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The Phenomenon of Money

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Preface

It is almost unavoidable that any study of money written by an anthropologist will, following modern academic usage, be labelled 'interdisciplinary'. Economists will be particularly inclined to apply this label, seeing that theories about money are at the centre of their own discipline. It is not, however, my intention to teach economists anything new about monetary theory, save perhaps to point out to how great an extent any such theory is no more than one instance of the systems of ideas that people develop in thinking about their own institutions.

As an anthropologist I could, following the example of Claude Lévi-Strauss—the most eminent practitioner in my own discipline—have written about 'la pensée économique', in much the same way as he has written about 'la pensée sauvage'. Now economic thinking is a part of my subject matter—and I deal with it in the first chapter—but it is marginal to the main subject matter of the book. The point which is really important to me is not only that money, and monetary institutions, emerge in the history of mankind at a stage long before man ever started to think scientifically—as Aristotle did about money as early as the fifth century BC—but also that I started to think about at least some of the problems I deal with long before I found a home in any academic department.

The originality of my approach explains why this book pays little attention to a number of themes current in specific academic circles. In spite of its title, it is only incidentally concerned with the phenomenological movement in philosophy and sociology, which is generally associated with the name of Edmund Husserl. If, also, relatively little attention is paid to Marxist thinking about money, it is because the ideas of Marx and his followers about money are so clearly derivative. Indeed one would hardly expect Marxists to think creatively about an institution which they so deeply mistrust. And if I have taken little notice of the controversy between 'formalists' and 'substantivists' concerning the character of primitive economies, it is because the structural approach I adopt largely bypasses it. I would not, however, wish to deny the importance of the most original contributions to thinking about primitive money of Karl Polanyi, the founder of the substantivist school, a number of which are referred to in the text. In the end I am arguing for a non-Aristotelian approach to money, analogous to that which, in the field of pure mathematics, has led over the last 150 years to the development of non-Euclidean geometries. What I have learnt as an academic is a scientific approach, which has enabled me to explain and order the phenomena which I have observed. Here the anthropological approach of 'participant observation' has been extremely useful, the more particularly because I have been able to participate, to an unusual degree, in the institutions which I have observed. My confrontation, as a soldier in Austria in the late 1940s, with an extremely restricted sphere of payment, defined by the circulation of British Armed Forces Vouchers, in the same denominations as ordinary British money; the years—now far in the past—in which I played bridge regularly and poker occasionally; a month's travel among the tribesmen of southern Ethiopia, paying for everything out of a large sack full of ten-cent coins, the only money they would accept;

two years in the City of London in the boom-time of the mid-1950s; eighteen months working in Johannesburg, in the late 1950s, for the world's largest gold mining complex, at a time when the price of gold seemed to be fixed, by divine command, at $35 per ounce; bank accounts maintained, at different times, in Britain, France, Holland, Italy, Mexico, South Africa and the United States; seven years in practice as a tax lawyer; and, finally, anthropological research into the indigenous credit systems developed by the Maya tribes of southern Mexico—these are no more than instances of my own experience of money and monetary institutions.

However great the range of such experience, it is not enough to provide the basis for a comprehensive and systematic study of money. Although the different perspectives from which I have been able to observe the phenomenon of money largely determine the character of this book, the substance of it depends almost entirely on my own academic researches in the course of the 1970s. As is clear from the bibliography, these have been very far-reaching. If in one or two restricted areas, such as the relationship between money and language, or money and religion, I can claim that my own researches have broken new ground, I have had to rely on others' scholarship for much the greater part of the material which I have used. I have had here the advantage of help and advice, interest and encouragement, from scholars not only in my own discipline of anthropology, but also in others as diverse as archaeology, economics, epigraphy, history, linguistics, numismatics and theology.

I am particularly indebted to a number of those of who have helped me. Professor Mary Douglas, who, as director of research at University College, London, first suggested money as a field of research, has herself made a number of extremely original contributions, which I am pleased to have been able to use in the present study. In 1976 and 1977, when I was able to pursue my researches in Paris, I was helped by endless discussions with Jacques Melitz, an economist, Gilles Hennequin, a historian and numismatist, and Daniel de Coppet, whose studies of the 'Are'are are a model of what an anthropologist can achieve in the study of a monetary system. In London, Charles Goodhart, of the Economic Intelligence Department of the Bank of England, and Victoria Chick, of the Department of Political Economy at University College, have both taken endless trouble in reading the manuscript at different stages: their criticisms have contributed enormously to my own education as an economist. I need hardly add that the views expressed remain my own, and I accept full responsibility for such errors as—after several revisions—are to be found in the text.

On a number of special points I have been greatly helped by Dr P.H.W.Bartle, Professor R.Bogaert, Professor C.Cahen, Professor G.Condominas, Mr M.P.Conolly, Professor L.Dumont, Professor S.D.Goitein, Mr. G.M.J.Hogeweg, Professor J.Lafaurie, Dr R.M.Laughlin, Dr P.van Leynseele, Dr M. Perlman, Mr. R.Soeting, Professor E.Z.Vogt and Professor T. Yoneyama; and from within my own department in the University of Amsterdam by Dr G.Benton, Mr J.G.van Bremen and Dr L.Sluimers. I would also like to thank the numerous students who have chosen to attend my seminars on different monetary themes. I am also most grateful to Miss Jennifer Every, who at very short notice was able to type out the manuscript.

The Department of Anthropology at Harvard University, the Anthropological seminar of the Ecole des Hautes Etudes en Sciences Sociales, the Faculty of Anthropology at the University of Paris (Nanterre), The Department of Monetary Economics of the London

School of Economics and Political Sciences and the Money Study Group of the Social Sciences Research Council have all invited me, at one time or another, to present my ideas about money, and the ensuing discussions have not only greatly helped in clarifying them, but also have led me to pursue new lines of research.

I have written almost the whole book in Amsterdam. The staff of the University Library (which is the largest in Holland) have been able to find for me the greater part of the material needed for my research. In the cases in which they were unable to help me, the Koninklijke Bibliotheek in the Hague hardly ever failed to find what I was looking for. In the year in Paris the staff of the Bibliothèque Nationale were equally helpful in meeting my needs.

Although I have had to write this book in such free time as I could find in the course of my work at the University of Amsterdam, I have been fortunate enough, in 1971–2 and 1976–7, to be able to devote almost two years exclusively to research. In meeting the costs which this involved I am most grateful to the Nuffield Foundation, the Centre National de la Recherche Scientifique, the Netherlands Organization for Pure Scientific Research and the Sub-Faculty of Sociology and Anthropology of the University of Amsterdam.

Finally, it has been a pleasure writing this book. In spite of the vast amount written about money, largely by economists, the scope for new discovery has continually surprised me. The many different people to whom I have already given thanks, and the books and articles which I have read, have all encouraged me to continue searching. If, occasionally, I have been hesitant, it is because of a confrontation with some theory propounded by specialists—with an expertise much greater than my own—which my own knowledge and experience compel me to reject. An example is to be found in theories about the origins of money maintained by reputable economists. My purpose in dealing with such theories has been, however, not to confound the experts, but to provide an alternative for their consideration. While agreeing with Keynes (1936, p. 383) that ‘the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas’, I would hope not to be seen as one of those ‘practical men, who, believing themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist’. Rather I would prefer to be counted among ‘the brave army of heretics…who, following their intuitions, have preferred to see the truth obscurely and imperfectly rather than to maintain error’ (ibid., p. 371).

