non-Pecuniary Loss in a Comparative Perspective*, p. 194. For further details on the concept of *daño moral puro*, see Miquel Martín Casals, '¿Hacia un baremo europeo para la indemnización de los daños corporales? Consideraciones generales sobre el Proyecto Busnelli-Lucas', http://civil.udg.es/cordoba/pon/martin.htm.

Sweden

Question (a)

Remedies available to *B* and *C* under the Environmental Code, Chapter 32, as supplemented by the Tort Law Act, are to claim damages for personal injury (only *B*) and a non-pecuniary award for the emission, as well as damages for property damage and all related costs. The courts may also require *A* to remediate the estate (clean the well, etc.).

Under the Environmental Code, Chapter 10, *B* and *C* may also have a right to initiate clean-up measures through the local authority.

Question (b)

In accordance with the Tort Law Act, *C* has the right to claim damages for her loss of support from *B*.[30]

[30] Tort Law Act, Ch. 5 § 2.

PART III · COMPARISON, SUMMARY AND CONCLUSIONS

4 Comparison

Monika Hinteregger

I. Scope of liable persons

1. Liability for polluting interference (Cases 1–10)

A. Fault liability

Liability for harm caused by polluting interference from neighbouring sites is rather incoherent among the European states. In all fifteen jurisdictions that were analysed, *fault-based liability* will apply generally. In some countries, however, there are special strict liability regimes for environmental damage that supersede traditional fault liability. This is especially the case in the Scandinavian countries (Finland, Sweden).

In countries where fault liability still plays an important role, several authors have pointed out that courts will use certain methods to tighten liability when it comes to harm caused by polluting interference from industrial facilities. These methods include heightening the level of care required from the defendant or shifting the burden of proof from the plaintiff to the defendant. This is the case in Spain, where scholars already speak of an 'objectivisation' of fault liability, which, in its practical application, comes close to strict liability. Such an aggravation of fault liability was also employed by the German BGH in the famous *Kupolofen* case[1] by imposing the burden of proof on the operator of the industrial facility, and this example was duly followed by the Austrian OGH in the *Sandstrahl* decision.[2] Both courts derive this interpretation from the laws of the neighbourhood under which the burden of proof traditionally lies with the defendant, and from the idea that, in such cases, the operator is in a better position to produce evidence than the

[1] BGH 18.9.1984, BGHZ 92, 143, 150 f.
[2] OGH 11.10.1995, 3 Ob 508/93, JBl 1996, 446.

victim. In Greece, authors have pointed out that courts could reach the same result by interpretation of Article 914 Astikos Kodikas, according to the right of personality (Article 57 Astikos Kodikas), together with Article 24 of the Greek Constitution granting a right to the environment for everybody. Provided that a defendant caused damage to a common good, the burden of proof with regard to fault lies with the defendant. Moreover, in all three countries (Austria, Germany, Greece), the onus of proof accepted in product liability law is regarded as a model for environmental liability cases. Another possible basis are the provisions providing for the reversal of the burden of proof with regard to buildings (§ 1319 ABGB, §§ 836, 838 BGB, Article 925 Astikos Kodikas) or animals (§ 1320 ABGB, § 833 BGB). In Portugal, such a reversal of proof is explicitly provided by Article 492 § 2 Código Civil for dangerous activities, by establishing a rebuttable presumption that the operator was at fault.

In Belgian and French law, the application of fault has also become more stringent, particularly when it comes to pollution damage. According to Belgian and French law, there are two categories of fault: breach of a rule of law prescribing a specific conduct or breach of a general duty of care. 'Rules of law prescribing a specific conduct' arise from statutory or regulatory provisions, individual decisions taken by administrative authorities, rules of international law with direct effect, and even general principles of law. It does not matter which branch of law the rules belong to, nor is it necessary – in contrast to the German and Austrian notion of a protective law (Schutzgesetz) – that the rule is intended to protect the victim against a certain category of harm. If there is a breach of such a specific rule of law, foreseeability of potential damage is not a necessary prerequisite for liability. Because of the increasing environmental legislation, this category has become very much more important.

The general duty of care is determined by the 'reasonable man' standard. Courts will usually take into account the professional capacity and experience of the defendant. With regard to polluting activities, defendants are required to comply with the state of the art and good practice in their profession. Thus, failure to maintain installations or the use of outdated technology will, in itself, constitute fault. For certain types of activities, there are specific statutory provisions imposing the obligation on the operator to take all necessary measures in order to prevent a specific kind of danger or damage. According to a Belgian court decision of 1965 and some scholarly opinions, such obligations heighten the

level of care or can impose an obligation on the operator to guarantee the absence of nuisance.

In the common law countries of England and Ireland, as well as in Scotland, the plaintiff will be entitled to a cause of action in negligence. The plaintiff must, however, show that the defendant owed him a duty of care, that the defendant breached this duty of care, and that the occurrence and type of the damage was foreseeable. Courts may facilitate the burden of proof (i) by heightening the duty of care corresponding to the dangers inherent in the defendant's activity, a method that is also employed in all the other jurisdictions that have been analysed, and (ii) by applying the rule of *res ipsa loquitur*, which can be invoked when the only logical explanation for the damage was negligence by the defendant. This legal device comes close to the *prima facie* evidence rule, commonly accepted in the civil law countries.

B. Laws of the neighbourhood

In most countries, the laws of the neighbourhood play an important role in the compensation of damage caused by a polluting interference, as they do not require fault on the part of the defendant to be established. In Austria, this is explicitly provided by § 364a ABGB, as well as in Finland by the Act on Civil Liability for Environmental Damage 1994 which also covers negative interference and sudden incidents, and the Adjoining Properties Act 1920, with regard to continuous interference. Other countries that provide for this are Germany (§ 906(2) BGB, § 14 BimSchG), Greece (Articles 1003 and 1108 Astikos Kodikas), Italy (Article 844 Codice Civile) and Portugal (Article 1347 Código Civil). Section 364a of the Austrian ABGB, Article 1003 of the Greek Astikos Kodikas, Article 844 of the Italian Codice Civile and Article 1347 of the Portuguese Código Civil were originally inspired by the German law of the neighbourhood. Yet subsequent legal developments in these countries, as well as in Germany, have led to important differences in the wording and application of these provisions. In Spain, only the region of Catalonia provides for specific regulation on neighbourhood law on the lines of the German model.

In France, a similar result is reached through case law ('*troubles de voisinage*'), which covers excessive interference by noise, smoke or wastewater. As in Belgium, courts base neighbourhood liability on the definition of ownership.

In the common law countries (England, Ireland), the corresponding remedy is the action of private nuisance. Like the laws of the

neighbourhood in Austria, Germany, Greece, Italy and Portugal, the private nuisance cause of action requires a continuous, unlawful and indirect interference with the use or enjoyment of land. It only covers damage to land or to chattels on the land. Although the rules of remoteness and foreseeability of damage (legal doctrines originally developed in cases concerning negligence) also apply to private nuisance, a finding of fault in creating the nuisance is not necessary. The English reporters, though, point out that, with regard to nuisance, the prerequisite of foreseeability of damage still needs further clarification. According to existing case law, a certain awareness on behalf of the defendant that his or her activity poses a threat to the rights of another appears to be necessary. In Scotland, the cause of action for a private nuisance will also apply, but, contrary to the position in England and Ireland, fault needs to be established. This is also the case in the Netherlands, where Article 5:37 Burgerlijk Wetboek provides for fault-based neighbourhood liability.

The right to claim damages requires that the interference exceed a certain threshold of tolerance. The methods of determining the threshold standard are quite different. In Austria, Greece, Italy, Portugal and Germany, the interference must be unusual and must lead to a substantial impairment of the enjoyment of the land, which itself must be customary under local conditions. In Finland, the decisive criterion is whether the damage is acceptable for the plaintiff, which is determined according to its usualness and overall impact on the environment. That the polluting activity was prior in time may be important for this assessment, but will not excuse the polluter from liability. Damage to persons and considerable property damage need not be tolerated.

In England and Ireland, an interference with the beneficial use of the injured party's land must be unreasonable to be actionable. The notion of unreasonableness is a rather flexible concept, and, as the Irish reporter notes, its application will often end up in a balance of interest. This is also the Swedish method of determining the illegality of the interference.

In all jurisdictions, the location of the polluting activity and the location of the polluted area are taken into consideration. All the reporters stress the fact that the threshold of tolerance is lower in residential areas than in industrial areas; although, in some countries, the location of the land would be irrelevant when contemplating actual and physical damage to land (England) or damage to health (Austria, Italy). In several countries, damage due to the unusual sensitivity of the

claimant will not be actionable (Austria, Belgium, Germany, Greece, Scotland: unless perpretrated maliciously). This, however, does not apply to Finland.

A damages claim arising out of the laws of the neighbourhood or nuisance is only available to persons who have a close relationship to the affected land, such as the owner or otherwise-authorised occupant (e.g. atenant). A person who is only affected as to his ownership over movable property does not have the right to claim damages (Austria, Belgium, Germany, Sweden). In several countries, this action covers only real property damage, such as the costs of repairs or a diminution in the value of the property (Austria, Germany, Portugal, the Netherlands, England, Ireland). While loss of profit is awarded under Austrian, Greek, Dutch and Swedish law, this is not the case in England. In Ireland, a person whose interest in the land has been established can also sue for damages due to personal injury. Nevertheless, as the Irish reporter stresses, courts would rather decide on the basis of negligence. In England, although it is theoretically possible to recover for personal injuries, these must be shown to flow directly from the interference with the land. However, there has been no case specifically on this point for fifty years. Like in Ireland, English judges would seek to apply the law of negligence on this point. In Belgium, France, Greece, Italy and Sweden, neighbourhood liability also covers damages arising out of personal injury and death.

The Austrian, German, English and Portuguese reporters stress the importance of the laws of the neighbourhood as a remedy for environmenta damage cases. In Finland, neighbourhood law, which served as a model for the Environmental Damages Act 1994, will only be applied if the environmental impact does not amount to environmental damage.

C. Strict liability regimes

Hazardous installations or risky activities may also be under a regime of strict liability. In some countries, jurisdiction provides for a *comprehensive strict liability rule* with regard to environmental damage. In Finland, a comprehensive strict liability regime, comprising property damage as well as personal injury, has been established by the Environmental Damages Act of 1994. Although neither fault nor unlawfulness constitutes a prerequisite for liability, the fact that the damage was caused with intent or through a criminal act broadens the scope of compensation.

In Sweden, Chapter 32 of the Environmental Code of 1999 provides for strict liability, encompassing personal injury, property damage and substantial pure economic loss. This strict liability regime has a close connection to actions arising from neighbourhood laws in other countries because it is based on the use of real estate and refers to polluting interference by emissions. An action can only be triggered if the interference exceeds a certain threshold of tolerance according to local circumstances. In Portugal, Article 23 LAP provides for strict liability with regard to dangerous activities, although there is no further explanation by the law itself regarding what activities are deemed to be sufficiently dangerous to give rise to liability. Article 23 LAP executes Article 52 § 3 of the Portuguese Constitution, which guarantees the right to adequate compensation for damage to the environment. Article 41 LBA does the same with regard to ecological damage. With regard to activities that are not objectively dangerous, Article 22 LAP provides for a specific fault liability. The German Environmental Liability Act of 1990 refers to damages caused by environmental impacts from certain hazardous installations, which are exhaustively listed in Appendix 1 to the UmweltHG. Environmental impacts pursuant to § 3(1) UmweltHG are listed as 'substances, vibrations, noise, pressure, rays, gases, fumes, heat emissions or other phenomena' which are disseminated in the soil, air or water. Liability is limited in amount to a maximum of €85 million per environmental impact incident. Liability for negligible property damage is excluded. Article 29 of the Greek Law for the Protection of the Environment 1650/1986 provides for civil liability for environmental damage. The Greek reporter, though, stresses that this provision is regarded as being too general in its application by courts and scholars. Therefore, Greece rather prefers to apply the general rules of tort law when it comes to environmental damage.

In Austrian, Belgian, French and Spanish law, there are no comprehensive environmental liability statutes. In these countries, however, sectoral strict liability statutes may also apply to instances of environmental damage. Austria and Spain have taken some steps in order to prepare legislation in the past, but no such laws have yet been enacted. English, Scottish and Irish law also do not provide for general strict liability for environmental damages, either under statute or at common law.

Some European countries, however, provide for strict liability for dangerous activities in their civil codes. A prominent example is Article 1384 § 1 of the French Code Civil, which provides for no-fault

liability of the custodian of a thing. According to this provision, a person who uses, commands or controls a thing is liable for the damage that it causes. This liability is applied very generously by the courts. It covers damage caused by movable and immovable property, as well as damage caused by polluting effects such as smoke, vapours, wastewater and noise. Although fault does not need to be established, the plaintiff has to prove that the interference which caused the damage was above a certain threshold of tolerance. However, Article L 112-16 of the Code of Construction and Housing restricts a plaintiff from a cause of action who subsequently moved into the vicinity of an existing plant if polluting effects did not increase and if the plant is in conformity with the relevant regulations. According to French law, courts are able to order the operator to cease the nuisance or to close down the plant. In Belgium, Article 1384 § 1 of the Burgerlijk Wetboek also provides for strict liability of the custodian of a thing. Unlike in France, this type of liability is in Belgium only applied to things that are defective. In order to be considered defective, the thing must show an abnormal condition that is prone to cause damage. That a thing is dangerous, or that it is dangerous for being in the wrong place, does not yet amount to defectiveness. Article 1384 § 1 Burgerlijk Wetboek has already been applied by the courts to contaminated soil. Thus, this type of liability is increasingly important for pollution damage.

In Italy, strict liability for environmental harm is governed by Article 2050 Codice Civile. Although the phrasing of Article 2050 Codice Civile refers to fault liability with a reversal of proof, this liability rule is regarded as strict by the courts and legal scholars. In Spain, liability for environmental harm is also widely covered by strict liability. A specific strict liability provision is included in Article 1908 Código Civil, which applies to damage caused by excessive toxic fumes. Furthermore, the 'objectivisation' of fault liability through interpretation by the courts in practice also amounts to strict liability. With respect to personal injury caused by noise, a special liability regime has been developed by the courts. Following the ECtHR decision in *Lopez Ostra v. Spain*,[3] in which the ECtHR stated that excessive and persistent noise interference may constitute a violation of the victim's right to privacy in the sense of Article 8 ECHR, Spanish courts hold the opinion that noise pollution can be regarded as a breach of constitutional rights and, thus, give rise to compensation. The Dutch Burgerlijk Wetboek

[3] 20 EHRR 277 of 9 December 1994.

explicitly provides for strict liability for environmental harm (Articles 6:175–178). Article 6:174 Burgerlijk Wetboek establishes strict liability for damage caused by defective constructions or buildings, including the industrial use of a construction (*opstal*' Article 6:181 Burgerlijk Wetboek). Liability pursuant to Article 6:174 Burgerlijk Wetboek is also applied to damage caused by smoke, wastewater or noise from industrial activities in a defective construction. Article 6:175 Burgerlijk Wetboek establishes strict liability for dangerous substances and pollution of air, water and soil, provided that there is a significant risk to humans or property (Article 6:175 § 1 first sentence). Strict liability obligations also apply to the operator of a dump-site (Article 6:176 Burgerlijk Wetboek) or a bore hole (Article 6:177 Burgerlijk Wetboek), and to the owner of a pipeline, sewer or soil pipe (Article 6:174 Burgerlijk Wetboek).

In England and Ireland, strict liability may apply under the rule in *Rylands v. Fletcher*, which reads as follows: 'The person who, for his own purposes, brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, is prima facie answerable for all the damage which is the natural consequence of its escape.' In England, according to subsequent case law, this rule was narrowed and it evolved into a specific form of nuisance law. It applies to the use of land that poses increased dangers to others ('non-natural use of land') relating to isolated incidents, rather than to continuous interference. In applying this prerequisite, courts tend to refer to the reasonableness test in nuisance. As with nuisance, restrictions may apply where the use of the affected land is non-natural. The use of land for industrial purposes or for the general benefit of the community is usually not regarded as 'non-natural use of land' and, thus, does not trigger strict liability. As in nuisance, the damage must have been foreseeable to the user of the land. The English reporters emphasise that strict liability, according to *Rylands v. Fletcher*, is rarely used in cases where environmental damage has occurred. There are several reasons for this. Primarily, the rule refers only to damage that occurred outside the defendant's premises. Also, it applies only to acts where the damage was unintended and is restricted to damage to the land and other property. Pure economic loss is not recoverable. Whether or not damage to property other than land, or for personal injury, is recoverable is unclear. In Ireland, courts apply the rule in *Rylands v. Fletcher* more liberally. While the English reporters in Case 1 of the questionnaire came to the conclusion that no strict liability rule would apply, the Irish reporter clearly acknowledges strict liability

established under *Rylands v. Fletcher*. As Irish courts have already shown a more liberal attitude towards plaintiffs in negligence, it is, according to the Irish reporter, possible that courts will not limit liability to damage on land, but will also include personal injury and damage to moveable property. Contrary to English law, foreseeability of damage by the defendant is not required. In Scotland, the rule in *Rylands v. Fletcher* does not apply. Scotland, therefore, seems to be the only jurisdiction in Europe that does not provide any strict liability regime with regard to pollution. The Scottish reporter, however, stressed that the courts will apply fault liability in a very strict way in order to comply with the specific problems of environmental liability.