1
The phenomenology of money

Underlying a rich diversity of form, money is a single phenomenon. But its nature is not easy to understand, for money gives no information about itself, except that it *is* money. In revealing itself as money, it is nothing more than a cultural tautology.

Money fails to reveal its true nature for two reasons. The first is that, at the deepest level, it is independent of any transactions in which it is used. The second reason, which is complementary to the first, is that money, as soon as it is used for any purpose, generates its own distinctive institutions.

Both reasons need to be further elucidated. The first is best illustrated by an example. The information that X has £1000 standing to his credit at the Y bank tells nothing about how he acquired that sum, nor about how he will spend it, unless certain extraneous assumptions are made about the organization of the socioeconomic system which comprises both X and the Y bank and uses the pound sterling. Even then, the information is insufficient: it needs to be supplemented by X's own record of past, and his plans for future, transactions. His full bank statement would give some information about the size (if not the nature) of past transactions, but it would still tell nothing about the future.

As for the second reason, the possible uses of money, and the different functions which money must have to support them, are never random. However wide the range of different uses, the form must always be institutionalized. At the present stage it is sufficient to note that money—because of its extreme generality and consistency as a phenomenon—can be functional only if its use in any case is highly specific. To use an analogy, because the potential of the letters of the alphabet to transmit and record language is so utterly general, their usefulness for this purpose—in the case of any one language—depends on maintaining extremely precise specifications in regard to spelling (such as are made manifest in any dictionary).

The fact that in any culture the phenomenon of money is only and always manifest in transactions and institutions has meant that in practice thinking about money is determined by the character of these manifestations, although this is seldom made explicit. This is the basis of what is commonly called 'monetary theory', which forms the dominant view of the phenomenon of money.

This approach, which is first to be found in Aristotle's views about money, presented in the fifth century BC, has allowed for only an extremely impoverished axiomatic basis for the development of monetary theory.[1] Because of this, the scientific potential of monetary theory is extremely restricted. The reasons for its success are political, just like that of pre-Copernican astronomy (whose cultural assumptions were equally narrow). It is significant, here, that Marxist monetary theory takes the Aristotelian basis in its most rigid form. By taking the institutions for granted, the monetary theorist is seduced into accepting, as axiomatic, a number of statements about money, which are at most true only in a limited range of monetary systems.

The approach, then, of the present study is that money is essentially a uniform phenomenon, which can become manifest only when it occurs within the confines of an established institution. Although it is the institutions which give money meaning or purpose, its true nature—though not necessarily the forms in which it becomes manifest—is independent of any of them. This being so, the institutions have to be presented in all their diversity, so as to establish, convincingly, that not one institutional configuration can be definitive. A good deal of attention must be paid, therefore, to what is never more than implicit in conventional thinking about money. To use a metaphor from physics, one must look inside the atom, recognizing at the same time that the nature of the investigation, and the results which it may lead to, will depend—at least in part—on the elements chosen for research.

If, therefore, monetary theory normally takes for granted not only money as an observable phenomenon, but also certain functions of money (together with the institutions which support them) and a good deal of what people think about money (which can best be called 'the culture on money'), it is precisely these aspects of money which provide the starting point for the present book. Money, as an observable phenomenon, apt to be described in objective terms, is essentially the subject matter of a ritual, which is described in this chapter under the sub-heading, 'The ritual of money'. The ritual, as soon as a purpose or function is ascribed to it, becomes an incident in a continuing institutionalized pattern of monetary activity, described under the heading 'Money as an institution'. Then, because the circulation of money represents a system of social, political or economic interaction, the phenomenon of money must be considered under a third sub-heading, 'Money as a symbolic system'. Finally, to ensure that the present study is not totally divorced from what others (largely professional economists) say about money, there is a final section, entitled 'Different types of monetary theory'.

The four parts of this first chapter provide the basis for the whole of the rest of the book, but the emphasis will almost always be on the interaction between the matters dealt with in the first three of them. The scheme for the book is therefore presented at the end of this chapter, to give the reader a synoptic view of the different themes which then call for separate, and more detailed consideration.

The ritual of money

The phenomenon of money is manifest in a particular kind of event, called 'payment'. Payment is the transfer, from one person (the 'payer') to another person ('the payee') of an interest which is always expressed as a multiple of a recognized unit with its own name, or 'denomination'. Money is the means which represents this interest, and enables payments to be made. The ostensible result of a payment, so far as the money used to make it is concerned, is to put the payee in what, before the payment, was the position of the payer. Whatever functions money may have, the payee, in place of the payer, is, by virtue of the payment, put in a position to perform them, and—this is the key point—he can do so only by making a further payment. It is of the nature of money, therefore, to be used for an indefinite succession of payments, that is, to circulate, without being subject to any sort of loss of function.

At the same time, the reason for any particular payment is always extrinsic to it. It is this which establishes money as no more than 'an extreme and specialized type of ritual'

(Douglas, 1969, p. 69). This follows directly from the fact that payment, as an observable phenomenon, discloses next to nothing about the use, functions or purpose of money. The questions which now arise are: What form does the ritual take? and What sort of structures are generated and maintained by performing it?

The elementary answer is that money is constituted out of some recognizable substance, which must then, ideally, have certain attributes, such as divisibility, portability, uniformity, durability and relative inelasticity of supply (Chick, 1978, p. 41; Parsons, 1967, p. 368; Polanyi, 1966, p. 177 and Simiand, 1934, p. 22). In this way there come into existence a number of objects which are recognizably money, in the sense that they are to be used to the exclusion of all other assets[2] for the purpose of making payments, which are then effected by handing over one or more of these objects.

Although the attributes of the money-stuff, introduced in the previous paragraph, would appear greatly to restrict the choice of what may be used as money, the range of things attributed with some of the functions of money, in both primitive and modern societies, is extremely wide. A great deal of confused thinking, particularly about elementary monetary systems, follows from uncritically acknowledging as money a wide variety of objects used for purposes such as exchange.

It is essential to decide, therefore, at this early stage on the sort of restrictions to be imposed on the definition of money. Two such restrictions prove to be essential for a consistent treatment of the phenomenology of money. The first is that a true money must of its nature be capable of circulating indefinitely among those who use it, and the second is that a true money has a distinctive identity as such, so that it has no significant use for non-monetary purposes.[3] These restrictions avoid, in particular, the confusion between primary commodities which are a recognized trade good in a given area (and may therefore readily be exchanged for other interests) and money. In much of the Third World, a primary commodity such as coffee is often a surrogate for money in local transactions (Ortiz, 1973, pp. 162f.), in the first place because almost every household is engaged in its production, and in the second because it can always be sold, that is converted into money, in an open market. In the areas where coffee is produced no one thinks of it as money, and this is chiefly because it is a cash-crop which is always converted into money in the end.

The position remains essentially the same even where no such conversion is possible. The Baruya of New Guinea are subsistence cultivators with an external exchange economy entirely dependent upon the export of salt to neighbouring tribes (Godelier, 1973, pp. 275f.). The Baruya have an effective monopoly of salt production: their export trade in salt is essential for providing them with goods which they cannot produce themselves. Since salt is their *only* export, it follows that every import must have an exchange value expressed in terms of it. That is, as far as the Baruya are concerned, every form of merchandise (seeing that they have no significant internal exchange economy) must have a 'price' in terms of salt. This line of reasoning, which would 'monetize' any exclusive export commodity, does not establish, however, where it would then circulate as money.[4] Paradoxically, in the case of the Baruya, there does appear to be some *internal* circulation of salt, on the basis of gift (Godelier, 1973, p. 293), and this factor is far more important in establishing it as money. This is not, however, the argument adopted by those theorists who look for the origins of money in cases of this kind.[5] The most that can be said is that some moneys may have originated as trade-goods. In particular, early systems of deposit certainly seem to have

been organized on the basis of a *unit of account* related to the staple crop.[6] More generally, the origin of money may well be related to a change in the function of objects already used for other purposes.

The important point, in any case, is how few objects in general use have the attributes of a satisfactory money-stuff. It is, moreover, an advantage for the user—at least in the long run—for there to be no possibility of confusion as to whether or not a given object is money. These factors explain the pre-eminence of *specie,* that is objects used as money and for no other purpose. In practice, the establishment of money in the form of specie has required either the adoption of some object found in nature with all the necessary attributes, and with no obvious alternative use, or the mass production of a similar object by means of a manufacturing process. Historically, the only suitable natural object has been the *cowrie* (Quiggin, 1949, ch. 4, pt i), and the only suitable manufactured object, the coin. The diffusion of the cowrie (Jeffreys, 1948, p. 52 and Simmel, 1978, p. 150) and of coinage (Hopkins, 1978, p. 39) over very wide areas of the world, and the decline of alternative currencies, give a practical demonstration of the advantages of these forms of specie.

The character of different forms of specie depends on the balance of the attributes proper to them: that specie is durable not only allows it to link 'the present to the future' (p. 11 below), so that money can circulate indefinitely, but also distinguishes it from the consumer goods which comprise a substantial part of the basic needs of any population. The uniformity of specie (which is essential to making it recognizable as such) is in no sense problematic in the case of the cowrie (where the natural process of production ensures it) but does raise certain difficulties when it comes to the manufacture of coins, or of other more modern forms of specie, such as banknotes.[7] A coin is more than a piece of metal of recognized weight, size and form: its identity is established by a design impressed upon it in the process of manufacture.[8] But then the control of the manufacturing process becomes critical—an extremely important historical factor (which is discussed in chapter 5) in relation to the supply of money. The problem can be solved in part by choosing as the raw material for coins precious metals in such short supply that the existing money-stock (that is, the total money held by all transactors) is maintained at a more or less constant level, with only a marginal supply of new coinage. This is what is meant by 'relative inelasticity of supply'. At the same time, the coins can be made small and light in weight, which contributes to the ease of using them in transactions.

If, at an elementary level, money tends to be conceived of in the form of specie, there is an alternative form which is no less important. Suppose that, at any given time, the amount of money held by any transactor was as recorded, numerically, in a recognized form of document. The ritual of payment could then be performed by an appropriate alteration in the records. All that would be necessary would be to increase, by the amount of the payment, the number recorded against the name of the payee, at the same time reducing, by the same amount, that recorded against the name of the payer. This alternative system, of 'scriptural' money, is generally regarded as secondary or derivative. It is, for one thing, historically dependent on the invention and use of writing—a skill not found among the many primitive peoples who have developed their own money. The system would also seem to be unwieldy. But the earliest known writing, that of Sumeria, which can be traced back to the fourth millenium BC, 'is almost certainly represented by texts of business and administrative character' (*Encyclopaedia Britannica: Macropaedia,* 1973, 15th edn.,

vol. 17, p. 797), and there is abundant evidence of payments recorded in cuneiform on clay tablets (Lambert, 1963, p. 84) by civilizations which knew nothing of the use of specie. Scriptural money, particularly where it is supported by a numerical system well suited for arithmetical calculation, has great advantages over specie when it comes to dealing with relatively large sums of money, particularly over long distances. From the time of ancient Sumeria to that of the modern corporate state, the system is therefore particularly favoured for the transactions in which the state is involved (Lavigne, 1978, pp. 29f., and ch. 14 below). Finally, the use of scriptural money does give rise to two questions, which are left for discussion in later chapters. (1) What is the true meaning of the money recorded in the names of individual transactors? (2) How is the aggregate stock of money in circulation determined? The first question is dealt with in chapter 4, the second in chapter 5.[9]

A ritual must have not only form; it must have *performers*. In the foregoing discussion of payment nothing was said about who were admitted to the class of *transactors,* that is, of payers and payees. Specifically, the class of transactors is defined by the way in which the money happens to be used, which in turn is determined by the purpose underlying the performance of the ritual. This approach to the definition of the sphere of payment is inherent in the discussion of the money game in chapter 2. The difficulty is that—with the exception of certain very restricted types of money—the purposes for which any given money may be used are so varied that the class of transactors admitted to the sphere of payment can be defined only in the very vaguest terms. In the general case, therefore, such transactors are defined according to recognized social, geographic or economic criteria, so that—to take one example—anyone physically present in the United Kingdom may be expected to make payments in sterling. The point can be made, more explicitly, in mathematical terms. Suppose that there are n different uses of money, u_1, $u_2 \ldots u_n$, and that with any one such use, say u_1, there is associated a given class of transactors, T_i. Any two such classes T_i and T_j will be *connected* either if there is a class, T_{ij}, of transactors who are members of both, and use the same money for both u_i and u_j, or if there are intermediary classes T_{ik}, $T_{kl} \ldots T_{mj}$, by which T_i and T_j may be linked to each other. Then any combination of the classes such that all are connected in this way will establish a sphere of payment. If all the T_i are interconnected, then there will be but one sphere of payment.[10]

The definition of boundaries in the use of money, upon which the above analysis depends, is not a simple matter for those concerned to maintain them. The detailed discussion of this question is left to chapter 8. The difficulty, stated in general terms, is that the property of money is so abstract (Simmel, 1978, p. 153), and its potential use so generalized, that any money is suited to be taken over and used in a sphere of payment quite different to, and independent of, that for which it was originally intended.[11] The extent to which any money is likely to be subject to this process depends upon the imponderable factor of confidence, that is its general acceptability for use in established monetary rituals. Chapter 2, for the purpose of illustration, deals with a number of money games in which the sphere of payment is very restricted, but this is not the general case in the modern world. The function of money as a medium of exchange (examined in the following sub-section), and its use for one particular type of transaction, known as *sale* (which constitutes the subject matter of chapter 3), allows for the almost indefinite extension of the sphere of payment. If, then, following the argument of chapter 7 on the distribution and redistribution of money, the use of money exclusively for the purposes of exchange cannot indefinitely maintain a viable monetary system, any

sphere of payment in the modern world will inevitably be complex, being constituted out of different uses of money and different classes of transactors, in the way described in the previous paragraph. The higher the level of complexity, the more important are transactions which are performed exclusively in terms of time and money. Of these, money-lending, which is discussed in chapter 4, is the most elementary; but the general case is left to chapter 12, which is concerned to discover the functional role of the complex constituted out of all such transactions. This process has, at the same time, a prounounced effect on the class of transactors admitted to the sphere of payment, which one is apt, in the first instance, to see as consisting only of individuals. In terms of transactors, it is the corporation, introduced in chapter 6, and considered in any number of special cases in the remaining chapters, that allows for the most significant extension of the sphere of payment.