Many European countries have enacted *specific statutes* providing for strict liability rules on a sectoral basis that also play a role with regard to pollution. Austria, Germany and Sweden have enacted several strict liability statutes covering specific 'dangerous activities', such as the operation of nuclear power plants, pipelines, power stations, electricity lines and gas pipes. In Austria and Sweden, with regard to 'extremely hazardous activities', strict liability may also be imposed by the courts by analogy to the existing special strict liability rules. This solution is not accepted by the German courts. All of these strict liability provisions cover personal injury as well as property damage. In addition, the Austrian and German jurisdictions provide for specific liability rules regarding water pollution, which are of great practical importance (§ 26(2) Austrian Water Act, § 22 German Water Management Act). In Austrian law, installations causing air pollution, posing a specific threat to forests, are also under a special strict liability regime. Belgian law also provides for a variety of strict liability statutes. Strict liability will be conferred upon the operator of a nuclear power plant, a mine, a pipeline, or a groundwater well for damage due to the lowering of the groundwater level. Strict liability also applies to a producer of toxic waste and to damage caused by fires or explosions in installations that are accessible to the public. The government and local authorities are entitled to recover clean-up costs from the polluter spent on the civil protection services or the fire brigade. In Flanders, the polluter is strictly liable for the cost of clean-up due to soil pollution and any damage that is caused thereby. Finnish law provides for strict liability with regard to nuclear power plants, gene technology, air traffic, oil pollution, etc. In France, there are several statutes that provide for strict liability for mining operations, nuclear power plants, cable railways, vessels and aircraft. Furthermore, French law provides for

compensation in cases of natural or technological disasters by insurance or a guarantee fund financed by levies on insurance contracts. The same applies to damage caused by acts of terrorism. Portuguese law covers harm resulting from the control, supply or installation of electricity and gas with a specific strict liability regime (Article 509 Código Civil). Irish law provides for specific strict liability for harm caused to persons or property by air pollution (Section 28B Air Pollution Act 1987) and water pollution (section 20 Water Pollution Act 1990). Damages can be recovered from the occupier of the premises, or from a third party, whose conduct caused the emission, where such conduct constitutes a breach of relevant legislation. In England, obligations to carry out remedial work are provided by the Pollution Prevention and Control Act 1999.

D. Sudden incident (Case 2)

In most countries (Austria, Belgium, Finland, France, Italy, the Netherlands, Portugal, Scotland, Spain and Sweden), the outcome is the same, whether damage is caused by a sudden incident due to a breakdown or by continuous interference. In Germany, however, the victim cannot rely on § 906 BGB and § 22(1) WHG, which relate to continuous interference only. Fault liability will apply, and, if the damage was caused by an installation listed in Annex 1 UmweltHG, then the victim can also rely on strict liability according to the UmweltHG. With regard to water pollution, only § 22(2) WHG will apply, which requires that the pollution be caused by an installation. In England, the situation is similar. An action in private nuisance would not be available, but rather strict liability under the rule in *Rylands v. Fletcher*. With regard to sudden incidents, thus, the rule in *Rylands v. Fletcher* complements liability in nuisance. This claim, however, will only apply when the operator of the activity was able to foresee the risk of causing such damage during site operation. In Ireland, nuisance is not restricted to continuous interference. Thus, when damage arises from a sudden incident, the victim will legally not be restricted in the choice of remedies. From a practical point of view, the victim will usually claim on the basis of negligence, as awards of damages in negligence tend to be higher than in nuisance.

E. Defences (Case 2, Questions (c)–(f))

With regard to the actions available in strict liability, several defences may apply. Although the phrasing used by the various jurisdictions is quite different, the outcome is rather similar. The Austrian statutes

providing for strict liability usually list the different types of occurrences that will relieve liability, or they will apply the concept of *force majeure*. This defence comprises acts of war, hostilities, armed conflict, civil war, insurrection and natural disaster of an unforeseeable character, similar to the tradition in French, German, Greek, Portuguese and Spanish law. In France, however, the victim will be compensated by a special state fund when the damage was caused by a *force majeure*. The Dutch Burgerlijk Wetbook provides for this defence in Article 6:178(a) and (b) with regard to liability for dangerous substances according to Articles 6:175, 176 or 177 Burgerlijk Wetboek. In Finland, the Environmental Damages Act of 1995, which regulates liability for a polluting interference, does not contain a comparable provision. The defence of *force majeure*, however, is part of the general rules of tort law. In the opinion of the reporter, courts will, therefore, be inclined to deny liability in case of *force majeure*. In Sweden, the situation is somewhat similar. Although the Swedish special liability statute does not provide for a defence in cases of *force majeure*, it is possible that courts will apply this defence when such a case is brought before the courts.

In English, Irish and Scottish law, such occurrences are regarded as 'acts of God' or 'acts of a stranger', which, corresponding to *force majeure*, comprise events that cannot be prevented by human foresight, and therefore cannot be attributed to the defendant. In Ireland, the Air Pollution and Water Pollution Acts do not explicitly provide for such a defence, yet the reporter is of the opinion that courts will be inclined to apply such a doctrine. The Irish reporter also pointed out that the defence, although not directly applicable, may even be available under a cause of action for trespass.

In Italy, the defence of *force majeure* is provided for by Article 1218 Codice Civile only for contractual relationships. In torts, occurrences like acts of war, hostilities, civil war, insurrection, and natural disaster are dealt with under the doctrine of causation. They may constitute *fatti interruptivi*, which means that the occurrence is regarded as interrupting the causal connection between the damage and the act of the defendant. This doctrine was originally established with regard to the regulations of the Penal Code dealing with the prerequisite of causation, but it is now also applied to tort law. Liability, therefore, will be denied because of a lack of causation. The same applies under Belgian law. Thus, under the theory of strict liability of the custodian of a thing (Article 1384 § 1 Burgerlijk Wetboek), in case of war, hostilities, civil war, insurrection or natural disaster the mere use of the premises from which pollution

emanated will not amount to a necessary condition according to the principle of equivalence, which is the prevailing theory of causation.

Most reporters stress that the acceptance of a *force majeure*-like defence varies with the amount of risk posed by the relevant activity and the availability of preventive measures to the defendant. Only the most extreme and unpredictable occurrences will amount to a defence. The burden of proof usually lies with the defendant.

The same applies to an act done with the intent to cause damage by a *third party*. In most countries, this may serve as a defence for the operator of a dangerous activity, provided that the operator was not obliged to prevent the occurrence of such damage (Austria, Finland, Ireland, the Netherlands, Spain and Sweden). In France, however, the act of a third party is usually not a defence in cases of strict liability. German law does not explicitly provide for this defence, either. Relief of liability under § 22 WHG and § 1 UmweltHG, therefore, will depend on whether the act of the third person amounts to an act of *force majeure* with regard to the operator. An act of sabotage will usually not fulfil this requirement, because such acts are foreseeable and can be prevented by the operator. This estimation is shared by the Portuguese reporter with regard to liability according to Article 23 LAP. English and Irish law copes with this problem through the doctrine of the 'act of a stranger', which will serve as a defence when a third person deliberately causes damage to another, given that the act could not be foreseen or prevented by the operator. In Italy, relief of liability will be granted to the operator under the doctrine of interruption of the causal link. According to Belgian law, the intentional act of a third person will not amount to a defence under the theory of strict liability of the custodian of a thing (Article 1384 § 1 Burgerlijk Wetboek). In Scotland, where strict liability for dangerous activities is not provided, the question of exemption from liability due to the acts of third persons is, consequently, only discussed under fault principles. But, as the Scottish reporter pointed out, even under fault-based liability, a defendant can be liable for damage caused by the intentional behaviour of a third party on the condition that he or she was under a duty to prevent the damage.

If harm is caused because of a specific *order or compulsory measure of a public authority*, the defendant will be exonerated in most European countries (Austria, France, Germany, the Netherlands, Italy, Ireland and Sweden). Liability then might lie with the public authority itself. Such a case will only arise if the public authority, not the defendant, is primarily responsible for the occurrence of the harm and if the

defendant was forced by law to follow the instructions of the public authority. In Belgium, however, such a defence will not be available under nuisance or other theories of no-fault liability, unless it can be shown that the fact potentially giving rise to strict liability is no longer a necessary condition for the damage. In English law, the concept is somewhat broader. An exemption from liability is provided for by the defence of statutory authority, which is available with regard to liability under *Rylands v. Fletcher* and under nuisance law. In order to avoid liability, the defendant must show that his or her conduct was permitted by a statute and that the damage was the inevitable consequence of it. Whether this is provided by the statute depends on the construction of the statute in question. The same applies under Scots law. Reporters from both countries stress that, despite this authorisation, liability may arise if the activity was carried out negligently. In Spain, compliance with an order or compulsory measure of a public authority may be regarded as a legitimate exercise of a right. This would exclude liability unless it constitutes an abuse of right. The Finnish and Portuguese reporters did not accept such a defence at all.

Acting within the limits granted by a licence, or the mere compliance with legal or administrative regulations, such as pollution control consent or planning permission, however, does not automatically amount to a defence. This was pointed out by the Belgian, English, Greek, Dutch and Spanish reporters and is also the case in Austrian, Finnish, French, German, Irish and Swedish law. In Austria, compliance with a licence does not exonerate the defendant, neither under fault liability nor under strict liability. If an activity is licensed, the operator will be liable according to § 364a ABGB, the specific no-fault liability of the law of the neighbourhood. In Italy, however, compliance with all the conditions and standards provided for by public law can serve as a defence for liability under the law of the neighbourhood, as the neighbours are obliged to tolerate polluting interference within such limits. This defence, however, only applies to property damage. Interference causing personal injury is always deemed to exceed the threshold of tolerance, and such harm is therefore recoverable.

Contributory negligence is a defence accepted in most of the European countries according to the general rules of tort law. In many civil law countries, this is governed by the civil codes and will apply to all sorts of liability, whether it is fault-based or strict (Austria: § 1304 ABGB; Greece: Article 300 Astikos Kodikas; Germany: § 254(1) BGB;

Finland: Chapter 6 § 1 Tort Law Act; the Netherlands: Article 6:101 Burgerlijk Wetboek; Italy: Article 1227 Codice Civile; Portugal: Article 587 Código Civil; Sweden: Chapter 6 § 1 Tort Law Act). The defence of contributory negligence comprises not only the negligent behaviour of the plaintiff, but also other factors that justify burdening him or her with part of the damage, such as responsibility for a dangerous good, vicarious liability, or failure to prevent further aggravation of loss. In Belgium, however, there is no specific legal provision confirming the theory of contributory negligence and in France, contributory negligence is not a defence in cases of strict liability. In Spain, the defence of contributory negligence is commonly accepted, although it is not provided for in the Código Civil, but only in some specific strict liability statutes, like the Nuclear Energy Act, the Products Liability Act and the Hunting Act. The duty to mitigate the damage is derived from the principle of good faith of Article 7 Código Civil.

In England, Scotland and Ireland, special statutes apply (England and Scotland: Law Reform (Contributory Negligence) Act 1945; Ireland: Civil Liability Act 1961, Part III).

If the plaintiff contributed to the damage by his or her own fault, the amount of recoverable damage will be reduced. If both parties are at fault, then the damage will be apportioned at the discretion of the court, mainly according to the seriousness of their misconduct and the extent of the consequences arising out of it. Predominant guilt on one side, however, can justify full recovery or total exclusion of the recovery of damages. In England and Scotland, such an outcome is established by the doctrine of *volenti non fit injuria*, which provides for release from liability if the plaintiff's conduct amounts to consent to harm. In Scotland, liability can also be excluded by the concept of interruption in the chain of causation through the intentional act of a third party. In Ireland, however, courts are ready to attribute very small liability portions, even as little as 5 per cent.

F. Scope of damages

In all of the jurisdictions analysed, actions in *fault or strict liability* usually cover damage to land, property damage, as well as loss of life and personal injury. English law poses somewhat of an exception in restricting recovery of personal injury in both nuisance and under the rule in *Rylands v. Fletcher*. Some Austrian liability statutes referring only to specific goods, such as water (§ 26 Water Act) or vegetation (§ 53 Forestry Law), do not cover personal injury claims either.

The *laws of the neighbourhood* in the civil law systems and the action in nuisance under common law, however, primarily relate to damage to land. In several countries (Austria, England), these liability regimes do not encompass personal injury damage, at least when such damage is not a consequence of property damage incurred by the landowner or by a person who has a qualified interest in land. Given the importance of these actions with regard to recovery for damage caused by toxic substances and other polluting interference, plaintiffs who have sustained personal injury are, therefore, in a less favourable position than victims of property damage. Under the laws of the neighbourhood, compensation for property damage is also restricted in several countries (Austria, Belgium, the Netherlands and Finland), since damage, which is caused by interference that does not exceed the threshold of tolerance, will not be compensated. In Finland, the tolerance obligation does not apply to personal injury and considerable property damage, which must always be compensated.

G. Collective action (Cases 1(b), 2(b), 3(c), 4(d), 6(b))

Only some jurisdictions provide for *collective actions* when pollutants affect a majority of a group of a population. In Austria, Belgium, Germany, Finland, Ireland, Scotland and Spain, compensation for such damage will be handled on a strictly individual basis. The Austrian and German reporters emphasise that such an occurrence would rather give rise to action by public authorities under administrative law, than to a civil law action. From all the available private law solutions, the most sensible instrument would be an injunction. If several persons suffer health damage, albeit minor, the interference will always be beyond the tolerance level. In theory, damage claims will also be available, yet due to the insignificance of the impairment, they will not be put forward by the victims, and will be covered instead by social insurance. Although social insurance is permitted to claim for indemnification from the responsible party, it is quite improbable that it would engage in litigation, due to obstacles such as lack of evidence and the high cost of litigation. In Belgium and the Netherlands, a claim may be impeded by the general duty to tolerate minor polluting interference, which is construed by the courts according to a balance of interests. Such an obligation to tolerate minor damages also exists in Finnish law, but it only relates to property damage and not to damage from personal injury. In Spain, only the Catalan law of the neighbourhood provides for an obligation to tolerate minor pollution damage. Scholars, however, suggest that this should not apply if the interference

causes substantial health damage.[4] In principle, as has been shown in a case where an association of consumers was entitled to sue for damages on behalf of all the consumers who were harmed by rapeseed oil, Spanish law allows for a class action. The Spanish reporter, however, expressed serious doubts as to whether this instrument would be of practical value with regard to environmental harm, since Spanish legal procedure obliges the losing party to refund the winner the legal costs incurred.

Other jurisdictions do explicitly provide for collective action. In England, an action in public nuisance is available. This allows the local authority or the Attorney-General to trigger criminal proceedings on behalf of the public. Unlike in private nuisance, this remedy also includes compensation for personal injuries. A tort action is available only to claimants who have suffered damage over and above that suffered by the public generally. Compensation will be paid directly to the claimant. Fault is a necessary ingredient, but is presumed, and it is up to the defendant to rebut the presumption. Under Italian law, such an occurrence will give rise to a compensatory action by the state, regions or municipalities affected by the harm under Article 18 of Statute 349/86 (replaced by Articles 311 *et seq.* of Legislative Decree 152/2006). Tort law will still apply, but, as the Italian reporter stresses, victims not having sufficient incentives will not be inclined to file such an action by themselves. In France, people who are affected by pollution may also sue public authorities before the administrative courts for failure to prevent the harm. Damages claims from individuals can also be brought to court by associations. In Belgium, the Act of 12 January 1993 allows certain accredited environmental associations to bring an action for injunctive relief in order to prevent or cease a violation of environmental legislation. The action, however, cannot lead to a damages award. The same is provided by Article 3:305a of the Dutch Burgerlijk Wetboek.

French, Portuguese and Swedish laws also provide for collective action. In Sweden, the relevant § 13 of Chapter 32 of the Environmental Code entered into force on 1 January 2003. It covers personal injury as well as property damage. In Portugal, collective actions are available against objectively dangerous activities pursuant to Article 23 LAP. In France, certain accredited environmental associations have the right to sue a polluter who is at fault for violating administrative environmental regulations or general principles of law before civil or criminal courts according to Article L. 142-2 Code de l'environnement. They can get an injunction as well as damages.

[4] See the Spanish report to Case 1, Question (a).

2. *Liability for specific activities dangerous to the environment*

A. Dangerous substances (Case 3)

No European country, except for the Netherlands, provides for a specific liability regime with regard to dangerous substances. Operators of activities producing or dealing with dangerous substances, therefore, are subject to the liability regimes outlined above. In the Netherlands, Article 6:175 Burgerlijk Wetboek imposes a special strict liability regime on the professional usage of dangerous substances. Liability is imposed on the operator of the activity, who can be held liable for years, even after the closure of the plant. With regard to waste diposal sites, Article 6:176 § 3 Burgerlijk Wetboek makes it clear that, if a waste disposal site was handed over to another operator, the successor cannot be burdened with damages caused by his or her predecessor.

Most countries also ensure the clean-up of contaminated land pursuant to administrative law (Austria, Belgium, England, Finland, France, Germany, Italy, the Netherlands, Scotland, Spain, Sweden). The person primarily responsible for such an obligation is the operator of the activity that has caused the damage. If the operator cannot be held liable, the obligation falls upon the owner of the contaminated land. Under English law, if the public authority fails to act, a person who is injured because of the land contamination can bring an action in tort for breach of statutory duty against the public authority. The injured person must show that the duty breached by the public authority contemplated the damage, that the duty was not only in the public interest, but was also for the personal benefit of individual persons, and that the claimant belonged to such a protected group.