At the end of the day, whatever the different purposes for the payments made within it, a sphere of payment is constituted out of a number of different points, located in a space-time continuum and representing potential transactors, so that a given stock of money is continually redistributed between them by virtue of the continuous re-enactment of the ritual of payment, and in such a way that all the points, by means of successive performances of the ritual, may be connected with each other.

Money: institution and function

An institution, defined in abstract, is a series of human 'activities which are repeated or continuous and take place within a regularized pattern' (Bullock and Stallybrass, 1977, p. 313), according to rules established either by tradition or by historical process. The circulation of money within a sphere of payment satisfies the first part of the definition, but to satisfy the second, the rules which govern it must in every case be made explicit. The difficulty about defining money as an institution is that there are any number of different sets of rules which can satisfy the second part of the definition. This explains the existence of the different types of money game considered in chapter 2.

The point can be made clearer by explaining the monetary institution in functional terms. There are two sides to any such explanation: the first is the function of money on which the institution is based; the second is the function of the institution in the political, social, economic or cultural system of which it is a part. An example makes clear how the two types of function are linked to each other. The *market* is the institution based, *par excellence,* on the *function* of money as a *medium of exchange,* and every instance of the performance of the ritual of payment is called a *sale*. The function of the market, as an institution, is to distribute, or, better, to redistribute, the goods brought to it.

Two questions arise. What are the functions of money at the foundation of any monetary institution? And what functions if any do the different types of monetary institution have in common?

Although there is not complete unanimity, the definition of the different functions of money is well established. The five functions traditional to monetary theory are sufficient for present purposes.

(i) *Means of payment.* As the preceding sub-section on the ritual of money makes clear, this function is essential to any system based on the circulation of money.

(ii) *Standard of value.* As chapter 3 will show, there can be a money, or at least a surrogate for money, *functioning* as a standard of value, without *existing* as a means of payment. As such, money is the means for comparing—in quantitative terms—two unlike things on a scale which is common to both of them. The reason for making such a comparison depends on its institutional context, in which there must be, in any case, provision for establishing the scale for all things subject to the common standard of value. If, then, for example, an orange is established as having five points on the scale and an apple as having three, one has the institutional basis for exchanging three oranges for five apples.

(iii) *Unit of account.* The function of money as a unit of account is to relate transactions to a numerical scale. The object of doing so is to establish the relative monetary position of different transactors, in which case the unit of account provides the essential basis for scriptural money. It must then be realized, however, that money, as a unit of account, does not necessarily constitute a means of payment.

(iv) *Medium of exchange.* The essence of this function is that money is the medium whereby different classes of things may be exchanged with each other. If exchange lies at the foundation of any economic system, then the function of money as a medium of exchange is essential to any economic use of money. In the case of specie, the standard of value may be taken as the basis for establishing money as a means of payment which then functions as medium of exchange. The process is described in chapter 3. In the case of scriptural money, accounts kept in terms of a standard unit provide the basis for transfers made for the purpose—*inter alia*—of effecting exchanges. This is the essence of giro-banking, which is described in chapter 10.

(v) *Store of wealth.* The function of the store of wealth represents the future potential of money for making payments. Money, between payments, is therefore a store of wealth for whoever happens to hold it. The co-existence of the functions of money as a store of wealth and as a means of payment contains an element of paradox. For as a store of wealth 'money in its significant attributes is, above all, represented as a subtle device for linking the present to the future' (Keynes, 1936, p. 293); and the assurance that the payee has that he is under no immediate pressure to make a further payment, and that he may hold his power to do so in reserve, is decisive for the success of any monetary system (Chick, 1978, p. 38). At a certain point, however, which is easier to recognize in practice than it is to define categorically, money is withheld from circulation for so long a period that there is no longer any prospect of its being used for making payments. Such 'hoarding' of money, which effectively means *de-monetization,* has played an important part at certain stages in the history of money (Lopez, 1951, p. 220), by reason of its effect on the quantity of money in circulation.

The second question on p. 9, as to the functions common to different types of monetary institution, cannot be answered so categorically. A natural first reaction is to be overwhelmed by the diversity of such institutions. It can hardly be said that trade, banking, insurance, taxation, gambling—to take only a few examples—*necessarily* have even the use of money in common, for money is not essential to any of them. It is true, none the less, that what can be said in answer to the question is still extremely significant.

The transaction characteristic of a monetary institution is one of conversion on the basis of reciprocity. The conversion works in two ways. The payer sees the money paid

converted into an interest which either may be something tangible or may represent a right enforceable against the payee, or the extinction of a right enforceable against himself (and in these last two cases a third party may sometimes be substituted for the payee). The payee, on the other hand, sees such an interest converted into money. The nature of the conversion will depend upon the reciprocal relationship between payer and payee in which it takes place. The transaction in which the payment is made may establish the relationship (as happens when money is lent), extinguish it (as happens when a debt is repaid), both establish and extinguish it (as happens in the normal case of a sale of goods), or neither establish nor extinguish it (as happens with the payment of any but the first premium on a life assurance policy). The character of the relationship is established by the institution within which the payment is made. This in turn determines whether the relationship is temporary or permanent, *ad hoc* and explicit or implicit in an established course of dealing, vague or precise, egalitarian or hierarchical. The examples given above make it clear that the conversion need not necessarily involve any non-monetary interest, although conversion into such an interest is implicit in the function of money as a medium of exchange.

In practice, conversion is particularly important in two cases in which no such interest is involved. The first case is that of conversion between two different spheres of payment. In modern times this generally means the exchange of one national currency for another, a process that is examined in detail in chapter 16. This is, however, a consequence of the development, in the course of the past 200-odd years, of national monetary systems, based on a central bank—such as are described in chapter 11—and so the position, before the nineteenth century, was quite different. In Europe, during almost the whole period from the monetary reform of Charlemagne (discussed in chapter 3) to the French revolution, two different systems operated at the same time, one based, essentially, on scriptural money, almost invariably expressed in terms of pounds, shillings and pence (Einaudi, 1953, p. 230), and the other based on local coinage, expressed in a variety of different denominations. The first system, whose money was conceived of as 'imaginary', was not uniform, but had different variants in any number of discrete spheres, of which some were determined by political boundaries (ibid., pp. 235f.), while others arose out of the networks established in international trade (Einzig, 1970, pp. 83f.). It provided, none the less, the ultimate basis for almost all contracts, even though the only possible form of payment—transfer by means of book entries—was acceptable only to a very restricted and specialized class of transactors (ibid., p. 71). Otherwise payment has to be made by resorting to the alternative system. The difficulty here was the multiplicity of separate coinages (ibid., p. 109). The only way out was for every monetary jurisdiction to determine which coins—both local and foreign[12]—were recognized within it, and then the rates of conversion into its own fictitious currency (Einaudi, 1953, pp. 241f.).[13] In practice, unofficial rates, determined by market factors (including the ratio between gold and silver), prevailed over the official rates, which were then forced to adjust accordingly (ibid., p. 248)—if sometimes rather slowly. The delay provided what would now be called 'the authorities' with the means to enhance the value of coin in terms of their fictitious currency (ibid., p. 259): this is an alternative to mutation (discussed in chapter 5) as a means of raising revenue, as will become clear in chapter 17 on inflation.[14]

Unrestricted conversion between specie and scriptural money, with both being established in terms of the same units—something that is taken for granted in almost any modern

monetary system—is in fact an extremely complex case, and represents the last stage in a long and involved historical process (Mélitz, 1974, pp. 67f.). A complete description must wait until chapter 11. At a much earlier historical stage an analagous problem, that of establishing a sphere of payment based on two forms of specie—generally, gold and silver—proved remarkably intractable. The difficulty is that if the stock of every sort of money is to be stable, then, within quite narrow limits, the conversions in one direction must be balanced by those in the other. As many people must want to change silver into gold as want to change gold into silver. The problems arising out of this ideal sort of convertibility, known generally as bimetallism, confronted the Chinese a thousand years ago (Maspéro *et al.,* 1967, p. 295) and other peoples, both before and since then, and have not yet been solved. Full convertibility in the sense in which it is inherent in the definition of a sphere of payment requires in practice that the monetary system is established in terms of one form of money (almost invariably scriptural in the modern state) upon which all other forms are dependent. It is not for nothing that the specie now current in the United Kingdom, although made by the Treasury,[15] only comes into circulation via the Bank of England, which at the same time is always prepared to act as a buyer or seller of last resort of any form of money in circulation.[16] The same practice prevails even in the Soviet Union, where monetary policy is based upon the maintenance of quite distinct areas in which specie and scriptural money circulate (chapter 13 below). In practice, if different forms of money circulate, each will determine its distinctive but partial sphere of payment, defined in terms of a high level of internal transactions, in contrast to a relatively low level of transactions across its boundaries.

The second special, and important, case of conversion is that into one of the so-called 'near-moneys', whose property it is—in the case of both specie and scriptural money—that they can always, in case of need, be re-converted into money (Viner, 1955, p. 78). The near-moneys represent a sort of penumbra surrounding the sphere of payment. The holder of specie may reduce it to bullion, which may then be used for making ornaments. In western Europe, in the early Middle Ages, this process contributed to the suppression of the circulation of money in the form of gold (Bloch, 1933, pp. 8f.; Dolley, 1958, p. 265). The monetary function of a store of wealth is retained, so long at least as the possibility of reconversion remains open. In fact, resort to treasure, in the form of gold and silver, for minting coin is the first attested in Athens in the fourth century BC (Schacht, 1973, p. 93),[17] but other examples occur throughout history, from Byzantium (Lopez, 1951, p. 232), through early medieval Islam (Hennequin 1977a, p. 199) and medieval Europe,[18] to sixteenth-century Holland, where the Baron de Brederode melted down his family plate to strike coin used to pay the soldiers fighting against the Spaniards (Parker, 1977, p. 96). In the end, private conversions of this kind became impossible, as the state monopolized the supply of specie,[19] and protected its monopoly by imposing severe penalties on counterfeiting[20] and the reduction of coin to bullion.[21] The state, at the same time, adopted much the same practices—that is, enforced conversions of the stock of specie—as a means of raising revenue: the precise mechanics of this process, which is known as 'mutation', and its monetary consequences in the form of 'debasement' are examined in chapter 9.

Historically the subordination of specie to scriptural money was accompanied by the disappearance of the near-money penumbra defined in terms of specie, and the emergence of such a penumbra defined in *scriptural* terms. Scriptural near-money exists as an

appropriate documentary record, which in practice establishes the holder as a creditor—on prescribed terms—of the bookkeeper. According to the actual form of documentation, the holder of scriptural money is provided with the means of converting it into an established form of near-money. Discussion of the actual form is left to chapter 4: for the present it is sufficient to note that, if true scriptural money is defined as M_1,[22] there is a whole series of near-moneys, M_2, M_3, M_4 and so on, which can be called into existence, with prescribed means of conversion in both directions between any of them, including M_1.[23] Money may be defined by drawing a line at any point in the series, M_1, M_2, …, according to what 'is most convenient for handling a particular problem' (Keynes, 1936, p. 167, n. 1); although only at the first point, represented by M_1, it is strictly a means of payment. Beyond this point one has once again established a succession of moneys with the function of a *store of wealth*.[24]

Monetary institutions are basically of two kinds: the first comprises those institutions which serve to maintain an external system of distribution or allocation, and the second, those which serve to distribute, or better re-distribute, money according to a pattern established within the monetary system itself. The interaction between institutions of both kinds, and the way in which they are superimposed upon each other—the essential process of monetary history—provide the subject matter of chapter 7.

Since the rules of any monetary institution provide for a continuous series of payments within a regularized pattern (p. 3 above), the continuous re-distribution of the money-stock is an inherent function of any such institution. The process of conversion, which every payment effects, inevitably causes the re-alignment of transactors, measured in monetary terms, in relation to each other, and may at the same time provide the means for distributing or allocating recognized non-monetary interests. Were it not for the existence of at least one institution with both properties, the institutions of the pure-money complex, which are defined in chapter 12 as having the first property but not the second, would have no useful function. In functional terms, the former class of institutions must be judged as primary and the latter as secondary. This suggests that money, originally, must have been born out of the requirements of an institution whose function it was to distribute or allocate some valued class of non-monetary interests between the members of a given population. This explains why monetary theory tends to see the medium of exchange as the basic function of money, generally as a result of assuming that the interests distributed are tangible, so that the basic transaction is the sale of goods. This assumption, however convenient it may be for the development of certain theoretical ideas, is far more specific than is justified by the historical or ethnographic evidence. Chapter 2 furnishes a number of alternative instances whose empirical basis is no less sound.

Finally, any institution can be established in prescriptive terms, which define it, and control its operations. There is no language without a grammar. It is characteristic of monetary institutions that they are enshrined in legislation. One would learn a great deal about the institutions described in this book simply by reading the British statute books. In many cases the statute does no more than codify the law as it was already established by custom and precedent: the Bills of Exchange Act, 1882, is an example of this. But the legislature can also create new institutions: the development of business corporations in the nineteenth century (which is discussed in chapters 6 and 13) is an example. In almost every case the legal basis—or construction—of a corporation is purely qualitative: it does nothing to determine the amount of the sums of money which fall within its ambit. It lays

down the rules of the game: it hardly even hints at the strategies to be followed by the winning player.