B. Genetically modified organisms (Case 4)

Liability for the risks imposed by genetically modified organisms must cover the scientific development and production of genetically modified organisms, their distribution on the market, and their use by farmers and consumers. The *distribution* of genetically modified organisms on the market is covered under product liability law, which is, due to the harmonising effects of the EC Products Liability Directive,[5] quite similar in all European countries. It provides no-fault liability on the producer

[5] Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, OJ L210, 07.08.1985, p. 29.

for the use and consumption of products placed on the market. Thus, when a consumer is injured by the consumption of a foodstuff or by a drug produced by genetic engineering methods, he or she will be entitled to claim property or personal injury damage from the producer. Damage to the environment, however, is only covered if it constitutes property damage. However, according to Article 7e of the Products Liability Directive, the producer, can avoid liability by proving that the state of scientific and technical knowledge at the time when he or she put the product into circulation was not such as to enable the existence of the defect to be discovered.[6] In Greece, the producer of genetically modified organisms can also be held liable under Article 29 of the Law for the Protection of the Environment 1650/1986 if the product causes degradation of the environment.

In many countries, the intentional or unintentional *release* of genetically modified organisms into the environment during the production process is covered by no-fault liability. In general, the laws of the neighbourhood, or of nuisance in common law countries, will cover harm to neighbouring land caused by contamination with genetically modified organisms. In order to claim compensation, the plaintiff must show that the interference was unusual for the region and that it led to a substantial impairment of the enjoyment of his or her land; or, in the common law countries, one needs to show that the use of the land was unreasonable. In Scotland, an action under nuisance would additionally require fault to be established. The Irish reporter pointed out that compensation for economic loss will need proof of contamination of the plaintiff's land by genetically modified organisms and actual damage. The mere withdrawal of the organic status of a farmer will not be sufficient. In England and Ireland, the strict liability rule in *Rylands v. Fletcher* will also apply. The plaintiff must show that the genetically modified organisms were inherently dangerous and, in England, that the use of the genetically modified organisms was not a natural use of the land by the defendant. In Austria, the 2004 amendment to the Gene Technology Act inserted specific liability provisions (§§ 79k–79m) governing the contamination of farm land by products consisting of, or containing, genetically modified organisms from neighbouring land. The plaintiff is entitled to claim an injunction or damages from the

[6] For further information on the state-of-the-art defence and the implementation of Article 7e of the Products Liability Directive, see section I.3.B above.

person who cultivated the products that caused the contamination. The law covers damage to persons, property and the environment, and contains a rebuttable presumption of causality. In order to claim damages, it is sufficient to show economic loss due to an effect on the marketing of the farming products. Like under the neighbourhood law (§§ 364, 364a ABGB), the plaintiff must show that the interference was unusual for that area and that it led to a substantial impairment of the enjoyment of his or her land.

Under French and Italian law, the general strict liability regime of the Civil Code will also include damage arising from genetically modified organisms (France: Article 1384 § 1 Code Civil; Italy: Article 2050 Codice Civile). In Spain, this result may be achieved by extensive interpretation of strict liability on the basis of Article 1908 § 2 Código Civil. For a genetically modified organism that can be regarded as an animal, Article 1905 Código Civil that provides for strict liability for the possessor of an animal may also be applied. Such an interpretation was also suggested by the Belgian reporter with regard to Article 1385 Burgerlijk Wetboek that provides for strict liability for the owner or the guardian of an animal. If the release results from a defective installation, strict liability according to Article 1384 § 1 of the Belgian Burgerlijk Wetboek will also be applicable. In Flanders, Article 22 of the Decree on environmental permits, which imposes a duty to take all measures necessary to prevent a nuisance, damage or a major accident, is also applicable to genetically modified organisms. In Dutch law, damage caused by the professional use of genetically modified organisms is covered by strict liability according to Article 6:175 Burgerlijk Wetboek, as it is generally held that genetically modified organisms qualify as a dangerous substance in the sense of Article 6:175 Burgerlijk Wetboek. In Greece, harm caused by the legal release of genetically modified organisms could be compensated according to equitable considerations. If the release occurred by accident, compensation can be granted according to Article 29 of the Law for the Protection of the Environment 1650/1986. In Finland and Sweden, strict liability provided by the laws on environmental damage is also applicable to genetically modified organisms (Finland: Environmental Damages Act 1994; Sweden: Environmental Code 1999, Chapter 32). In Portugal, strict liability will only apply if the activity can be regarded as being objectively dangerous, otherwise only fault liability applies.

Several European countries provide specific strict liability statutes with regard to genetically modified organisms. Under Austrian law,

liability applies to the production, use, increase, storage, destruction or disposal of genetically modified organisms, as well as their release into the environment (§§ 79a–79j GTG). It covers damage to persons, property and the environment. The law also contains a rebuttable presumption of causality, and obliges the operator to provide information in order to enable the plaintiff to establish causation. In Finland, strict liability according to the Act on Gene Technology (Geenitekniikkalaki, 377/1995) applies. With regard to damage to the environment, this Act applies the Environmental Damages Act 1994, and the Products Liability Act of 1990, if a product containing genetically modified organisms causes damage to property or persons. With regard to emissions, the Environmental Damages Act also applies. German law establishes a comprehensive strict liability regime for the operation of a gene technology installation (§§ 32–34 GenTG). It covers damage to property and personal injury damage and contains a rebuttable presumption that any damage caused by genetically modified organisms is due to the gene technology process. Liability, however, is restricted in amount to €85 million.

Harm caused by the *farmer's use* of genetically modified organisms is covered by fault-based liability and the laws of the neighbourhood. In Austria, the specific neighbourhood liability according to §§ 79k–79m GTG applies. In England and Ireland, the rule in *Rylands v. Fletcher* also applies, and, in the Netherlands, Article 6:175 Burgerlijk Wetboek will be applicable. In France, the farmer will be liable as the custodian according to Article 1384 § 1 Code Civil, and, in Spain, the general liability rule of Article 1902 Código Civil is applicable. Under German law, the farmer is regarded as an 'operator' under the Gene Technology Act and is, therefore, strictly liable in addition to being liable according to the law of the neighbourhood. In Finland, strict liability according to the Environmental Damages Act and the Products Liability Act may apply.

Along with civil liability for harm caused by genetically modified organisms, clean-up obligations may be imposed by administrative law upon a defendant.[7]

[7] E.g. England: Part VI EPA 1990. In Spain, the Ley 9/2003, de régimen jurídico de la utilizacíon confinada, liberación voluntaria y comercializacíon de organismos modificados genéticamente (BOE No. 100, 26 April 2003, pp. 16214 *et seq.*) requires restoration and compensation by the tortfeasor, which is enforceable by the public administration.

C. Dangerous micro-organisms (Case 5)

No European country provides for specific liability provisions with regard to dangerous micro-organisms. Therefore, liability as outlined under Section I.1 above will apply to the operator of such an activity. Belgian scholars consider Article 1385 Civil Code, which holds the owner or keeper of an animal strictly liable for the damage caused by the animal, to apply to micro-organisms as well. Micro-organisms that are rather of a vegetal nature can be considered to be 'things' according to Article 1384 § 1 Civil Code. In Finland and Sweden, the specific environmental damages regime (Finland: Environmental Damages Act 1994; Sweden: Environmental Code 1999, Chapter 32) would be applicable if the damage stems from the polluting interference by micro-organisms. Harm caused by the direct consumption of dangerous micro-organisms or by bodily contact would not be covered by the Acts. In the Netherlands, Article 6:175 Burgerlijk Wetboek is applicable, since dangerous micro-organisms qualify as dangerous substances according to this provision.

D. Production and disposal of waste (Cases 6 and 7)

The *operation* of waste disposal sites as well as sites of incineration, treatment, handling or the recycling of waste is covered by the liability regimes outlined under Section I.1 above. The comprehensive environmental liability regimes in Finland, Germany, Greece and Sweden govern such activities as well. In Portugal, the application of strict liability according to Article 23 LAP, however, depends on whether the activity can be regarded as objectively dangerous. In Austria, strict liability according to §§ 163 *et seq*. MinroG also plays an important role with regard to waste disposal sites situated in mines. The special no-fault liability regime for water usage facilities provided by § 26(2) WRG, however, is not applicable, since waste disposal sites are not regarded as water usage facilities.

The English reporters and the Irish reporter stress that the deposit of waste can be regarded as a non-natural use of land in terms of the rule in *Rylands v. Fletcher* and that the deposit and incineration of waste may also constitute a nuisance. For the deposit of waste, English and Scots law provide a specific strict liability regime under section 73(6) of the Environmental Protection Act of 1990. Liability is directed against any person who deposited or knowingly caused the deposit of waste in circumstances where that deposit constitutes a criminal offence.

It covers both personal injury and property damage. A damages claim is only excluded if the damage results wholly from the fault of the injured person, or if he or she voluntarily accepted the risk of damage. There is no requirement, however, that the claimant be the owner of land. The English reporters pointed out that, although there is as yet no case law under this section, it is to be expected that courts will apply the common law rules, such as the prerequisite of foreseeability or the exclusion of economic loss, to civil claims under section 73(6). This specific liability regime relates only to the permanent or temporary deposit of waste and not to other forms of waste treatment or disposal, such as incineration or recycling. In both England and Ireland, a damages claim under trespass would also be available. According to section 32 of the Irish Waste Management Act, a person can only lose ownership of waste when it is deposited in a legal way. Therefore, the owner of the waste commits trespass if, and as long as, waste that belongs to him or her is on the land of another person.

In the Netherlands, Article 6:176 Burgerlijk Wetboek imposes strict liability on the operation of a dump-site that causes pollution to air, water or soil. Although the operation of such an activity will usually require a licence under administrative laws, this is not a prerequisite for liability under Article 6:176 Burgerlijk Wetboek. The operator is liable for property damage, personal injury and even pure economic loss caused by the polluting effects of the site. Article 6:176 Burgerlijk Wetboek does not apply to the incineration, treatment, handling or recycling of waste.

If waste is deposited in an illegal way, many countries impose clean-up obligations by administrative law (e.g. Austria; Belgium; England and Scotland: § 59 EPA 1990; France: Articles L.541-6, 541-3 § 6 and L.514-16 Code de l'environnement; Germany; Italy: Decreto Ronchi 1997; Sweden: 1999 Environmental Code, Chapter 10). In Spain, Ley 10/1998 requires the regions to set up an inventory of soils polluted by waste and to oblige the polluter to carry out clean-up and restorative measures. This obligation may subsidiarily also be addressed (i) to the possessor or secondarily (ii) to the owner of the polluted soil. If the liable person does not obey the order, the public administration may carry out the measures and recover the costs incurred. The law also provides that the public administration may require the polluter to pay damages to private persons. In this case, the Spanish scholars suggest that an action in tort should only be granted, insofar as the award of damages by the public administration is insufficient according to the standard provided by tort law.

The *producer* of the waste[8] is primarily subject to fault liability. With regard to hazardous waste, the producer must comply with a series of special duties regulating the management and disposal of waste under administrative law. The failure to perform these duties can give rise to liability for breach of a statutory duty according to fault liability. Under certain conditions, the laws of the neighbourhood – or an action in nuisance in the common law countries – can also be applicable.

In several countries, the producer of waste is even under a strict liability obligation. Since 1974, Belgian law has provided a strict liability regime for toxic waste, which applies to industrial, commercial and research activities. Liability covers the production, transportation and disposal of toxic waste, even if these activities are not performed by the responsible party itself. Due to a rather restrictive definition of toxic waste (under the Royal Decree of 1976), there is still no case law concerning this liability regime. In English and Scots law, the producer of waste can be held liable under section 73(6) EPA 1990 if he failed to inform the operator of the deposit site of the hazardous nature of the waste. In Finland, strict liability according to the Environmental Damages Act also applies to the producer of the waste. In Greece, Article 3 § 2 of the Common Ministerial Decision 113.944/1997 provides for waste management obligations, and Article 29 of Law 1650/1986 provides for strict liability with regard to waste management, which also applies to the producer of waste. Under Italian law, Article 2050 Codice Civile is also applicable to the producer of waste, as is Article 1902 of the Spanish Código Civil. According to Article 6:176 § 6 of the Dutch Burgerlijk Wetboek, the handing over of waste to the operator of a dump-site is also regarded as 'dumping' and, thus, leads to liability. In Portugal, strict liability according to Article 23 LAP includes the production of waste, if this can be regarded as an objectively dangerous activity.

When harm occurs, the producer of the waste and the operator of the waste disposal site are jointly and severally liable for damage. Failure to inform the operator of the hazardous properties of the waste may entitle the operator to a recourse action against the producer.

E. Nuclear power plants (Case 8)

Liability for nuclear power plants is mainly regulated by international law, namely, the Paris and Brussels Conventions.[9] In Belgium, the Paris

[8] See Case 7. [9] See chapter 1 above.

and Brussels Conventions were implemented by the Act of 22 July 1985, which was amended by the Act of 11 July 2000. Under the amendment, liability of the operator is limited to €300 million. In France, nuclear power plants are operated by the state-owned Electricité de France (EDF). As an *établissement public industriel et commercial*, EDF can be sued in civil court, although, according to special legislation, only the Tribunal de Grande Instance in Paris has jurisdiction in such cases. Liability is governed by Law No. 68-943 of 30 October 1968, as amended by Law No. 90-488 of 16 June 1990, and is limited to €90 million per accident. In the United Kingdom, the Paris Convention was implemented by the Nuclear Installations Acts of 1965 and 1969. The liability cap is currently £140 million. The limitation period is thirty years from the date of the nuclear incident or, in the case of a continuing occurrence, from the date of the latest event. Where damage or injury is caused by nuclear material, which was stolen, lost or abandoned by the operator of the nuclear installation, there is a limitation period of twenty years. Germany incorporated the Paris Convention into the Atomic Energy Act of 1959. Liability is unlimited in amount. Greece implemented the Paris Convention by legislative Decree 336/1969, as amended by Law 1758/1988. The liability cap is 15 million SDR. Finland implements the Paris and Brussels Conventions by the Nuclear Liability Act, No. 484/72, as amended by Acts Nos. 386/86, 820/89 and 588/94, and Italy incorporates the Conventions by the Act No. 1860 of 31 December 1962 as amended by Act No. 131 of 5 March 1985 and Act No. 147 of 23 April 1991 implementing the Joint Protocol. The Netherlands enacted the Nuclear Liability Conventions through the Third Party Liability Act of 1979, No. 225, as amended by the Act of 1991, No. 369, and the Act 1991, No. 373. The current liability amount is approximately €340 million per incident covered by obligatory insurance. In Spain, the relevant law is the Ley 25/1964, de 29 de abril, sobre energía nuclear, which provides for a liability cap of approximately €1.8 million. Sweden incorporated the Conventions by the Nuclear Liability Act (Atomansvarighetslagen) 1968:45, as amended.

It is interesting to note that Portugal has not yet enacted any specific legislation implementing its obligations derived from the international nuclear liability conventions, and Spain did not enact the principle of legal channelling in its Ley 25/1964, de 29 de abril, sobre energía nuclear. This means that, according to Spanish law, victims of nuclear damage are entitled to sue the contractor or the supplier of a nuclear power plant under the general regime of Article 1902 Código Civil.

Austria and Ireland do not belong to any of the nuclear liability conventions. Austrian law provides a specific nuclear liability statute, which applies to the operation of nuclear plants, the carriage of radioactive material and the handling of radionuclides. Liability is unlimited in amount. Legal channelling is, to a great extent, eliminated, and there is no exclusive jurisdiction of the state in which the plant is situated. The new law ensures that an Austrian court has jurisdiction and that Austrian law is applicable if nuclear damage occurs in Austria, regardless of where it was caused. Further features of the new law include a substantial extension of the definition of nuclear damage and some regulations to facilitate the proof of causality. The Nuclear Liability Act does not restrict any liability obligations provided by other legal provisions. The injured person, therefore, is free to assert his or her claim for damages against the operator of a nuclear plant, or against the carrier of nuclear material pursuant to this law or another, as well as against a third party. Claims may be based on the general provisions of tort law or product liability law, or based on the state's liability. Suppliers of products and services to a nuclear plant, however, are only secondarily liable. A supplier is only liable if an action against the operator of the plant is unreasonable. The operator's right of recourse against such persons is barred as well, unless the damage was caused by an act or omission done with the intent to cause damage, or unless the right of recourse is expressly provided for by contract.[10] If the nuclear damage occurred in a foreign territory, action against the supplier according to the Austrian Nuclear Liability Act is only possible insofar as the injured party's home law would provide for comparative compensation. The injured person, therefore, cannot recover the loss if the damage, for instance, has already become statute-barred under this law, if the sum demanded exceeds the liability amount provided, or if the action against the defendant is barred due to legal channelling. The Austrian Nuclear Liability Act does not make a distinction between damage caused by a sudden incident and damage due to continuous pollution. Both types of damage are covered by the strict liability of the operator of the nuclear power plant.

Ireland does not provide for a specific liability scheme for nuclear damage. Thus, the general rules, outlined under Part I.1 above, are applicable. Liability can also be established on the basis of negligence, nuisance, trespass and strict liability according to the ruling in

[10] § 19(3) AtomHG.

Rylands v. Fletcher. If the tort of trespass is to be established, it must be done without reliance on section 32 of the Waste Management Act, since section 3 provides that the Act does not apply to radioactive substances, including radioactive waste. If the damage was transmitted through water, liability will be regulated by section 20 of the Water Pollution Act. Liability on the basis of the Air Pollution Act is excluded with regard to emissions arising from the use of a radioactive substance or device.

1. *Specific defences*

A. Public service undertakings (Cases 5(b) and 6(d))

The fact that an activity is performed by the state does not make any difference in most European countries. State-run laboratories, waste disposal sites or power plants are under the same liability obligations as are those that are run by private persons or companies (Austria, Germany, Finland, Italy, the Netherlands, Portugal, Scotland and Sweden). In such countries, public bodies can be sued under the same conditions as private persons, according to the grounds of liability outlined above.