Money as a symbolic system

Money, as the subject matter of a ritual, always represents or signifies something other than itself; the representation is made effective by virtue of the process of conversion established by any monetary institution. One is not interested in money, but in what money will buy. At the most elementary level, therefore, money is a symbol signifying what it can be converted into.[25] It is no coincidence that Latin *pecunia,* 'money' is derived from *pecu,* 'cattle', and any number of hypotheses about the origins of money may be supported by such linguistic evidence. But the symbolism of money, even in its representations in the form of words, is not confined to this elementary level: the original Chinese character for 'currency', 泉, originally meant a spring, and expressed therefore the idea of fluidity and ubiquity, which are properties characteristic of the circulation of money. Coins, of course, carry obvious visual symbolism: the head of the sovereign, stamped on one side of the coin, makes clear where the power to issue new money is located.[26] At the same time, the fact that a coin is one uniform representation out of countless identical representations provides an instance of a very important type of symbolism, described by Durkheim (1915, pp. 384f.) in terms of the Australian aboriginal *intichiuma* ceremony in which the part represents the whole. The use of rare, precious and beautiful materials for coinage, establishes the coin as a valued object, fit only to be converted into something of equal value (Simmel, 1978, p. 176). Following this line of thought, one discovers the origins of specie in precious ornaments (Schacht, 1975, p. 29, and Vilar, 1976, p. 94f.), which are brought out for display for certain *rites de passage*[27]—generally related to birth, marriage and death, which are the only occasions on which they change hands (Bessaignet, 1970, p. 37). The question about the accepted origins of money relates to whether the institutions it supports are sacred or profane in terms of the local culture. That of the Western world, whose moral basis is established in the Judeo-Christian tradition, plainly takes money to be profane, and to represent the secular power of the state. None the less, when the Church began to assume important institutional functions in regard to money, it was only too ready to convert the specie which came into its hands into treasure. The Buddhist monasteries in China, in roughly the same period, used their treasure for commercial purposes (Gernet, 1956, p. 19), and if, then, 'Chinese religion was not more than a reflection of the commercial orientation of the country' (Hou, n.d., p. 130), how different was the position in the Western world?

There was certainly a difference in ethos. Dante (*Paradiso,* Canto IX, line 130),[28] in condemning his own city of Florence (which had just established the gold florin as one of the most successful coins in history—Lopez, 1956) for spreading 'the accursed flower'[29] throughout the world, was certainly expressing a popular view of money,[30] which seemed to have all the authority of the Church behind it. The official doctrine of the Church was in fact not so categorical: money, as such, was accepted, provided its use was confined to its only proper function as a means of exchange (Viner, 1978, p. 89). This ruling (which can be traced back to Aristotle) followed from the way in which the Church resolved a paradox relating to the nature of money—conceived of in the form of specie—as 'fungible' or 'non-fungible'. The difference between the two, as the Church saw it, is that '"fungibles"…lose their identity

in or are destroyed or transformed by use', where '"non-fungibles"…are not destroyed or transformed by use' (ibid., p. 86). The legal importance of the distinction lay in the fact that 'fungibles could not, whereas non-fungibles could, ordinarily be the subject of a lease as distinguished from a sale'. According to the Church, money was a 'fungible', because 'when money was lent, what was returned was a generally equivalent amount of money, but not the identical coins that had been lent, as would be the case if money could be "leased"' (ibid., p. 87). It follows therefore that the leasing of money, that is the lending of money at interest, or *usury,* must be condemned by the Church, with important consequences for the development of credit (chapter 4) and banking (chapter 10). As chapter 3 shows, the Church's doctrine restricting money to a means of exchange, if strictly applied, would confine its use to only a very narrow range of *economic* transactions. The range became even narrower as a result of the doctrine of the just price (ibid., pp. 81f.), which was eventually established as 'the price that would be reached under normal conditions in a competitive market as a result of bids and offers by buyers and sellers' (ibid., p. 85).

The result of looking at money in the way implicit in the doctrines of the medieval church is to establish it as symbolic of the right relationship between certain recognized classes of things, at the same time preventing it from representing any relationships between persons.[31] The precept, 'neither a borrower nor a lender be',[32] is the basis of this approach.[33] If at popular level this ideal may still hold its sway,[34] it contradicts the whole organization of any modern monetary system,[35] as will become abundantly clear in the remaining part of the book. It is perhaps not for nothing that the sovereign's title as 'defender of the faith'—which perfectly represent the old order—is inscribed on British coins.

The profane view of money is, however, not essential. Money can equally represent the sacred and the eternal, in which case it is non-fungible and becomes important for the relationships which it establishes between persons; and the view of the medieval church is reversed. This is how the 'Are'are, a primitive population of the Solomon Islands (whose money game is described in chapter 2), look upon their own money (de Coppet, 1968, p. 116).

> In this way, all social facts,[36] however important or unimportant, once measured in monetary terms, become comparable. The ritual prolongs their effects beyond the moment of time, to integrate them in both the past and the future. The circulation of these moneys is subject to precise rules, so that, together with men, women, children and other goods recognized in the local culture, they form a system of exchanges which maintains and perpetuates the established patterns of social organization. The implicit immortality of the society, as such, is thus maintained by the mortality of the people and goods which, momentarily, cross its path. Both the living and the dead combine in the eventual destruction of all things, so that in the end nothing remains save these strings of money, and the unceasing ballet which they perform. These moneys, the tangible supporters of the law, are all that remain of the ancestors, and as such they are the all-powerful accomplices to the process of time.

One hears almost the voice of the catechist explaining the sacrifice of the mass.

The manner in which money is supplied (discussed in chapter 5) is also relevant to the way in which money is regarded in any culture. Where this is a monopoly controlled by the state (p. 135 below), money will be seen as an instrument of power, if not of oppression and exploitation.[37] This view of money will be particularly acute among subject peoples and minority groups in the Third World,[38] among whom one can find significant transformations

of the exogenous money stock into ritual objects for use in ceremonies established exclusively according to the canons of the local culture. Implicit in any transformation is the conversion of money from fungible to non-fungible, from profane to sacred. Since the conversion is purely symbolic, it lies within the power of any culture to effect it.

Different types of monetary theory

Scientific theory depends upon the testing of hypotheses according to what may be discovered by observation and experiment. Natural phenomena occur independently of historical process, and although, in some cases, the occurrences may be very infrequent,[39] and in the case of experimental observation may await the development of new apparatus and techniques, in the end the facts speak for themselves, and no theory can deny them. The historical process consists in establishing paradigms, or models, that are so absolutely convincing in explaining the phenomena to which they relate that whatever differences of opinion may have existed beforehand largely disappear, never to be revived (Kuhn, 1962, p. 17).[40]

Theory, in the social sciences, is of a quite different order: opportunities for observation, if they occur at all, are generally not subject to any sort of control by the observer, and are in any case subject to a historical process which is liable to change, irretrievably and in a quite unpredictable way, factors critical to the establishment of the theory. In the 1970s, for instance, economists (who may be seen as the most hardheaded of the social scientists) were confronted with a combination of inflation and unemployment which no established theory could explain (Hicks, 1977, pp. 86f.). Now it is true that the established ideas of theoretical economics can be adapted to explain the economic developments of the 1970s, as Hicks himself does with considerable success; but in the end one is left with a description, which (Popper, 1961, p. 1085),

> however, is not a law, but only a singular historical statement. Universal laws make assertions concerning some unvarying order, as Huxley puts it, i.e. concerning all processes of a certain kind: and although there is no reason why the observation of one single instance should not incite us to formulate a universal law, nor why, if we are lucky, we should not even hit upon the truth, it is clear that any law, formulated in this or any other way, must be tested by new instances before it can be taken seriously by science. But we cannot hope to test a universal hypothesis nor to find a natural law acceptable to science if we are for ever confined to the observation of one unique process. Nor can the observation of one unique process help us to foresee its future development.

Now it may also be true, as Hicks (1969, p. 255) claims, that

> monetary theory…cannot avoid a relation to reality, which in other economic theory is sometimes missing. It belongs to monetary history, in a way that economic theory does not always belong to economic history…. A large part of the best work on 'money' is topical… prompted by particular episodes, by particular experiences of the writer's own time.

In this case monetary theories are a part of the historical phenomena of money, and it is as such that they have a place in the present study. The difficulty is that, if such theories are, following Hicks, topical, then, following Popper, they are unique as historical phenomena, and cannot as such be the basis of any general proposition. This present section would then

be no more than history of monetary thought, which through shortage of space would quite fail to do justice to its subject matter. One can, however, make a number of generalizations about monetary theory as an intellectual phenomenon, which can then be illustrated by a limited number of special instances, chosen for their topicality in recent historical times.

Following this approach, one discovers, almost immediately, that monetary theory is largely intuitive, if only because any possible empirical basis is so imprecise (Shackle, 1974, p. 23):

> Economics might with some justice call itself the science of imprecision. It is faced with problems which can only be in some degree trampled on, not solved. But if it is to exist at all, if it is to offer solutions and policy recommendations which are sufficiently simple to be trusted by practical men, this trampling must be done.

Monetary intuition is, in practice, largely determined by political factors, as the history of monetary thinking in the western world over the last fifty years makes clear enough. Differences of opinion are sometimes reflected in a choice between different theories, all of which 'exclude each other's basic postulates and can only be used one at a time, like the hand-tools which an artisan takes up and lays down' (Shackle, 1974, p. 73).

Once the intuitive basis of a theory is established, it is then expressed in abstract mathematical terminology, to be developed further by purely deductive reasoning. The result is that the historical base of any monetary theory is seldom stated explicitly, notwithstanding the original topicality of the theory itself. An economist may be forced to concede that 'less general principles do not apply where the phenomena to which they relate are absent' (which is obvious, anyway); but what he is really concerned to establish is that 'the most general principles are not different in different culture situations—exactly as the principles of mathematics are not different' (Knight, 1952, p. 510).

Once this stage is reached, however, one is forced to look again at the assumptions which the theory takes for granted, if one is to be assured that one is not dealing only with a purely mathematical theory, applicable only to hypothetical situations (Knight, 1952, p. 516). That is, it is essential (ibid.)

> to have some grasp of the categorical differences…between economics as an exposition of principles—which have little more relation to empirical data that do those of elementary mathematics—and as a déscriptive exposition of facts. From the opposite point of view, there is this important difference—that any intelligent or useful exposition of facts imperatively requires an understanding of principles, while the need for facts in connection with the exposition of principles is far more tenuous, and the 'facts' which are really in question need not be facts at all in the sense of actuality for any particular point in time or space, provided they are realistically illustrative.

This puts it in a nutshell. Economic science has about the same relation to science as Beethoven's *Moonlight Sonata* has to moonlight.

What, then, are the consequences, when the assumptions underlying a theory are no longer true (if ever they were in the first place)? The answer is that the new situation is grist to the mill for monetary theorists. The fundamental ideas of the founders of the different schools retain much of their original appeal, at the same time providing endless scope for revision: anyone who interests himself in money is immediately confronted with the enormous literature on the subject, written by neo-Keynesians, neo-classicists or, for

that matter, neo-Marxists. At the same time, the potential results of applying one theory or another, by expressing it as a policy—that is, as a prescribed way of operating the controls incorporated into different monetary institutions—may themselves be so far-reaching that the whole field is bound to attract interest.[41] Policy, in monetary theory, corresponds to experiment in the natural sciences, but with the important difference that policy, once implemented, had a propensity to change the empirical foundations of the theory itself. The theory provides the policy-makers with a sort of repertoire of different measures, whose consequences become more difficult to predict, as the circumstances of every case are changed not only by lapse of time, but also by their own decision to act.[42]

The theories chosen to illustrate the general propositions stated above are those presented by Hicks (1977, ch. III) in an essay, 'Monetary experience and the theory of money'. The first theory dealt with, the 'Classical Quantity Theory', assumes a total money stock whose quantity is directly dependent upon the supply of specie (or the money-stuff out of which it is made), so that the supply of money 'could be regarded as an exogenous variable' (ibid., p. 59). The object of the theory is to establish the consequences of an increase in the stock of money. Its starting point is that the total value of output, PT (as is to be found in Fisher's equation on p. 83 below), is dependent upon the supply of money, M, so that V, the velocity of circulation, is stable (ibid., p. 50). Hicks then proceeds, by a process of deductive reasoning from a mathematical model not directly based on the results of observation or experiment, to establish that (ibid., p. 53) income generated=V×stock of new money, so that the velocity of circulation remains constant.

The theory, at this stage, equates the income generated with the increased value of output,[43] but it then goes on to take into account the possibility of saving and dis-saving. On this basis it then establishes an equilibrium path, along which 'there is neither excess saving nor excess dis-saving, and income generated will be proportional to the supply of money' (Hicks, 1977, p. 56), so that the theory still holds. The theory is pushed to its limits in the case of a monetary system based upon bank money (which is of course scriptural) rather than specie, and is found still to apply so long as the supply of bank money is firmly attached to an external base, such as the money-stuff out of which specie is made (ibid., p. 60).

Hicks's presentation of the Classical Quantity Theory is a good illustration of monetary intuition followed by purely deductive reasoning. It is to be noted that the original intuition about the stability of the velocity of circulation is in fact confirmed by the deductive process. If, at first sight, this seems to be a circular argument, which assumes what it sets out to prove, it: is better seen as an instance of the principle of mathematical induction.[44] The point can be demonstrated as follows.