France and Spain are quite different. In these countries, claims for damage caused by a public authority or a private person who is in charge of a public service must be brought before administrative courts. In France, these courts will impose a special strict liability scheme for 'damage caused by public works' that provides only monetary compensation. With regard to polluting effects or dangers that stem from public undertakings, a doctrine of compensation for 'risks exceeding regular inconveniences of the neighbourhood' can also be applied according to the case law of the Conseil d'Etat. If the institution is owned by the state, but engages in economic activities, then jurisdiction will be with the civil courts. In Spain, damages claims against the public administration are subject to a specific liability Act that provides for no-fault liability for the normal or abnormal operation of the public service. Liability prerequisites are the establishment of damage, causation and unlawfulness. *Force majeure* and the state-of-the-art defence apply. This category of liability does not preclude the responsibility of the individual official under the general rules of tort law.

The Greek reporter also pointed out that in Greece state-run undertakings would not fall under the general rules of tort law but rather under Articles 104 *et seq*. of the Introductory Law of the Astikos Kodikas.

In practice, however, the liability obligations of state-run facilities do not differ from those applying to private ones.

In England and Ireland, it is possible to exclude the liability of public authorities by statute. For instance, according to section 67 of the Irish Waste Management Act, no action lies against a local authority for failure to exercise any of its powers under the Act, including a failure to ensure the collection and disposal of domestic waste, though an action would lie for the negligent exercise of the power. In Ireland, these statutes tend to be interpreted restrictively by the courts. Whether a charitable organisation runs the business usually alters the legal position of the organisation.

B. State-of-the-art (Case 9)

The capability to foresee the risk caused by an activity is an essential prerequisite for a *fault-based liability*. Thus, in most European countries, fault cannot be established, if the operator of a plant did not know and, due to the lack of empirical and scientific knowledge, could not have known that the emissions from its plant were capable of causing damage. Only the Portuguese reporter stated that such circumstances do not exclude fault liability according to Article 22 LAP.

Under theories of *strict liability*, most jurisdictions do not allow the defendant to escape liability by showing that he did not know and could not have known the risk. Product liability, however, poses an exception to this rule, as Article 7e EC Products Liability Directive provides that the producer of a defective product shall not be liable if he proves 'that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered'. Although Member States are, according to Article 15(1)(b) of the Products Liability Directive, allowed to decide not to incorporate this exonerating circumstance, of all the countries analysed, only Finland[11] chose not to enact this defence. The Spanish product liability statute renders the state-of-the-art defence inapplicable to producers of food and medicinal products. In France, the defence does not apply to products derived from the human body[12] and in Germany it does not apply to drugs.

[11] Together with Luxembourg and Norway. See Annex 1 to the Green Paper on producer liability, COM (1999) 396, July 1999.

[12] See *Ibid.*

In Austria, liability according to § 364a ABGB and all strict liability statutes, such as the liability provisions in the Gene Technology Act or the Nuclear Liability Act, do not provide for the state-of-the-art defence. In Belgium, Germany and Portugal, the situation is the same. Liability according to neighbourhood law and strict liability (Belgium: Article 1384 § 1 Burgerlijk Wetboek; Germany: § 1 UmweltHG; Portugal: Article 23 LAP) also cover damage of an unforeseeable kind. In Finland and Sweden also, the state-of-the-art defence is not allowed under the laws of the neighbourhood nor under the specific environmental liability statute. Greek neighbourhood law and Article 29 of Law 1650/1986 for the protection of the environment do not provide for the state-of-the-art-defence either, nor does Ireland, where liability according to the Air Pollution Act, as well as under nuisance, trespass and probably also under *Rylands v. Fletcher*, does not allow for the defence.

In France, England, the Netherlands and Scotland, the situation is different. The French reporter states that one cannot be liable for the unforeseeable consequences of one's acts. Thus liability will be denied if the defendant can show that he or she could not have foreseen that his or her act was prone to causing the harm. According to the precautionary principle, however, courts will only accept this defence if the tortfeasor applied the scientific and technical knowledge of the time, which is interpreted as the highest advanced knowledge at the world level.

In England, according to the ruling of the House of Lords in *Cambridge Water v. Eastern Counties Leather*,[13] foreseeability is a necessary prerequisite for liability under nuisance or under *Rylands v. Fletcher*. In Scotland, such a defence will always be successful, since strict liability is not available under Scots law. The Scottish reporter, however, stresses that the criterion of foreseeability may be extended to a fairly wide category of occurrences, such that, not the precise accident, but harm of some sort, must be foreseeable. In the Netherlands, the state-of-the-art defence would also be available. The main category of liability for environmental harm under Dutch law is Article 6:175 Burgerlijk Wetboek, the liability for dangerous substances. The Dutch reporter points out that such liability only covers substances that are known to be dangerous. Thus, with regard to substances that are not yet known to be dangerous, no liability will apply. The defendant, however, will only escape liability by showing that he or she had done everything to

[13] [1994] 2 AC 264.

prevent damage. He or she will be under a duty to discover the risks of his or her activity and to adequately warn of those dangers.

In Italy, the solution is still unclear. The Italian reporter states that neither courts nor scholars have reached an opinion on this issue. Should such a case be brought to court, however, courts may be inclined to draw an analogy to products liability law and allow the defendant to plead the state-of-the-art defence.

C. Statute of limitations (Case 10)

Regulations on the statute of limitations vary very much. In Austria, liability claims become statute-barred after three years from the point in time when the injured party learns of the existence of the damage and the identification of the liable person (§ 1489 ABGB). With regard to criminal offences punishable by more than one year of imprisonment, the statutory limitation period is thirty years from the date when the damage occurred. The same prescription period applies, in any event, if the injured person did not obtain knowledge of either the damage or the liable person. In Germany, the prescription period for property damage is ten years, but thirty years with respect to personal injury (§ 199(2) BGB). Belgian, Greek, Dutch, Italian, Scots and Spanish law provide for shorter prescription periods. In Spain, Articles 1902 and 1968 § 2 Código Civil provide for a presciption period of only one year from the moment when the victim knew of the damage. In Italy, the prescription period is five years (Article 2947 Codice Civile), as it is in Scots law. According to the Prescription and Limitation (Scotland) Act 1973, the five-year prescription period starts to run when the damage occurred, or, if the damage is not immediately apparent, when the victim became or could with reasonable diligence have become aware of the damage. According to Article 2262 *bis* of the Belgian Burgerlijk Wetboek, Article 937 of the Greek Astikos Kodikas and Article 3:310 § 1 of the Dutch Burgerlijk Wetboek, liability claims must be brought within five years from the moment the injured party has knowledge of the damage and of the identity of the liable party. At any rate, the right to compensation becomes statute-barred after twenty years from the event that caused the damage. With regard to fault liability, the statute of limitations begins the moment the tortious act was committed. In Greece, Article 286 § 2 of the Penal Code, which deals with the criminal liability of a constructor, provides that the running of the prescription period does not start with the tortious act, but with the occurrence of the damage. The Greek reporter, therefore, proposes that the

legislature should extend this rule also to other dangerous activities. In the Netherlands, the general prescription period does not apply to environmental damages. If the damage is the result of pollution to air, water or soil, sections 2 and 3 of Article 3:310 Burgerlijk Wetboek provide for a limitation period of thirty years from the event that caused the damage.

If, as the Belgian reporter explicitly points out, the damage is the result of a series of consecutive tortious acts, the limit will run from the last act that can be considered a cause of the damage. If it is possible to attribute certain parts of the damage to certain acts, then there are different time limits for each of the parts of the damage. The same will apply in the event of a continuous release of pollutants.

In England and Ireland, the limitation period in actions for negligence, nuisance or breach of duty is three years. The Irish Civil Liability and Courts Act 2004, however, reduced the limitation period to two years in cases of personal injury. For other torts, including trespass and the rule in *Rylands v. Fletcher*, the statute of limitations is six years. With regard to nuisance and trespass, the limitation period begins to run on the date on which the tortious act was committed. In relation to nuisance, the decisive point in time is the moment of the pollution discharge. A claim in trespass, however, will not be statute-barred as long as the contaminant is on the property of the other. With respect to negligence and the rule in *Rylands v. Fletcher*, in both England and Ireland, the limitation period runs from the date on which the damage became discoverable.

In Sweden, the general prescription period of ten years, as provided by the Limitation Act of 1981, also applies to environmental liability according to Chapter 32 of the Environmental Code, and runs from the date damage was caused. The administrative liability, according to Chapter 10 of the Environmental Code, is not subject to prescription at all, but it is only applicable to activities that have not been terminated prior to 1 July 1969, the date the act came into force. If pollution is ongoing, the new landowner will be held responsible. The same applies under French law. According to Article 2270-1 Code Civil, the prescription period for extra-contractual civil liability is ten years. With regard to administrative liability, however, no prescription is provided. In Finland, the prescription period for environmental damage is ten years, as provided by § 8 of the Prescription Act 2003. The limitation period runs from the date when the damage is discovered or when the polluting actitivity has stopped.

II. Causation and multiple tortfeasors (Cases 11–14)

1. Causation

A. Establishment of causation

(a) Burden of proof (Case 11)

All the jurisdictions analysed have the general rule that the *burden of proof* of causation lies with the plaintiff. In some European countries, this is explicitly provided for by legal provisions, such as in Belgium (Article 1315 Burgerlijk Wetboek and Article 870 of the Code of Civil Procedure), Finland (§ 3 Environmental Damages Act 1994), France (Article 1315 Code Civil), Greece (Article 338 of the Code of Civil Procedure), Italy (Article 2697 Codice Civile), the Netherlands (Article 150 Wetboek van Burgerlijke Rechtsvordering), Portugal (Article 563 Código Civil), Spain (Article 217 Civil Procedure Act) and Sweden (Procedural Code, Chapter 35). In other countries, this principle derives from case law (England, Ireland, Scotland), or judicial interpretation (Austria, Germany).

(b) Level of certainty (Case 11)

Causation is established if the plaintiff can link the defendant to the harm to the satisfaction of the court. There are, however, considerable differences with regard to the *level of probability* that is necessary to establish causation. Austrian, German, Greek and Spanish law require a very high level of probability, close to certainty. In Belgium, France, Italy and the Netherlands, the claimant must also convince the court that the defendant actually caused the damage, but the required level of probability is not defined. Thus, courts have broad discretion on the issue of the proof of causation. On the other hand, if the victim brings his compensation claim before the criminal court in a criminal proceeding against the tortfeasor, the proof of causation must meet the high standard of criminal law. This was explicitly pointed out by the Belgian reporter and is also true for Austria and Sweden.

In the common law countries, as well as in Scotland and the Scandinavian countries, the required level of probability is much lower. In England, Ireland and Scotland, the claimant must prove that, on the balance of probabilities, the defendant's activity was, at least, a material contributor to the damage. In Finland and Sweden, similarly, causation is established when the claimant can prove that it is more probable than not that the defendant caused the damage. In Sweden,

this general rule is also explicitly extended to environmental harm (Chapter 32 § 3(3) of the Environmental Code).

All European countries provide for *free evaluation of evidence*. Thus, admission and weighing of evidence lie within the discretion of the court. The civil procedural laws also allow the courts to require parties to produce all evidence at their disposal. This is explicitly stated by the Austrian, Belgian, Dutch and English reporters and is, to a certain extent, also provided by Chapter 35 § 6 of the Swedish Procedural Code.

(c) Easing the burden of proof

With regard to activities dangerous to the environment, many European countries have developed methods to facilitate fulfilment of the claimant's burden of proof. A common device is *prima facie evidence*, according to which causation is established if it can be inferred from a typical course of events (Austria, Germany, Greece, the Netherlands and Sweden). In Austria, *prima facie* evidence is usually applied in the case of a violation of a protective law ('Schutzgesetz'). In common law countries, the comparable rule of *res ipsa loquitur* is primarily applied for the proof of fault under the tort of negligence and not with regard to the proof of causation. The Irish reporter, however, states that this rule should also be applied to proof of causation in cases where facts that need to be proven are peculiarly within the defendant's control. Yet, in the case of *Hanrahan v. Merck Sharpe and Dohme*,[14] which dealt with polluting emissions from a chemical factory, the Irish Supreme Court refused to reverse the burden of proof with regard to the proof of causation.

In Austria, Germany, Greece and the Netherlands, courts provide for an easement of the burden of proof with regard to causation. In Germany, for example, the BGH, in the famous *Kupolofen* case, imposed a duty of discovery on the operator of a polluting plant and required the operator to prove that he or she had taken all necessary measures for the containment of the emissions. According to the ruling of this case, courts are allowed to facilitate the plaintiff's burden of proof if necessary notification has not been carried out or emission limits have been exceeded. In such a case, the plaintiff need not prove causation, but only certain facts that show that it is probable that the damage was caused by the defendant. The Austrian OGH also provides for lessening the burden of proof, if the defendant was closer to the risk than the plaintiff.

[14] [1988] ILRM 629.

In Greece, scholars propose that courts should reverse the burden of proof according to the 'principle of the origin of risks' or the 'principle of the fields of influence', and by analogous application of Article 925 Astikos Kodikas, as they have done in product liability law. Thus, the plaintiff need only show a 'minimum causality', and it is the burden of the defendant to prove that the cause of the harm was not within its sphere of influence. A comparable theory is applied by the Dutch courts obliging the defendant to prove all facts within his or her domain of knowledge. Under Dutch law, another often used method is the *omkeringsregel*. If the plaintiff can show that the defendant's behaviour was unlawful, that the behaviour created or increased a specific risk of damage, and that this risk actually materialised, then the causal link between the unlawful behaviour and the damage is established, and it is up to the defendant to prove the contrary. In the recent case of *Fairchild* v. *Glenhaven Funeral Services*,[15] the House of Lords ruled that courts may apply a different causal requirement where the state of scientific knowledge makes it impossible for the victim to prove causation according to a generally applied rule of the balance of probabilities. Thus, a worker who contracted an asbestos-related illness at his workplace may sue each employer for compensation if it is not possible to show whether the illness was due to a single exposure or to the cumulative effect of exposure in various workplaces.

In Austrian and German law, several strict liability statutes provide for a *presumption of causation*. In Austria, a presumption of causation covers damage to water (§ 26(5) WRG) and forests (§ 54 ForstG), as well as damage caused by dangerous activities or installations, such as mines (§ 162(1) MinroG), nuclear power plants (§ 12(1) AtomHG) and genetically modified organisms (§ 79d and 79k(4) GTG). The presumption of causation in § 12(1) AtomHG, however, relates only to personal injury caused by radioactivity. The various presumptions of causation differ in their effect. The presumptions of causation provided by § 26(2) WRG, § 162(1) MinroG and § 54 ForstG are very strong. They can be rebutted only by proof to the contrary. The presumptions provided by § 12(1) AtomHG and §§ 79d and 79k(4) GTG are already rebutted, if the defendant proves that it is merely probable that the damage was not caused by the nuclear power plant or, respectively, by the genetic modification of the organism. German law also provides for a presumption of causation in § 6 UmweltHG. This presumption requires the plaintiff to prove that

[15] [2003] 1 AC 32.

it is, according to certain criteria enumerated in § 6(1) UmweltHG, probable that the damage was caused by the relevant installation. This presumption can be rebutted by the defendant and does not amount to a reversal of proof. The presumption is rebutted by proving that the operator acted within the limits granted by a licence, that it complied with all legal and administrative regulations, and that there was no irregular incident. The presumption is also rebutted if the operator can show that it is equally probable that the damage can be attributed to another cause.

Jurisdictions that already accept a lower level of certainty as a general rule, such as England, Ireland, Finland and Scotland, which recognise the rule of preponderance of probabilities, do not provide for comparable strategies with regard to the proof of causation. In France, too, no such instruments are applied. With regard to asbestos victims, however, the state intervened by establishing a fund to provide compensation. Belgium and Italy, which leave the issue to the discretion of the courts, do not apply any specific strategies in order to ease the plaintiff's burden of proof. With regard to the causal relationship between the damage and the defect of a thing, however, Belgian courts often consider the fact that other reasonable explanations for the damage are excluded as sufficient evidence. In Portugal, no sound practical solution has yet been found. Scholars, however, offer several theories: (i) redefine the traditional theory of adequate causation through a theory of normative causation; (ii) replace the *conditio sine qua non* theory with a theory of probable causation; or (iii) empower the courts to impose the burden of proof according to the specific circumstances of each case. Under the LAP, for example, judges already have more discretionary power with respect to the gathering of evidence than under the general rules of tort law. In Spain, courts are not ready to apply a general theory in order to ease the burden of proof with regard to causation. Case law, however, shows that the Spanish Tribunal Supremo is inclined to make concessions for the plaintiff on a case-by-case basis, such as in cases where the defendant has violated the law or specific security obligations, or where the plaintiff faces severe evidentiary difficulties because of the lack of scientific knowledge. Some cases, described by the Spanish reporter, show that the Tribunal Supremo deduced causation from a typical course of events, which comes close to *prima facie evidence*. From 2001, the new law on civil procedure has required the courts to take into account which party is in the better position to produce evidence when deciding upon the distribution of the burden of proof between the litigants.

B. Specific cases

(a) Statistical evidence (Case 12)

Statistical evidence alone is usually not sufficient to establish causation. It would be sufficient only if the degree of probability shown by the evidence meets the certainty level required by the relevant jurisdiction, be it a high a probability burden close to certainty, as in Austria, Germany and Spain, or preponderance of evidence, as in the Scandinavian and the common law countries. Another problem of statistical evidence is that, in tort law, the causal link must always be established between the individual tortfeasors and plaintiffs. Statistical evidence that shows only the relationship between one possible tortfeasor and a group of harmed persons fails to meet this requirement if the harm can also be attributed to a natural cause. Similarly, the link is not established when a plaintiff can only show that the damage was caused by one of several persons, without being able to indicate the one responsible.[16] In order to meet the requirements of tort law for the establishment of causation, therefore, statistical evidence must usually be supplemented by further evidence.

Statistical evidence that a polluting activity has increased the cancer rate in a community, as described in Case 12, will only make the operator liable to an individual plaintiff under tort law if further evidence shows, to the satisfaction of the court, that the activity was the cause of the plaintiff's illness. Several countries, such as Austria, Germany and Spain, require a very high level of probability close to certainty in this regard. If it is probable that the tortfeasor has caused the damage, Austrian and German courts will lighten the burden of proof by applying *prima facie evidence*. Austrian scholars even suggest reversing the burden of proof in such cases by analogy to § 12(1) AtomHG, §§ 79d and 79k(4) GTG, which provide for a presumption of causation. The presumption of causation provided for in § 6 of the German UmweltHG, however, can only be applied to installations that are listed in Annex I there to. The presumption is rebutted, according to § 7(2) UmweltHG, if the defendant can show with at least a 50 per cent probability that the plaintiff's disease was caused by another factor, such as personal disposition or exposure to emissions from other sources. According to the ruling in the *Kupolofen* case, courts may also lighten the proof of fault and causation under general tort law. In Spain, the

[16] This principle was decided by the Californian Supreme Court in the case of *Sindell* v. *Abbot Laboratories*, 607 P 2d 924 (Cal. 1980) and has inspired a lively academic debate of market share liability worldwide.

Tribunal Supremo does not follow a general rule, but rather decides on a case-by-case basis, leaving open broad possibilities. In Greece, the plaintiff is obliged at least to establish the 'minimum causality' that the industrial actitivity is prone to causing the plaintiff's illness. However, in order to use Article 29 of Law 1650/1986 as the legal basis for the claim, the plaintiff must establish the full proof of causation. In addition, he or she must prove that the right to use things common to everyone (e.g. the atmosphere) has been violated to the extent of danger to life and health.

In Belgium and France, it is theoretically possible that victims may obtain partial compensation according to the theory of loss of a chance ('*perte d'une chance*'), if epidemiological evidence shows that emissions from an installation create an increased risk of cancer for the neighbourhood. Victims, in essence, may be compensated for their loss of the chance not to contract this disease. In order to obtain compensation, they only need to show that it is certain they have lost the chance to avoid illness. According to this theory, they do not need to establish causation, since the loss of the chance is already compensable damage. Compensation can be assessed either on the basis of a percentage of the damage corresponding to the increase of the cancer rate in the community or by equity. This theory of '*perte d'une chance*' is generally accepted by the courts, but, as the Belgian reporter stresses, has not yet been applied to damage caused by pollution.

The Dutch Hoge Raad granted compensation on the basis of statistical evidence in the *Des* case.[17] In this case, the court held jointly and severally liable all the producers of a drug that caused a certain disease, even though the plaintiffs were not able to show causation by an individual producer.

In England, Ireland, Finland, Scotland and Sweden, liability will be established if the plaintiff is able to establish a probable link between the activity and the damage. In Finland and Sweden, the scope of probability must be clearly more than 50 per cent. In England, Ireland and Scotland, the plaintiff has to prove that, on the balance of probabilities, the pollutant made a material contribution to the damage. Although this seems to be more manageable than in countries requiring a very high level of certainty to establish causation, such proof will still be difficult to obtain if there are several competing factors. Epidemiological evidence alone is usually not sufficient. Moreover, all these countries traditionally

[17] HR 9 October 1992, NJ 1994, 535 (*Des Dochters*).

follow an all-or-nothing approach which does not allow courts to grant the victim partial recovery. In Sweden, however, this may change, since a new rule allows class action lawsuits. In England, one has also to bear in mind that liability can only be established if the damage was foreseeable to the defendant at the time he acted.

(b) Multiple tortfeasors (Cases 13 and 14)

Causation by multiple tortfeasors will subject them to joint and several liability, if the plaintiff can show the causal link between each activity and the damage, despite being unable to *apportion* the damage among the defendants. In all European countries, the plaintiff is, thus, entitled to claim full damages from any of the defendants. In Austria, this is generally provided by § 1302 ABGB. With regard to damage to forests and damage caused by licensed water installations, however, specific regulations provide for the apportionment of damages in equal parts (§ 53(2) ForstG; § 26(5) WRG). Nevertheless, before imposing joint and several liability or apportioning damages equally, the court is obliged to try to estimate each defendant's share. Only if such estimation is impossible will joint and several liability according to § 1302 ABGB, or the equal division of damages, according to § 53(2) ForstG or § 26(5) WRG, be permissible. In Germany, joint and several liability can be established according to §§ 830(1) and (2), 840(1) and 426(1) BGB, which also apply to liability based on the UmweltHG or other rules of strict liability. Similarly to Austria, joint and several liability will only be applied if courts are unable to apportion the shares equitably under § 287 ZPO, which allows for the free estimation of damages. In Greece, the relevant rule is Article 926 Astikos Kodikas; in Italy, it is Article 2055 Codice Civile, and, in Portugal, this is provided by Articles 490 and 497 Código Civil. In Ireland, joint and several liability of concurrent tortfeasors is provided by Part III of the Civil Liability Act 1961. Although Article 1137 of the Spanish Código Civil provides for separate liability as the general rule, the Tribunal Supremo usually applies joint and several liability in tort cases, due to a narrow interpretation of Article 1137 Código Civil and specific tort legislation (the so-called '*solidaridad impropria*'). In the Netherlands, Article 6:102 Burgerlijk Wetboek provides for joint and several liability regardless of the individual contribution of each tortfeasor.

A defendant who has compensated the victim has a right of *recourse* against the other defendants. In most countries, apportionment among tortfeasors depends on factors such as the predominance of causation

or fault (e.g. Austria, Belgium, England, Finland, Germany, Greece, Italy, the Netherlands, Sweden, Spain), and only in the absence of such factors will liability be equally apportioned. The French reporter, however, indicates that the damage will always be equally apportioned among the tortfeasors.

In all countries, except Portugal, it makes no difference that the harm only occurred because of the *interaction* of two non-polluting substances.[18] Each of the substances presents a necessary condition for the damage, according to the principle of equivalence. The English, Italian and Scottish reporters, however, stated that it would be much more difficult to prove either fault or foreseeability where the substances were non-polluting in themselves. Under Dutch law, the fact that one substance alone is harmless can make a difference with regard to the basis of the tort claim, since strict liability according to Article 6:175 § 1 Burgerlijk Wetboek is only applicable to substances that are dangerous by definition under Article 6:175 §§ 1 and 6 Burgerlijk Wetboek.

The solution to the issue of concurrent causation is similar in all the European countries. This was explored by Case 14, which describes a fish kill. If two substances originating from different sources killed the fish, all jurisdictions provide for joint and several liability of the tortfeasors (*cumulative causation*).[19] When one cause has taken effect before the other (*intervening causation*),[20] nearly all reporters point out that only the person who caused the damage first is liable. Liability of the person who, in the absence of the first cause, would have caused the damage, is clearly rejected (Belgium, England, Finland, France, Germany, Greece, Ireland, Scotland, Sweden). Only the Portuguese and the Spanish reporters considered joint and several liability in such a case. In Austria, the majority opinion favours the sole liability of the first tortfeasor. Some scholars, however, suggest that the subsequent intervening cause should be considered. Depending on the details of the case, joint and several liability of both tortfeasors, apportionment of damages, or even total exculpation of the first tortfeasor may be justified.

In most countries (Austria, Finland, Germany, Greece, Ireland, the Netherlands, Sweden, Spain), joint and several liability will apply, if the fish kill was caused either by substance A or by substance B (*alternative causation*).[21] Although the French and English reporters also came to this conclusion, they were rather hesitant to do so. The French reporter

[18] See Case 13, Question (b).
[19] See Case 14, Question (a).
[20] See Case 14, Question (c).
[21] See Case 14, Question (b).

stated that the court might be less strict than in cases of cumulative causation, and the English reporters, referring to a divergence in the case law, explained that the outcome of such a case could be joint and several liability. In Portugal, the problem has not yet been resolved, but scholars favour joint and several liability. The only authors who clearly denied joint and several liability were the Belgian and the Scottish reporters, who explained that none of the defendants will be liable if the plaintiff is not able to establish causation.

With regard to the questionnaire example of fish in a river, several authors (England, Germany, Scotland) indicated that, under their jurisdictions, fish in rivers belong to the category of wild unowned animals, and, thus, legal standing in tort would be a problem. Many authors further pointed out that a clean-up obligation, provided by public law, would be imposed upon the polluters. In Portugal, such damage could also constitute ecological damage according to Article 73 DL 268/98, which entitles the state to claim damages.

III. Remedies and legal standing

1. Loss of life and personal injury

A. Scope of damages (Case 18)

In all the countries analysed, recovery of *personal injury*[22] is usually comprised of damages for actual and future loss of income, medical expenses and compensation for increased needs, such as the costs of personal assistance. Recovery of non-pecuniary damages, especially damages for pain and suffering, are awarded in Austria, Belgium, Finland, Greece, France, Italy, the Netherlands, Portugal, Scotland, Spain and Sweden. In Greece, the majority opinion still holds the view that a claim for damages for pain and suffering is only available under fault liability, and the Greek reporter stressed that such compensation will be rather low in amount. This was also emphasised by the Belgian reporter, who related that courts may award about €40 for one day of hospitalisation with severe pain. Austrian and Greek law also provide compensation for loss of professional and social advancement, if the injured person is disfigured (§ 1326 ABGB, Article 931 Astikos Kodikas).

[22] See Case 18.

When the victim has *died*, a cause of action for the funeral costs will be asserted, and the dependants will be entitled to claim maintenance (e.g. Austria, Belgium, England, Germany, Greece, France, Ireland, the Netherlands, Sweden, Scotland). Claims for non-pecuniary damage because of loss of consortium after the death of a relative are available under Belgian, Dutch, French, Italian, Greek, Irish, Scottish and Spanish law. In Belgium, compensation is also available for the pain resulting from witnessing the suffering of a relative. The amounts attributed, however, are comparatively low, for example €10,000 for the death of a husband or wife. In England, the surviving family member is entitled to a standard lump sum of £7,500 according to the Fatal Accidents Act 1976. In Austria, pain and suffering due to the loss of a family member is only compensated if the surviving relative suffers a syndrome of pathogenic quality, or if the injurer was grossly negligent or acted with intent. In Germany, Finland and Sweden, such a claim is not admissible.

B. Emotional distress

In several countries (Austria, England, Germany, France, Greece, Italy, Scotland) damages for personal injury are only awarded to persons who are injured physically or who have already developed a certain physical or mental disease. The mere risk of becoming injured or of developing a disease in the future because of a tortious act does not qualify for personal injury. Thus constant fear and distress due to an increased probability of becoming ill do not lead to compensation for non pecuniary loss in those countries. The Austrian and English reporters, however, stated that the costs of medical monitoring and the costs of preventive measures might be recoverable.

In other countries (Belgium, Finland, Ireland, Spain, Sweden), compensation for emotional distress would be available. Spanish law does not restrict the compensation of non-pecuniary loss. The plaintiff thus need not show a disease in order to obtain compensation. Mental trauma, anguish, anxiety or uneasiness may be sufficient. In exceptional cases, Belgian courts have already awarded damages for the fear of developing cancer or another severe disease. Such claimants are also eligible for compensation of the costs of medical monitoring. An action for a declaratory judgment would also be possible. In Finland, according to the Finnish Environmental Damages Act, damages for physical suffering can be awarded, if the suffering substantially affects the injured party's life and health. Under Irish law, a claimant may argue for compensation for the constant fear and distress as analogous to

awarding damages in the case of a nervous shock. The Irish reporter, however, stresses that the claimant has to bear in mind that, after actually contracting the expected disease, he or she will not be able to sue again. According to Irish law, a plaintiff can obtain only one award with respect to a cause of action. In Sweden, such a claimant can get compensation for non-pecuniary loss according to Chapter 32 of the Environmental Act, as supplemented by the Tort Law Act.

C. Legal standing (Case 12, Question (b), Case 15, Question (a))

The injured person usually has legal standing, be it the victim himself or a dependant who sues for loss of support or loss of consortium. Compensation for funeral costs can usually be claimed by the person who has incurred the expense (Austria, Greece, England, Scotland, Sweden).

In several countries, expenses incurred by *social insurance*[23] are reimbursed to the relevant agency by subrogation (Austria, Belgium, France, Germany, Greece). In Spain, social insurance is, according to Article 83 of the General Health Act, entitled to claim its expenses from any person who is under a duty to incur them and also from the tortfeasor, according to Article 127 of the Social Security Act. English law, however, only provides for such claims in specific statutes. Although a common law action is conceivable, it has not yet been brought before a court. In Ireland, the entitlement to claim the costs remains stays with the injured person. If the costs are borne by the injured person's health insurance, the injured person can recover the health costs, which are then repayable to the insurer. On the other hand, if the public health services pay the costs, the entitlement to costs lies with the state. Dutch law does not provide for subrogation, but rather grants an autonomous right of action to the entity that bore the loss. The fact that parts of the loss are compensated by the state or by social insurance will also be taken into account by the court when assessing the plaintiff's compensation. In Scotland, section 150 of the Health and Social Care (Community Health and Standards) Act 2003 allows the National Health Service to regroup the cost of hospital treatment from a person liable to pay compensation for injury, and, before the final amount of damages for the plaintiff is fixed, a deduction is made to account for social security payments likely to be made for a period of five years from the date of the accident. The Finnish and Swedish jurisdictions do not

[23] See Case 12, Question (b).

grant subrogation rights. In these countries, social insurers have no right to claim compensation for their incurred expenses. The victim can recover from both social insurance and the tortfeasor with a reduction in order to reduce double-payment.

Some countries (e.g. France, Ireland, the Netherlands, Portugal) even recognise an autonomous tort action. In France, it is necessary that the agency establish the causal link between the defendant's act and the victim's harm. In Ireland, the social security agency will probably be entitled to sue for the costs incurred, even if the pollution only caused a significant increase in the incidence of a certain disease in a neighbourhood, such as leukaemia or asthma. According to the Irish reporter, there is no reason why the state, which provides for health services and which is obliged to bear such costs, should be denied legal standing. In Sweden, however, although an autonomous action of an agency is, from a legal point of view, not impossible, it is, in the reporter's opinion, rather improbable that the courts will accept it.

2. Damage to land

A. Restoration and restoration costs

(a) Legal standing (Case 15, Question (a))

Contamination of land usually qualifies as property damage. In all European states, if such damage occurs, the owner of the land is entitled to claim damages according to tort law. In Austria, Germany, Greece, the Netherlands, Portugal and Scotland, a person who can show a qualified legal interest in the property (e.g. servitude) or leasehold interest is similarly entitled to sue. In England, legal standing under negligence depends on whether the plaintiff is able to show that the defendant owed him or her a duty of care. Although this seems to be a comparatively broad concept, recovery for pure economic loss is rather restricted. In nuisance, only the owner of the land can sue for damages, and, even under the rule of *Rylands* v. *Fletcher*, recent case law requires the plaintiff to show an interest in the land. In Belgium, France and Spain, legal standing does not depend on an infringement of a subjective right. In order to have legal standing, it is sufficient that the plaintiff can show a personal and actual interest in the claim. This is the case if the plaintiff has suffered damage, such as death or personal injury, physical damage to immovable or moveable goods, nuisance in the enjoyment of such goods, or economic loss. Economic loss is also compensable, if it is not connected to damage to persons or property.

Under Belgian, French, Italian and Spanish law, consequently, even pure economic loss can be compensated. In Sweden, the right to sue for damages caused by contamination is also defined rather broadly. Persons who have a legal interest in the land, as well as persons who hold a qualified right to a natural resource are entitled to sue. For example, hotel owners who rely on a nearby public beach for their business, or professional fishermen, are entitled to sue for their losses when the beach is contaminated.

In the Netherlands, legal standing is also extended to public authorities.[24] This evolved from case law and is now explicitly provided by the Burgerlijk Wetboek. According to Article 3:303 Burgerlijk Wetboek, it is no longer necessary to show the infringement of an individual right in order to have legal standing in civil law matters. The plaintiff only has to show a sufficient interest. Furthermore, Article 3:305b Burgerlijk Wetboek provides that public authorities are entitled to sue in order to protect the general interests entrusted to them, either for injunction or for damages. Under Article 75 of the Soil Protection Act, the state is even entitled to sue the owner of contaminated land for the remediation costs. Jurisprudence now holds the opinion that the pollution of the soil is considered unlawful as to the state's interests because it is responsible for the clean-up.

(b) Scope of damages (Case 15, Question (b))

In all countries, the plaintiff can sue for restitution in kind, or to recover the costs of *restoring* the land to its original condition. This claim also covers compensation for lost use during the restoration, like the rental costs for another residence during the clean-up period or the loss of rental income. In Austria, monetary compensation for the costs of restoration can only be claimed if restitution in kind by the defendant is not possible or is unreasonable. Since the claimant determines the possibility of restitution, actions for the restoration of damage to land will usually cover monetary compensation for the costs of restoration. The same applies in Spain. Although legal doctrine awards priority to restitution in kind, monetary compensation is generally the rule. In Greece, it is the other way round. The primary legal rule is monetary compensation that can only be set aside if special circumstances call for restitution in kind, provided that it is not contrary to the interests of the

[24] With regard to legal standing of environmental organisations, see the Dutch report to Case 4, Question (d).

creditor. In many countries, courts will only award costs that are in some reasonable proportion to the value of the land (e.g. Austria, Belgium, Germany, Greece, Italy, the Netherlands, Scotland, Sweden). If the costs are out of proportion, and the land can be used for another purpose, damages will only cover the diminution in value to the land, which may be significantly less than the restoration costs (Austria, Belgium, England, Germany, Greece, Italy). With regard to land, however, such a 'proportionality' test must be applied very carefully, since land is a precious and limited good. For this reason, in Austria, the Act on Gene Technology and the Nuclear Liability Act provide that the injured person is entitled to recover compensation for the costs of reinstatement, even if such costs exceed the value of the property harmed (§ 11(2) AtomHG, §§ 79b and 79k(2) GTG). A similar solution is provided by Belgian law under the Act on the Protection of the Marine Environment of 20 January 1999, which states that the reasonableness of restorative measures must be evaluated according to the objectives of the protection of the marine environment, rather than on mere economic values. Moreover, in the Netherlands, according to case law, courts are allowed to award restoration costs that exceed the reduced value of the harmed property, if this can be justified by the specific circumstances of the case.

The defendant will also be obliged to pay for the costs of restoration, if full clean-up is required by public authorities according to administrative law, or if this is necessary in order to prevent further damage. In such a case, the claimant will be obliged to spend the money for the restoration of the land. There is no such obligation if the claimant only receives compensation for the diminution in value of the land.

In many European countries, irrespective of the obligation under private law to remedy harm caused to the property of another, the person who caused contamination to land or sometimes even the owner of the contaminated land can be ordered by the *public authority* to clean up the contamination.[25] In most countries (e.g. Austria, Germany, England, Finland, Greece, Italy), however, the affected landowner or environmental organisations cannot trigger legal action in

[25] This was indicated by some reporters, although this issue was not specifically addressed by the questionnaire. For example, such obligations are provided in England and Scotland by Part IIA of the Environmental Protection Act 1990, in France by Article L. 512-7 Code de l'environnnement, in Ireland by sections 56 and 57 Waste Management Act and the Local Government Planning and Development Act 1963, and in Sweden by the 1999 Environmental Code, Chapter 10 §§ 2 and 3.

order to force the public authority exercise its powers. Such persons may only bring 'notice' to the public authorities that damage to the environment has occurred. In England, however, though such a case has not yet been litigated, it is theoretically possible for the owner of contaminated land to bring a tort action for breach of statutory duty for failure to serve a remediation notice under Part IIA of the Environmental Protection Act 1990. In Spain, there is a comprehensive right to sue public authorities (Article 7.3 of the Ley Orgánica del Poder Judicial 1985). In Ireland, anyone can bring an action requiring cessation of a polluting discharge under sections 56 or 57 of the Waste Management Act and under the Local Government (Planning and Development) Acts 1963–99. These national rules are now complemented and will even be partially reshaped by the environmental liability regime established by the 2004 Environmental Liability Directive.

B. Preventive measures (Case 15 Question (c))

In most European countries, *tort liability* of the tortfeasor will also cover the costs of preventive measures taken by the injured person or by public authorities. In the Netherlands, recovery of the costs of preventive measures is explicitly provided for by Article 6:96 § 2a Burgerlijk Wetboek, given that the measures and costs were reasonable. With respect to environmental damage, the compensation of the costs of preventive measures is also provided by Article 6:184 Burgerlijk Wetboek. In Belgium, the Cour de cassation (Hof van cassatie) ruled in 1978 that public authorities that were obliged by law to carry out preventive or remedial measures in order to respond to pollution are not entitled to cost recovery under the general rules of tort law. After having partly changed its position in 1988, the Cour de cassation (Hof van cassatie), in 2001, resolved this issue in favour of the public authorities.[26] According to this ruling, public authorities must not be denied recovery merely because the costs for preventive or restorative measures were incurred pursuant to a legal duty. Recovery may only be excluded if the law providing for such a duty allocates the costs exclusively to the public authority. In pollution cases, the Belgian reporter, however, holds the opinion that this will rarely be the case. The Dutch reporter, who also raised this question, came to the same conclusion.

In England and Scotland, private persons or public authorities will only be entitled to claim the costs of preventive measures in tort law

[26] See the the answer to Case 15, Question (c), of the Belgian report.

under an action in negligence. In Italy, costs for preventive measures are not recoverable, either in public or in private law.

In several countries, recovery for the costs of preventive measures by *public authorities* is also governed by *public law*. In the Netherlands, this is provided by Article 75 of the Soil Protection Act. In Belgium, several statutory provisions apply.[27] The most important is Article 85 of the Act of 24 December 1976, which obliges the civil protection agency and local fire brigades to recover the costs for remedial actions from the owner of products that were the cause of pollution. In England and Scotland, section 78N of the EPA 1990, entitles the local authority and the Environment Agency to carry out remedial work on contaminated land in order to prevent serious harm or water pollution and, according to section 78P EPA 1990, to recover these costs from the person who caused the damage. In Ireland, the public authorities have clean-up powers under the Local Government (Water Pollution) Act (section 10(4) or 13), the Air Pollution Act (section 27) the Waste Management Act 1996 (section 56). Each of these powers gives the public authority the right to claim compensation for the costs incurred if they were necessary to prevent further damage. Spanish and Swedish public law also comprehensively covers entitlements of the public authorities to recover costs. In this inhomogeneous area of law the 2004 Environmental Liability Directive will provide for substantial harmonisation.

In most countries, the public authorities are also entitled to claim costs according to the laws of *unjust enrichment* or *negotiorum gestio*. In Austria, such a claim can be based on tort law or on § 1042 ABGB, a provision that is part of the law of unjust enrichment. According to this rule, the person who is liable under tort law must also compensate the state or any other person for the costs of measures taken in order to prevent the damage or further aggravation of the damage. With regard to nuclear damage, compensation for preventive measures is explicitly covered by § 11 of the Nuclear Liability Act. Such costs can be recovered by any person who actually incurred them (§ 11(3) AtomHG). In Germany and Sweden, the public authority is entitled to claim compensation for expenses under the law of *negotiorum gestio*. In Greece, both compensation according to *negotiorum gestio* (Articles 730 *et seq*. Astikos Kodikas) and unjust enrichment (Articles 904 *et seq*. Astikos Kodikas) may apply.

If the preventive measures lead to a *property damage of a third party*,[28] the person who is responsible for the situation will also be obliged to

[27] See *Ibid*. [28] See the answers to Case 15, Question (c).

compensate this damage under most jurisdictions, according to the principles of tort law. In the Netherlands, this is explicitly stated by Article 6:184 § 1b Burgerlijk Wetboek. Some reporters, however, stress that a tort action is only available if the damage was an inevitable consequence of the preventive measures taken by the public authority and if the occurrence of such damage was sufficiently foreseeable by the liable person. In England, the question would be whether the act of the public authority amounted to a *novus actus interveniens*, breaking the chain of causation between the act of the liable person and the damage of the third party. Negligence by the public authority can also lead to liability of the public authority.

In Italy, Greece and Portugal, the person who caused a contamination will not be liable for the damage to a third party if it is due to the preventive measures taken by the public authority. Responsibility for such damage is only on the public authority.

C. Lost profits and pure economic loss (Case 15, Question (d))

Lost profits ensuing as a result of property damage can be claimed in Belgium, Germany, Finland, the Netherlands, Sweden and Spain. In Austria, courts accept claims for lost profits under § 364a ABGB, but in fault liability they are only compensated when the tortfeasor acted with gross negligence or caused the damage with intent to harm.

Many European countries are very hesitant to accept damage claims for the devaluation of real property if the property was not contaminated itself, but only severely affected by the contamination of another property nearby.[29] In Greece and Scotland, this sort of damage is not compensable, being classified as 'indirect damage' or 'secondary economic loss'. In Austrian law, strict liability and the law of the neighbourhood clearly do not cover this indirect damage. Recovery might be available under fault liability, however, if the tortfeasor was grossly at fault, and the occurrence of the damage was clearly foreseeable. According to the Italian reporter, the answer to this question is unknown, since Italian jurisprudence has not yet dealt with the issue. In Germany and Portugal, the legal position depends on whether such damage can be regarded as a property infringement. While the Portuguese reporter declared that this position is not clear under Portuguese law, the German reporter noted that indirect damage could be compensated in Germany if the tortious act prevented

[29] See the answers to Case 15, Question (d).

or limited the use of the property for a significant period of time. According to the English reporters, recovery for such damage is very unlikely under negligence; in nuisance and under the rule of *Rylands* v. *Fletcher* recovery is uncertain, but also rather unlikely. The Irish reporter stated that, under Irish law, the infliction of such damage does not constitute a nuisance. In negligence, the damage would be regarded as pure economic loss, which is usually not compensable. Recovery for such a loss would at least require proof that the claimant incurred actual and not merely hypothetical damage and that the loss was not a result of irrational fears among prospective buyers. Although there is no precedent seeking to establish liability for pure economic loss under the rule of *Rylands* v. *Fletcher* or under the Air and Water Pollution Acts, it is to be expected that the Irish courts will follow the principles applicable to negligence and, therefore, deny compensation.

In Belgium, the Netherlands, Finland, Sweden and Spain, the situation is different. In these jurisdictions, the reduced or total loss of property value is compensable. Under Belgian law, the plaintiff only has to show that the diminution in value is certain, and, in Spain, the decisive issue is the establishment of a clear causal link. In the Netherlands, pure economic loss is recoverable if it is sufficiently linked to a polluting act. The Hoge Raad, for instance, ruled that the polluter of a river was also liable for the devaluation of houses due to the unpleasant smell in the river.[30] Under Finnish law, however, compensation can only be obtained if the damage is not minor. In Sweden, the owner can even claim redemption, if the property is totally useless.

3. *Damage to water*

A. Clean-up costs (Case 16, Question (a), Case 17, Question (a))

In nearly all European countries, remediation costs for water pollution are covered by tort law. This includes *fault-based liability* and recovery according to the *laws of the neighbourhood*, or *nuisance* in the common law countries.

Strict liability for water contamination is governed by the Finnish Environmental Damages Act 1994. In Portugal, strict liability applies if the damage is caused by an objectively dangerous activity (Article 23 LAP). Compensation for significant ecological damage can be obtained both according to Article 23 LAP and according to the Base Law on the

[30] See the answer to Case 15, Question (d), of the Dutch report; *Voorste Stroom III* case, HR 29 January 1937, NJ 1937, 570.

Environment (LBA). Article 41 LBA provides compensation for significant ecological damage, and Article 43 LBA requires mandatory insurance for activities that pose a high risk to the environment. For the assessment of compensation of ecological damage, Article 51 LBA proposes specific regulations that have not yet been enacted. Some scholars express doubts as to whether Article 41 LBA is already in effect, while others are of the opinion that this provision is directly applicable, since the reference to secondary law only concerns the quantification of damages. As long as specific regulations for the assessment of the damage are lacking, these scholars suggest that courts apply the relevant rules of the Código Civil or restrict the available remedy to the restoration of ecological damage provided for by Article 48 LBA. In Austria and Germany, depending on the cause of the water pollution, one of the sector-specific strict liability laws may apply. In England, strict liability with regard to water pollution depends on the applicability of the rule in *Rylands* v. *Fletcher*. As this rule is not applied to motor accidents, water pollution caused by tankers or other road vehicles (contrary to the situation in Austria, Germany, Greece, France, Portugal and Spain, where special laws provide for strict liability in motor accident cases) is not covered by a strict liability regime. The same is true in Belgian and Scots law, which do not provide for strict liability for traffic accidents caused by motor vehicles. Under Belgian law, strict liability of the custodian of a thing, according to Article 1384 § 1 Burgerlijk Wetboek, will apply if the damage was caused because of the defectiveness of the vehicle. If the transported good consisted of toxic waste, the producer of the waste may be liable under the Toxic Waste Act of 22 July 1974. In England and Scotland, with regard to tanker accidents, the duty of care is heightened by the criminal provisions in the Dangerous Substances (Conveyance by Road in Road Tankers and Tank Containers) Regulations of 1981. In France, there is no comprehensive specific strict liability system for road traffic accidents either. The keeper of a tanker, however, will be strictly liable under Article 1384 § 1 Code Civil, governing the strict liability of the custodian of a thing. Strict liability will also apply if the transported good consisted of toxic waste. In most European jurisdictions, the keeper of the vehicle is also liable according to vicarious liability, if the driver was at fault.

In Sweden, the situation is completely different. With regard to domestic road accidents, civil liability is replaced by a compulsory no-fault insurance scheme under the Traffic Accident Act that covers personal

injury and property damage caused by the keeper of a motor vehicle. The coverage of this insurance also includes environmental damage. Clean-up costs, therefore, are covered up to SEK 50 million. Strict liability, according to Chapter 32 of the Environmental Code, can be applied if the contamination is attributable to negative interference from the use of land. Clean-up costs can also be recovered from the tortfeasor by the municipalities under the Rescue Services Act, or by the Coast Guard if the pollution occurs in coastal waters.

Under Scots law, a direct action for remediation is not available. If water contamination occurs, the plaintiff is only allowed to sue for the difference in value of the affected property before and after the accident. Incurred clean-up costs are only an indication for the assessment of the compensable amount. In Italy, Article 18 of Statute 349/86 also covers the clean-up of polluted water.

In addition, many countries provide for *specific liability regimes* governing remediation of water pollution. According to § 31 of the Austrian WRG, everyone who creates the risk of water pollution is obliged to take all the necessary measures to prevent or minimise water pollution. In the absence of sufficient preventive action by the polluter, the competent authority is entitled to undertake all the necessary measures at the expense of the person who caused the risk, or, under certain conditions, at the expense of the owner of the property where the damaging plant or activity is situated. Liability under § 31(3) WRG is unrestricted in amount. In Germany, damage to water is covered by the strict liability system of § 22(2) WHG. If the damage is caused by an installation within the meaning of §§ 3(2) and 3a UmweltHG, the strict liability regime of the UmweltHG may also apply. In order to fight an actual risk of water pollution, public authorities are entitled to undertake emergency and restoration measures, and recover their costs, according to public law.

In England, section 161A of the Water Resources Act 1991 empowers the Environment Agency to serve a clean-up notice on the person who knowingly caused or knowingly permitted the entry of the polluting substance into the water, or the Agency may carry out remedial works itself and claim the costs from the person responsible (section 161 Water Resources Act 1991). If the spillage contaminated land, cleanup obligations under the Environmental Protection Act 1990 may also apply. In Scotland, the Environment Protection Agency may also claim the costs of cleaning up controlled water from poisonous, noxious or polluting matter under section 46 of the Control of Pollution Act 1974. Under Irish law, the local authority, the fisheries board, and, under

certain conditions, even an individual who incurred the costs, have the right to claim remediation costs under section 10 of the Local Government (Water Pollution) Act 1977. Under section 13, and, if there is a hazard to human health, also under the Public Health (Ireland) Act 1878, the local authority is entitled to remedy water pollution and to recover the costs. In Portugal, Article 73 DL 268/98 establishes specific fault-based liability, providing compensation to the state for water pollution.

In Belgium, the Act of 20 January 1999 for the Protection of the Marine Environment enacts a special strict liability regime for the prevention and remediation of the marine environment in the Belgian territorial sea, the continental shelf and the exclusive economic zone. It covers damage to persons and property, and impairment of the environment. The preferred method of compensation is restoration in kind, but monetary compensation is also possible. The problem of the damage assessment is not explicitly addressed by the Act. It is currently within the courts' discretion, but may be regulated by ordinance in the future. Oil pollution damage of the sea that falls within the scope of the Oil Pollution Conventions is, due to the exclusiveness of the Conventions, not covered by the Belgian Act.

In the Netherlands, contamination of water or land can give rise to a tort action by the public authority on the basis of fault liability, if the public authority is responsible for the administration or management of the polluted good. The polluter is then liable for the breach of a duty of care owed to the state.

Spanish law confers on the public authority a general duty to take care of the environment, including the territorial sea, which is part of the public domain. In case of water pollution, the state, and also the regions within their competence, are obliged to undertake preventive and remedial measures and may thereafter recover the costs from the polluter. The Ley 27/1992, de 24 noviembre, de Puertos des Estado y de la Marina Mercante, explicitly provides so for sea pollution and also contains specific provisions for damage assessment by the public authority.

In Greece, there are no specific rules requiring a polluter to pay for the clean-up of polluted water. If the polluter is obliged to undertake clean-up measures according to tort law, public authorities are entitled to rely on *negotiorum gestio* (Articles 730 *et seq*. Astikos Kodikas) or unjust enrichment (Articles 904 *et seq*. Astikos Kodikas) in order to recover their expenses.

B. Lost profits and pure economic loss (Case 16, Question (d), and Case 17, Question (c))

Under all the jurisdictions analysed, the water damage claim covers the costs of clean-up and restoration. In several European countries, however, persons who are economically dependent on a water resource, but do not own it, such as a rafting or canoeing outfitter, can also claim compensation for their loss of income due to water pollution. In Finland and Sweden, such a claim can be based on strict liability under the specific environmental liability laws. Under the general rules of tort law, however, such a loss is qualified as a pure economic loss and is not compensable. In Belgium, the loss of benefits from the use of a common natural resource is also compensable, provided that the plaintiff can show with sufficient certainty that he or she has suffered harm. Thus, the owner of a café who lost part of his clientele due to the pollution of a nearby river was granted compensation for the loss of income by the court. The scope of compensable damages is comprised not only of economic harm, but also of non-pecuniary damage, like the loss of pleasure sustained by fishermen because of river pollution.[31] The same applies in France, the Netherlands and Spain, where claimants are also entitled to compensation for economic loss and non-pecuniary damage. The Spanish reporter, however, stressed that the plaintiffs are obliged to bring clear and convincing evidence with regard to the existence and extent of the harm. In Italy, claimants are granted legal standing under Article 2043 Codice Civile, which allows for compensation on the condition that fault can be established. The same applies to lost profits of the fishing or the tourism industry caused by the pollution of the sea.

In England and Scotland, on the other hand, reporters stated clearly that such loss constitutes pure economic loss and is not recoverable. In England, an exception would only apply for the riparian owner who has the right to receive the water in its natural state and flow and who, for historic reasons, has the right to sue under nuisance if there is a sensible alteration in the state of the water. With regard to pollution of seawater, there may also be damages claims in negligence or nuisance by fishermen who have been granted exclusive rights to fish on certain shellfish beds, according to section 2 of the Sea Fisheries (Shellfish) Act 1967. Damage to fish stocks in tidal waters, to which the public has

[31] See the answer to Case 16, Question (d), of the Belgian report.

access, may constitute a public nuisance and entail criminal proceedings by the local authority or the Attorney General. Claims under section 153 of the Merchant Shipping Act 1995 are also possible, but in most cases not very promising because courts restrict such claims to economic loss and consequential damage to the property or the person of the claimant.

In Austria and Ireland, compensation for pure economic loss is also rather restricted. The Irish reporter, however, stated that courts might award damages if the occurrence of the loss was foreseeable and of a certain significance. Lost profits of the fishing or tourism industry caused by an oil spill on the sea can be compensated under the Oil Pollution of the Sea (Civil Liability and Compensation) Act of 1988. In Austria, compensation would be available, if the claimant's right to use the river or the lake has some degree of exclusiveness comparable to a lease. Fishing rights, however, are distinctive property rights and, therefore, the diminution in value of the fishing right or loss of profits is compensable under tort law. Loss of profits from a fish processing plant or loss of profits from tourism facilities are qualified as indirect damage and are not recoverable. In Greece, the outfitter, or the local fishing or tourism industries, may claim damages according to the general rules of tort law or according to Article 29 of Law 1650/86, if they can show that the water pollution caused damage to property or personal injury to them. German law is more liberal. Section 22 WHG requires only that the injured party be directly affected by the altered condition of the body of water, which is already the case if the injured party uses the water itself. Thus, § 22 WHG enables claimants to gain lost profits pursuant to § 252 BGB. The same applies to fishermen or the fishing industry if their economic interests are directly affected by the pollution of the sea through an oil spill. Lost profits of the tourism industry, however, are regarded as indirect damage and are not recoverable. Legal standing under § 823 BGB requires the claimant to show property damage. If the injured party does not own the river or the beach, lost profits because of water pollution will not be compensable under general rules of tort law. An exception will only apply if the claimant can show that his business constitutes an 'established and practised commercial operation' and that the pollution was directly intended to interfere with it. In Portugal, economic losses that are a direct consequence of water pollution, such as the lost profits of fishermen and of the owners of tourism facilities, can be compensated under Article 22 or 23 LAP and Article 483 § 2 Código Civil.

4. Natural resource damage (Case 16, Questions (b), (c) and (e), Case 17, Question (d))

Before the enactment of the 2004 Environmental Liability Directive, among all the countries analysed, only Italy and Portugal have enacted *specific legislation* for the compensation of natural resource damage. In Italy, the right to recover for natural resource damage lies exclusively with the public authority (Article 18 of Law No. 349/1986, replaced by Articles 311 *et seq.* of Legislative Decree 152/2006). Under Portuguese law, the entitlement to sue for natural resource damage also lies with the individual citizen. According to Article 48 LBA, any citizen is allowed to sue under Article 22 or 23 LAP for remediation of ecological damage suffered by the community, either through restoration or by means of pecuniary compensation to the state. This right also applies to private environmental organisations. Restoration means to restore the lost ecological functions of the damaged good or to replace the damaged natural resources with an equivalent in a different location. In deciding on the best method in order to remedy natural resource damage, the option of natural recovery must also be considered. Restoration in kind, however, is only required if its costs are in reasonable proportion to the ecological value of the damaged good. With regard to water, Article 73 of DL 236/98 explicitly provides for pecuniary compensation. If the damage cannot be assessed otherwise, courts are allowed to assess the damage by equity. Relevant criteria for the assessment are the quality and the seriousness of the damage, the prospective restoration costs, and the economic profit the tortfeasor obtained by the harmful act.

In other countries, compensation for natural resource damage is not explicitly provided. In Sweden, however, case law indicates that courts will entitle the Environmental Protection Agency to sue for such losses in a tort claim, based either on fault or on strict liability. Damage assessments can be based on the restoration costs or are within the discretion of the court. In a case from 1995, concerning damages for the illegal hunting of two wolverines, the court based the valuation on the costs that were spent for the protection of this species.[32] In 1993, a similar case was decided in Spain. There, the Spanish Tribunal Supremo awarded an environmental organisation monetary compensation against the defendant for illegally killing a brown bear. Since the bear

[32] See the Case NJA 1995 s 249, comments in Larsson, *The Law of Environmental Damage* (1999), pp. 497–501.

belonged to the public, the court was of the opinion that any claimant could have sued the hunter for compensation. Dutch law, which allows public authorities and environmental organisations to sue, is also very generous with regard to legal standing in cases concerning environmental damage.

In all the other European countries, the right to claim compensation for natural resource damage lies primarily with the *owner* of the impaired environmental resource, be it land, water, plants or wildlife (Austria, Belgium, England, Finland, Germany, Greece, Ireland, Scotland). The owner is entitled to claim the costs incurred for the restoration of an environmental good, up to a certain limit.[33] Most jurisdictions even grant the owner of the good the right to claim compensation for the costs of restoration. In the Netherlands, this can be derived from Article 6:97 Burgerlijk Wetboek. According to an explanatory memorandum of the Dutch legislature,[34] restoration of an impaired environment does not necessarily require the creation of an exact equivalent of the impaired environment, but rather a comparable situation. For example, restoration may require the introduction of other kinds of vegetation or animals into the impaired environment. Recovery of restoration costs, however, is limited to reasonable costs. Thus, restoration costs that disproportionately exceed the reduction in value of the damaged property are in general not recoverable.[35]

Problems arise, however, if the impaired good is not privately owned or if it cannot be restored to its original condition by adequate and reasonable measures. In cases of *irreparable damage to natural resources*, many national jurisdictions do not provide for adequate compensation (Austria, Belgium, England, Finland, Germany, Greece, the Netherlands, Scotland). According to these jurisdictions, the public interest in biodiversity cannot justify a monetary claim by an individual person. The behaviour of the tortfeasor is only subject to criminal sanctions. In England and Ireland, however, the impact of this problem is mitigated by the fact that the state is entitled to sue for damages on the basis of a public nuisance.

French law is more open and allows the courts to award nominal damages or an arbitrary lump-sum in order to compensate for ecological

[33] See section III.1.A above.
[34] See the answer to Case 16, Question (c), of the Dutch report.
[35] When evaluating Dutch law, it is, however, necessary to bear in mind that Dutch law takes a generous approach with regard to legal standing.

damage. In France, the entitlement to sue for such damages is attributed to the owner of the environmental good, as well as to the manager of a nature reserve, public authorities that are responsible for the protection of biodiversity, and environmental organisations that are dedicated to the protection of the concerned environmental good. According to these principles, the Parc National des Ecrins received FF 3,000 (€450) as non-pecuniary compensation from a landowner who picked hundreds of protected thistles on parkland. In another case, the court obliged the polluter to pay one franc (€0.15) per square meter of the polluted surface of a river (34,400 m^2) to concerned environmental organisations.[36] In Belgium, courts have also awarded compensation to associations and public authorities that have a limited real or personal interest in a specific natural resource or act as its manager. With regard to harm to the unowned environment, however, associations and public authorities are denied legal standing, as they cannot show sufficient personal interest or personal damage, as required by the Cour de cassation (Hof van cassatie). Lower courts, however, try to circumvent these restrictions by legal interpretation in order to grant legal standing. In most decisions, associations were awarded only nominal damages. An exception is an unpublished decision of the Cour d'Appel of Brussels of 12 March 2003 which ordered a defendant who poisoned six birds of prey to pay €18,500 to an association for the protection of birds.

In some countries, such claims will not be based on tort law, but rather on the law of unjust enrichment (Austria: § 1042 ABGB) or *negotiorum gestio* (Austria: §§ 1036 *et seq*. ABGB; Germany: §§ 677, 683, 670 BGB; Greece: Article 730 Astikos Kodikas). With respect to compensation according to *negotiorum gestio*, the crucial issue is whether the person who conducted the restoration needed the authorisation of the tortfeasor in order to do so. This is not necessary under German law, where it is, according to § 679 BGB, sufficient that the activity was in the public interest.

In several European countries, *private organisations* that incur restoration costs have legal standing under tort law. In Portugal, this is explicitly provided by Article 48 LBA, and in Sweden the rules governing a class action also entitle private organisations to claim costs under the strict liability regime of Chapter 32 of the Environmental Code. In Ireland, private environmental organisations are allowed to claim clean-up costs according to section 10(1) of the Water Pollution Act 1977.

[36] See the answer to Case 16, Question (c), of the French report.

According to the Irish reporter, it is, however, to be expected that courts will oblige claimants to demonstrate an interest in carrying out the clean-up, such as a property interest in the area damaged, as the Irish courts do not look favourably upon self-appointed environmental guardians. In the Netherlands, Article 3:305a Burgerlijk Wetboek provides that any association is entitled to sue in court in order to protect the interests it promotes according to its bylaws. This right also applies to environmental organisations, which have legal standing with regard to environmental damage that is covered by their bylaws. This right relates equally to 'owned' and 'unowned' environmental goods. Article 3:305a § 2 Burgerlijk Wetboek also requires that the association must have full legal capacity, generally acquired, when legally established by a Dutch public notary. According to Article 3:305a § 2 Burgerlijk Wetboek, however, the action may nevertheless be inadmissible if no real attempts to settle the case out of court have been made. The right of an organisation to sue primarily covers the right to claim an injunction. The right to claim monetary compensation is, in principle, excluded by Article 3:305a § 3 Burgerlijk Wetboek. Despite this explicit restriction, the District Court of Rotterdam allowed an environmental organisation to recover from the polluter its costs incurred for the protection of seabirds after an oil spill.[37] The court was of the opinion that Article 3:305a § 3 Burgerlijk Wetboek was not applicable, since the polluter infringed not only a public right, but also an individual right of the environmental organisation concerned, which was obliged by its bylaws to incur the relevant costs. Although other courts have followed this ruling, the Dutch reporter indicates that it is still unclear what sort of costs can be recovered by such organisations.

In Belgium, environmental organizations, the public prosecutor and certain administrative bodies are entitled to sue for an injunction in response to a violation, or a threat of a violation, of environmental law (Act on the Standing of Environmental Associations of 12 January 1993). Private citizens have the right to file an injunction in the name of their municipality, according to Article 271 of the Local Government Act, if the municipality itself does not protect its own interests. Damages claims, however, still require proof of individual damage. Thus, environmental organisations, private citizens, the state and other public authorities are not eligible for damages if they have no personal interest

[37] See the answer to Case 16, Question (b), of the Dutch report; *Borcea* case, Rb Rotterdam 15 March 1991, (1992) 23 NYIL 513, TMA 1992, 27 note by Van Maanen.

in the land. This applies also to damage to unowned environmental goods. Environmental organisations, or the state, cannot act as trustee of the common natural resources. Despite this strict interpretation by the Cour de cassation (Hof van cassatie) in the decision of 19 November 1982,[38] there is, nevertheless, a tendency among the courts to allow environmental associations to sue for damages if 'unowned' environmental goods are harmed. According to the Belgian reporter, there are a limited, but growing number of cases where environmental associations were awarded non-pecuniary damages for the harm to 'un-owned' natural resources. Some courts have even derived legal standing for individual citizens from the right to use common parts of the environment, according to Article 714 Burgerlijk Wetboek, which defines *res nullius* and *res communes* as things which belong to nobody, but which can be used by everybody. This reasoning was successful in a number of cases, mainly involving injunctive relief. In a few cases, lower courts have awarded nominal damages as well. This restrictive interpretation of legal standing does not apply to the compensation of restoration costs. Reasonable restoration costs can be awarded, if the measures are carried out by a person who is entitled to do so. Restoration that violate the interests of the owner are not compensable. Thus, agencies entrusted with water quality management have been compensated for the expense of restocking a polluted river with fish.[39] Several lower courts have already compensated environmental organisations for the costs incurred, for example, in the treatment of injured birds or (in a case concerning the poaching of a protected animal) the costs of maintaining such animals in a nature reserve.[40] Compensation of such costs, however, can only be obtained where the organisation did not intend to bear the loss permanently. With regard to the protection of the marine environment, Article 37 § 5 of the Act of 20 January 1999 on the Protection of the Marine Environment, explicitly attributes the right to claim compensation for restorative measures to any person who took such measures. Finally, despite a lively scholarly debate on this issue, Spanish law does not grant environmental organisations legal standing unless they can show individual damage.

[38] See the answer to Case 16, Question (c), of the Belgian report; Arr. Cass., 1982–3, No. 172.
[39] See the answer to Case 16, Question (c), of the Belgian report. [40] See *ibid*.

5 Summary and conclusions

Monika Hinteregger

I. International conventions

In Europe, liability for damage caused by pollution is governed by a diversity of legal instruments, namely, international conventions, EC legislation and national law. Of the *international conventions* that address environmental liability issues, only certain sector-specific conventions have so far come into force. This applies to the nuclear liability conventions[1] and the conventions regulating oil pollution damage by ships.[2] These conventions provide for elaborate, but limited, compensation systems. Limitations exist especially with regard to the territorial application, the types of compensable damage and the amounts of compensation available. Compensation for impairment of the environment is only awarded by the oil pollution conventions and the new nuclear liability conventions,[3] but not by the 1960 Paris Convention and the 1963 Vienna Convention. Liability is strict, covered by mandatory financial security, and exclusively channelled to the ship owner or the

[1] 1960 Paris Convention, 1963 Brussels Supplementary Convention, 1963 Vienna Convention, 1988 Joint Protocol, 1997 Vienna Convention, 1997 Convention on Supplementary Compensation (CSC), 2004 Protocol to the Paris Convention and 2004 Protocol to the Brussels Supplementary Convention.

[2] International Convention on Civil Liability for Oil Pollution Damage 1969, as amended by the Protocols of 1976, 1992 and 2000, and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971, as amended by the Protocols of 1976, 1992 and 2000. The Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage was adopted on 16 May 2003 and entered into force on 3 March 2005. The 2001 International Convention on Civil Liability for Bunker Oil Pollutions Damage entered into force on 21 February 2008.

[3] 1997 Convention on Supplementary Compensation, 1997 Vienna Convention, 2004 Protocol to the Paris Convention.

operator of the nuclear installation. Claims may also be brought directly against the insurer or another person providing for financial security. International conventions governing liability for the transboundary movement of waste[4] and the transboundary effects of industrial accidents[5] have not yet entered into force. With regard to damage caused by the transboundary movement of living modified organisms, the 2000 Cartagena Protocol on Biosafety proposes a new liability system in the near future.

The only convention that would establish a comprehensive environmental liability regime, the 1993 Lugano Convention of the Council of Europe,[6] has not yet entered into force. The Lugano Convention provides for strict liability for damage caused by the professional performance of activities dangerous to the environment, including activities conducted by public authorities, and covers the environmental risks of dangerous substances, genetically modified organisms, dangerous micro-organisms and waste. Compensable damage comprises of damage to persons (loss of life and personal injury) and damage to property, but also of loss or damage by impairment of the environment and the costs of preventive measures and any loss or damage caused thereby. The Convention also sets up rules to guarantee access to information held by public authorities, as well as operators, and provides for the right to collective action for environmental associations.

II. The 2004 EC Environmental Liability Directive

EC law follows a public law approach regarding environmental liability and, so far, has not interfered with national tort law remedies for the prevention and compensation of pollution damage. The most important legislative act in this field, the 2004 Environmental Liability Directive,[7] concentrates on the prevention and restoration of site

[4] The 1999 Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal.

[5] The 2003 Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the 1992 Convention on the Protection and the Use of Transboundary Watercourses and International Lakes and to the 1992 Convention on the Transboundary Effects of Industrial Accidents.

[6] Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, Lugano, 21 June 1993.

[7] Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage of 21 April 2004, OJ L143, p. 56, 30 April 2004.

contamination and on loss of biodiversity. The Directive's notion of environmental damage is rather restricted. It comprises of three types of damage: (i) damage to species and natural habitats already protected by EC legislation[8] or national nature conservation laws, (ii) water damage, qualified according to the EC Water Framework Directive,[9] and (iii) land damage, and does not apply to traditional damage, such as damage to person and property, or economic loss, suffered by private persons. Furthermore, water damage and damage to land is only covered, if caused by an activity listed in Annex III to the Directive. The Directive aims primarily to ensure the prevention and remediation of environmental damage. For this, it provides in Annex II for an innovative concept of remedial action with regard to water damage and damage to protected species and habitats that includes the applicability of complementary and compensatory methods, if primary restoration does not result in full restoration of the damaged natural resource or service. When determining the scale of adequate complementary or compensatory remedial measures, a resource-to-resource or service-to-service equivalence approach, or, where this is not possible, even alternative valuation techniques, such as monetary valuation, may be applied.

The prevention and remediation of environmental damage is the responsibility of one or several competent authorities, which each Member State must designate. The obligation to take action, or pay for incurred costs, however, lies with the operator of an occupational activity that caused the damage or imminent threat of such damage. Operators of activities listed in Annex III to the Directive are liable for all three types of environmental damage regardless of fault. Operators of occupational activities that are not listed in Annex III are liable only for damage to protected species and natural habitats, and of imminent threat of such damage, if there is fault. The liability of the operator is not restricted in amount. The operator, however, may limit his liability in accordance with national legislation implementing the 1976 Convention on Limitation of Liability for Maritime Claims and the

[8] Namely, the Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, OJ L103, 25.4.1979, p. 1, as amended by Council Directive 97/49/EC of 29 July 1997, OJ L223, 13 August 1997, p. 9 (Wild Birds Directive) and the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, OJ L206, 22.7.1992, p. 7, as amended by Council Directive 97/62/EC of 27 October 1997, OJ L305, 8 November 1997, p. 42 (Habitats Directive).

[9] Directive 2000/60/EC.

1988 Strasbourg Convention on Limitation of Liability in Inland Navigation (which, however, are not yet in force). With regard to costs for remedial actions, Member States may provide for the state-of-the-art defence, or allow the operator to avoid bearing the costs, if he proves that he was not at fault and that the damage was caused by an emission or event expressly authorised by national law implementing EC legislation specified in Annex III to the Directive. Furthermore, several defences (act of a third party, compliance with a compulsory order or instruction from a public authority) apply.

The Directive does not interfere with the compensation systems provided by international conventions governing certain fields of liability. Thus, the European Union does not seek to promote the further harmonisation of laws in these fields nor to set higher compensation standards than those already provided by international law. With regard, in particular, to the oil pollution conventions and the nuclear liability conventions, this self-restraint of the Directive is problematic, as these conventions only provide for a limited compensation system in case of damage. Moreover, it is important to note that the conventions and the Directive follow a different approach towards environmental damage. While the Directive's goal is to oblige the Member States to ensure the prevention and remediation of certain types of environmental damage, the conventions concentrate on the compensation of private parties who suffer damage by nuclear incidents or oil pollution. Of the numerous nuclear liability conventions, only the new conventions qualify the impairment of the environment as a separate head of damage. According to the 1960 Paris Convention and the 1963 Vienna Convention, compensation for environmental damage is only awarded if it can be classified as damage to persons (personal injury and loss of life) or to property. The 2004 Paris Convention includes certain types of environmental damage, such as restoration costs, prevention costs and economic loss, in the definition of nuclear damage. To what extent these types of damage are to be compensated will, however, still be decided by national law, which gives rise to possible incoherence even in those European states that are members of the conventions. Furthermore, remediation of on-site damage, a major goal of the Directive, is outside the scope of the nuclear liability conventions. The oil pollution conventions provide for compensation for impairment of the environment, but limit it to the costs incurred for reasonable measures of reinstatement and the costs of preventive measures, including any further loss or damage caused by the preventive measures

themselves. The comprehensive and detailed rules on the remediation of environmental damage as provided, especially with respect to damage to protected species and habitats, by Annex II to the Directive do not apply either to nuclear damage nor to oil pollution damage covered by the conventions.

The exclusion of damage that falls within the scope of application of the other international conventions[10] cited by Article 4(2) and (4) of, and Annexes IV and V to, the Directive is similarly problematic, but of no practical relevance at the moment, as these conventions have not yet entered into force.

Public access to environmental information and justice is not pursued by the Directive, but by the Aarhus Convention and the legal instruments implementing the Aarhus Convention on the EC level.[11] The Directive itself grants natural and legal persons who are affected or likely to be affected by environmental damage only limited rights in the decision-making process.

Several important issues, such as apportionment of liability in case of causation by multiple parties, the provision of mandatory financial security, or the handling of transboundary pollution, are, to a large extent, left to the discretion of the Member States.

In summary, it may be said that the Directive realises a rather narrow concept of environmental liability. Although Member States are not prevented from maintaining or enacting more stringent provisions, it must be expected that the Directive will provide for only limited harmonisation of Member State laws with regard to the prevention and remediation of environmental damage. Restrictions apply in several respects. First, the Directive is subsidiary to international law. Secondly, it applies only to certain types of damage (damage to protected species and habitats, water damage and land damage) and to certain activities which are listed in Annex III to the Directive. With respect to other activities, the Directive only covers damage to protected species and habitats if the operator has been at fault or negligent. Thirdly, the Directive has no retroactivity. It does not apply to damage

[10] 2001 Convention on Civil Liability for Bunker Oil Pollution Damage; 1996 Hazardous and Noxious Substances Convention; 1989 Convention on Civil Liability for Damage Caused During Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels; 1971 Brussels Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material.

[11] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, ECE/CEP/43.

caused by emissions, events or incidents that took place before the proposed date of the implementation of the Directive by national law (30 April 2007), or to damage that derives from a specific activity that took place and finished before this date. The cautious approach of the Directive is also documented by the comprehensive review procedures it provides. The Directive thus does not provide for a unified and effective environmental liability law in Europe, but rather is a first step in this direction. National law, especially national tort law, will therefore continue to play a major role in the field of environmental liability.

III. National tort law

1. Strict liability rules for pollution damage

The comparative analysis shows that most European countries provide for *strict liability* regimes with respect to environmental damage. Several countries (Germany, Greece, Finland, Sweden) enacted comprehensive no-fault environmental liability statutes. Portugal provides for strict liability with regard to dangerous activities in specific statutes (Article 23 LAP, Article 41 LBA). In other European countries, pollution damage is governed by the traditional strict liability rules of the national civil codes. This is the case in France and Belgium, where the no-fault liability of the custodian of a thing according to Article 1384(1) of the Civil Code is also applicable to pollution damage. It is important to note that in Belgium, unlike in France, this type of liability is only applied to things that are defective. In Italy, Article 2050 Codice Civile is also applicable to environmental harm. The Spanish Codigó Civil and the Dutch Burgerlijk Wetboek contain explicit strict liability provisions for pollution damage. Article 1908 Codigó Civil provides for strict liability for damage caused by toxic fumes, and Articles 6:173–178 BW establish strict liability for defective constructions or buildings, dangerous substances and pollution of air, water and soil, provided that there is a significant risk to persons or property. In the common law countries of England and Ireland, strict liability may apply under the rule in *Rylands* v. *Fletcher*. In England, however, this rule was narrowed by subsequent case law and evolved into a specific form of nuisance law, relating to isolated incidents rather than to continuous interference. In Scotland, the rule in *Rylands* v. *Fletcher* does not apply. Scotland, therefore, seems to be the only jurisdiction in Europe that does not provide any strict liability regime with regard to pollution.

In many countries, sector-specific strict liability statutes covering harm caused by dangerous activities, such as the operation of mines, pipelines, power stations, electricity lines, aircraft or vessels, may also be applied to pollution damage. Specific strict liability statutes apply to genetically modified organisms (Austria, Finland, Germany, Spain), the production, transportation and disposal of toxic waste (Belgium), the deposit of waste (England, Scotland) and the operation of dump-sites (the Netherlands). In most countries, the operation of nuclear power plants is covered by specific strict liability statutes implementing the obligations deriving from the Paris and Brussels nuclear liability conventions (Belgium, France, the United Kingdom, Germany, Greece, Italy, the Netherlands, Spain and Sweden). Ireland and (despite its membership of these conventions) Portugal have not enacted specific nuclear liability legislation. In these countries, nuclear liability is governed by general tort law. In the non-member state Austria, the 1999 Nuclear Liability Act imposes comprehensive liability obligations on the operator of a nuclear plant and the carrier of nuclear material.

In both civil and common law countries, liability according to *neighbourhood law* plays an important role in the compensation of harm caused by pollution. On the continent, such neighbourhood liability is either explicitly provided by law (Austria, Finland, Germany, Greece, Italy, the Netherlands, Portugal) or derived by case law (‘*troubles de voisinage*’, France, Belgium). In the common law countries of England and Ireland, and also in Scotland, the corresponding remedy is the action of private nuisance. In all countries, neighbourhood liability requires a continuous, unlawful and indirect interference with the use or enjoyment of land exceeding a certain threshold of tolerance. Except for Scotland and the Netherlands, fault need not be established. Damages claims, however, underlie several restrictions. They are only available to persons who have a close relationship to the affected land (e.g. land owner, tenant) and usually cover only damage sufficiently related to the land.

With regard to actions in strict liability, several defences may apply. Usually, the defendant will not be liable for acts of war, hostilities, armed conflict, civil war, insurrection or a natural disaster of an unforeseeable character. On the continent, courts tend to apply the concept of *force majeure* (Austria, Finland, France, Germany, Greece, the Netherlands, Portugal, Spain, Sweden), while English, Irish and Scots law refer to ‘act of God’. Belgian and Italian law, however, do not provide for a specific defence in the event of such occurrences, but restrict liability by denying

the causation of the defendant. Most reporters stress that the acceptance of such a defence varies with the amount of risk posed by the relevant activity and the availability of preventive measures to the defendant. Only the most extreme and unpredictable occurrences will amount to a defence. The burden of proof usually lies with the defendant. Further defences that are accepted in most countries are 'act of a third party' and the doctrine of contributory negligence which leads to a reduction of the amount of compensation. In all the countries, actions in strict liability become statute-barred after a certain period of time. The limitation periods are, however, very diverse, ranging from one to thirty years.

2. *Proof of causation*

In all the jurisdictions analysed, the general rule is that the *burden of proof* on causation lies with the plaintiff. Causation is established if the plaintiff can link the defendant to the harm to the satisfaction of the court. According to the principle of *free evaluation of evidence*, generally accepted in all European countries, the admission and weighing of evidence lie within the discretion of the court.

Fundamental differences can be stated with regard to the *level of probability* that is necessary to establish causation. Some countries (Austria, Germany, Greece, Spain) require a very high level of probability, close to certainty. In these countries, consequently, courts and scholars apply sophisticated theories to ease the plaintiff's burden of proof. Austrian and German legislation even provide for various presumtions of causation. In Belgium, France, Italy and the Netherlands, the required level of probability is not defined, which gives courts broad discretion on this issue. In England, Ireland, Scotland and the Scandinavian countries, the required level of probability is much lower. In England, Ireland and Scotland, the claimant must prove that, on the balance of probabilities, the defendant's activity was, at least, a material contributor to the damage. In Finland and Sweden, similarly, causation is established when the claimant can prove that it is more probable than not that the defendant caused the damage. As the British case of *Fairchild* v. *Glenhaven Funeral Services* shows, this comparatively favourable situation for the plaintiff does not stop the courts easing the burden of proof under specific circumstances.

In no European country is *statistical evidence* alone sufficient to establish causation. Such evidence needs to be enhanced by further evidence in order to meet the certainty level required by the relevant jurisdiction. In Belgium and France, however, the rule of '*perte d'une chance*' would, in

theory, allow for partial compensation in cases where epidemiological evidence shows that the tortfeasor's behaviour increased the neighbours' risk of contracting a certain illness. In Sweden, the new law providing for a class action also allows for compensation without the necessity of establishing an individual causal relationship between the tortfeasor and the plaintiff's harm. The most far-reaching decision in this regard was rendered by the Dutch Hoge Raad in the 1992 *Des* case, where the court held all the producers of the drug jointly and severally liable, although the plaintiffs were unable to show causation by an individual producer.

All the countries favour *joint and several liability*, if the victim can show causation by several tortfeasors without being able to apportion the damage among them. The defendant who has compensated the victim has a right of recourse against the other defendants. In most countries, joint and several liability will also apply in cases of concurrent causation, such as cumulative or alternative causation.

3. Remedies and legal standing

A. Loss of life and personal injury

The rules on compensation for loss of life and personal injury, are rather similar. In case of personal injury, the victim is entitled to damages for actual and future loss of income, medical expenses and compensation for increased needs, such as the costs of personal assistance. When the victim has died, a cause of action for the funeral costs will be asserted, and the dependants will be entitled to claim maintenance. The main differences lie in the attribution of non-pecuniary damages. Although all the countries provide for damages for pain and suffering in case of personal injury, the amounts of compensation vary considerably. Compensation for emotional distress without signs of physical or mental illness is only available in some countries, namely, in Belgium, Finland, Ireland, Spain and Sweden. Although claims for non-pecuniary damage because of loss of consortium after the death of a relative are, in principle, available in most countries (except for Finland and Sweden), the conditions under which such compensation is granted do, however, vary. Fundamental differences also exist with regard to the right of social insurance or the public health service to obtain reimbursement of their expenses. National solutions range from an autonomous right of action of the relevant agency, to subrogation, to the exclusion of reimbursement claims.

B. Damage to land

Contamination of land usually qualifies as property damage. In all European states, the owner of the land and persons who can show a qualified interest in the land (e.g. the holder of a servitude or a lease) are entitled to claim damages. With regard to *legal standing* of other persons, there are fundamental differences. While many European countries (Austria, Germany, Greece, England, the Netherlands, Portugal and Scotland) are very hesitant to attribute legal standing to persons who cannot show a qualified interest in the land, this is not the case in Belgium, France and Spain. In these countries, the right to claim damages does not depend on the infringement of a certain specified right. In order to obtain legal standing, it is sufficient that the plaintiff can show a personal and actual interest in the claim. This condition will be fulfilled if the plaintiff has suffered damage, such as death or personal injury, physical damage to immovable or moveable goods, nuisance in the enjoyment of such goods, or economic loss. Thus, even a loss that would be classified as pure economic loss in the other countries, may be compensable. For pollution damage, Swedish law also follows a broad concept and attributes legal standing to persons who rely on the use of a public natural resource for their business.

Damages claims cover *restoration* in kind or reimbursement of the restoration costs including compensation for lost use during the restoration period. In many countries, courts will only award costs that are in some reasonable proportion to the value of the land (e.g. Austria, Belgium, Germany, Greece, Italy, the Netherlands, Scotland, Sweden). If the costs are disproportionate, and the land can be used for another purpose, damages will only cover the diminution in value of the land, which may be significantly less than the restoration costs (Austria, Belgium, England, Germany, Greece, Italy). In several countries, however, specific legislation in certain fields (Austria, Belgium) or case law (the Netherlands) demands that the ecological value of the land must be taken into account when applying such a proportionality test.

Tort liability of the tortfeasor will, in most countries, also cover the costs of *preventive* measures taken by the injured person. If the preventive measures lead to damage to the property of a third party, the person who is responsible for the situation will also be obliged to compensate this damage under most jurisdictions, according to the principles of tort law.

Most countries also entitle *public authorities* to recover restoration costs or the costs of preventive measures. The legal basis for such an

entitlement, however, varies greatly, ranging from the private law remedies of tort law, unjust enrichment or *negotiorum gestio* to specific entitlements provided by public law. These rules are now complemented by the regime established by the 2004 Environmental Liability Directive.

C. Damage to water

In all European countries, remediation costs for water pollution are covered by tort law. This includes fault-based liability and recovery according to the laws of the neighbourhood or nuisance in the common law countries. Many national strict liability rules include damage to water. Strict liability rules for road traffic accidents, as provided by several countries (Austria, Germany, Greece, Portugal and Spain), also cover water pollution damage caused by motor vehicles. In Sweden, the compulsory no-fault insurance scheme of the Traffic Accident Act, which covers harm caused by domestic road traffic accidents, also applies to damage to water. In addition, many countries provide for specific rules governing the remediation of water pollution. The specific legal devices provided by the various states, however, vary considerably. They range from civil liability rules to clean-up obligations provided by public law.

Fundamental differences also exist with regard to compensation for economic loss of a private person caused by the pollution of a public water resource. While Austria, England, Greece, Ireland and Scotland rather deny compensation for such 'pure economic loss', Belgium, France, the Netherlands and Spain grant such claimants legal standing and provide for the compensation of pecuniary and even non-pecuniary damage. In other countries, such loss is compensable under specific conditions (e.g. Italy: fault requirement) or under specific liability regimes (Finland, Sweden: environmental liability statute; Germany: § 22 WHG; Portugal: LAP). In many countries, special provisions apply to the loss suffered by fishermen due to pollution, especially in cases of oil pollution.

D. Natural resource damage

Specific legislation on natural resource damage is rather rare in Europe. Among the countries analysed only Italy and, very comprehensively, Portugal provide specific legislation for the compensation of natural resource damage. In Belgian law, the Act on the Protection of the Marine Environment explicitly covers also the impairment of the environment. In several countries (Belgium, France, Spain, Sweden), case law regarding protected species shows that courts are ready to grant public

authorities, or private persons and organisations that have a qualified interest in the harmed natural resource, legal standing for a damages claim. Dutch law is also rather generous with regard to legal standing in cases concerning environmental damage.

In all the other European countries, the right to claim compensation for natural resource damage lies primarily with the *owner* of the impaired environmental resource, be it land, water, plants or wildlife (Austria, Belgium, England, Finland, Germany, Greece, Ireland, Scotland). The owner is entitled to claim the costs incurred for the restoration of an environmental good, including compensatory restoration. Problems arise, however, if the impaired good is not privately owned or if it cannot be restored to its original condition by adequate and reasonable measures.

In some countries (Austria, Germany, Greece), the entitlement to claim remediation costs may also be derived from the law of unjust enrichment or *negotiorum gestio*.

Fundamental differences exist with regard to the legal standing of private organisations. Only a few countries (Belgium, Portugal, Sweden) allow private organisations to claim for incurred costs under tort law. Under Dutch law, which explicitly only provides for a right to claim an injunction, courts are ready to grant cost recovery, if the organisation can show a sufficient individual interest in the resource. In Ireland, private environmental organisations are allowed to claim clean-up costs according to section 10(1) of the Water Pollution Act 1977.

With regard to the prevention and restoration of natural resource damage and legal standing in respect of such damage, the comparison shows a wide variety of national solutions and fundamental differences in the European countries. While some countries already provide innovative and far-reaching concepts (Belgium, Portugal, Sweden), this is not the case in the majority of the European countries. It is, thus, important that the 2004 EC Environmental Liability Directive concentrates on these issues. Despite its shortcomings, it is to be expected that the Directive will have a stimulating effect on national laws concerning natural resource damage and will provide for some harmonisation in this field.

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