Taking a series of points in time, $t_o, \ldots t_n, t_{n+1}, \ldots$, so that each of them corresponds to a historical event significant for leading to an increase in the supply of specie, such as the influx of silver from Spanish America between 1560 and 1650[45] (Hicks, 1977, p. 49) or of gold from the Rand between 1875 and 1895 (ibid., p. 59), the essence of the theory is that, if the velocity of circulation is stable at t_n, then it is also stable at t_{n+1}. This is, however, significant only if this fact can be established as true at some time, t_o, *independently of the process of mathematical induction*. The existence of such a time, t_o, is implicit in Hicks's argument, if only because (true to the claims he makes for topicality) he propounds this truth for both the mid-seventeenth and the late nineteenth centuries. This, incidentally, justifies, for the whole intervening period, the assumptions made about the nature of the

money supply—for otherwise the appeal to the principle of mathematical induction would not have succeeded.[46] What, then, is to be made of Popper's principle of the poverty of historicism (p. 21 above)?

The answer must be something like this. Where money consists primarily of specie, any substantial addition to the supply of the stuff out of which the specie is made, leading to a significant increase in the stock of money, is itself a historical event, whose effect on the monetary system is so disproportionate in relation to that of any other such event that it may be treated as but one instance in a series and not as the occurrence of a unique process. The answer is valid so long as there is no significant change in the relevant institutional factors. Such a change did occur, however, when bank money supplanted specie,[47] which provides the basis for the second theory dealt with by Hicks (1977, pp. 61f.).

The basis of this theory, which is ascribed to Wicksell, is a pure scriptural money, whose supply is regulated by the rate of interest (Hicks, 1977, p. 63). The theory, in its simplest form, is that reductions in the rate of interest tend to increase the supply of money (as defined on p. 93 below), where increases in the rate tend to decrease it. The reasoning is that a high lending rate discourages borrowing, while a high deposit rate discourages spending—by increasing its opportunity costs. The aggregate circulation of money, *MV,* in Fisher's equation, will tend to decrease, with a corresponding reduction in the total value of output, *PT*. Wicksell, at the same time, related the money rate of interest to a natural rate of interest, defined as 'the *real* return on investment, the productivity in terms of real goods, of the inputs on which the borrowed money is to be spent' (ibid., p. 65).[48] It then follows, according to the central doctrine of Wicksell, that 'If the actual (or market) rate of interest is below the natural rate, prices will rise; if it is above, prices will fall; so long as the discrepancy persists, the rise (or fall) will continue indefinitely' (ibid.).

Now this theory is almost perfectly intuitive, and in any possible development almost purely mathematical.[49] The very large assumptions it makes about human behaviour are nowhere made explicit, and if they were, they would be scarcely credible.[50]

Keynes—the author of the third theory dealt with by Hicks (1977, pp. 72f.)—made equally far-reaching but much more explicit assumptions about human behaviour. In his discussion of the theory of prices (Keynes, 1936, ch. 21), he was concerned to establish a sharp distinction between the ways in which prices moved, first, when there was a surplus of unemployed factors of production (including, most especially, labour) and, second, when there was full employment. The capacity to vary, and particularly to increase the supply of money, was taken for granted, almost certainly on the basis of an implicit assumption that this depended on the authorities' policy in regard to interest rates (ibid., p. 298). At its most elementary level, the theory, stated in terms of Fisher's equation, is that (Hicks, 1977, p. 81 and cf. Keynes, 1936, pp. 295)

> At less than full employment, a change in *PT* will mainly change *T,* changing *P* relatively little. But when full employment is reached, *T* can increase no further, so the main effect of a further increase in *PT* must be on *P*.

The significant conclusion for Keynes (who was trying to influence government policy at a time of high unemployment) was that in these circumstances the quantity of money could be increased without its having any effect on prices.[51] The assumption that he was forced to make was that wages would then be 'sticky', that is, within relatively narrow limits, stable.

The theoretical difficulty about this assumption is that it is asymmetrical (Keynes, 1936, p. 303). For if, in a time of unemployment, workers are in no position to force an increase in their wages, how then can they resist a reduction? All that Keynes can say, somewhat lamely, is, first, that the assumption that wages are not then reduced is 'obviously well founded in the facts',[52] and, second, that there must be '*some* factor, the value of which in terms of money is, if not fixed, at least sticky, to give…any stability of values in a monetary system' (ibid., p. 304). It is this second factor which now compels a complete re-assessment of this part at least of Keynesian monetary theory, simply because there is no stability of values in any present-day monetary system.[53] Paradoxically the explicit assumption of fact was, in Keynes's day, more or less true, but if this is now all that his theory may rely upon, it is left dependent upon 'a singular historical statement' (Popper; cited p. 20 above) which cannot be the basis of any claim that it is universally valid. The most that Keynes may then be credited with is that he was wise after the event.[54] The authorities, if they had listened to him at the time of the great depression, might have been able to do more to cure it. But this is not the basis of Keynes's appeal to monetary theorists. It is because he spoke in cosmic terms that he is a prophet whom the new generation still listens to.[55]

It could be argued that the monetary theories presented above reflect only one line of development. That is, the implicit concern of any theory is seen as the establishment of the foundations of money in perfectly general and abstract terms, usually on the basis of *a priori* reasoning, with little if any attempt being made to identify a basis subject to empirical verification. It is astonishing how often monetary theorists return to 'first principles'. There is however a second trend, which is almost in the opposite direction; this is towards establishing mathematical models, on the basis of algebraic equations specifically designed to make use of existing statistical material. This, the econometric approach, has been extensively used in testing the quantity theory of money (Friedman, 1977, p. 1)—particularly in its modern variants, but its usefulness is entirely general. In an era in which computers have enormously extended the scope of mathematical computation, with the range of statistical material increasing in like measure, there is hardly any practical limit to the development of algebraic equations apt to establish a mathematical basis for any *recorded* monetary phenomena. It is theoretically possible to establish an infinite number of such equations,[56] no matter how complex the statistical material to be reduced to order. In practice, established statistical methods, such as linear regression, reduce the problem to manageable order. The trouble is that, whatever equation is chosen, there is no certainty that it will predict the future performance of the factors subject to it. The econometric objective is no more than to establish equations whose predictions will be accurate within the narrowest possible limits. However perfectly this objective may appear to be realized in any one such case, such realization can always be frustrated by the occurrence of an event—such as the fourfold increase in oil prices following the crisis of late 1973—which has cataclysmic monetary consequences. (Of course, once such an event has taken place, new equations can always be found which take it into account, but their power accurately to predict the future is no greater than that of the old equations.) In the end, the econometric approach is only able to take into account the essential human element in monetary behaviour to the degree that it is predictable. Actuarial mathematics, which provides the basis for all life assurance, would seem therefore to provide the most successful case of this approach, simply because the age of death, although an event in the

life of any man, is largely outside his control.[57] But then in practice this sort of mathematics is no more than one of the tools which can be used in econometrics.

The scope of what is recognized as monetary theory is curiously culture-bound. Theory seems to qualify as truly monetary only if it is pretentious enough to be stated in cosmic terms. The relatively large number of books telling one how to win at such money games as bridge and poker (discussed in chapter 2) are excluded, definitely, from the canon. (It must, of course, be admitted that it would add immeasurably to the confusion of the theory if they were included.) The truth is that monetary theory cannot be allowed to be trivial, for it has become the 'theology' of the modern Western world: it focuses on one concept, which more than any other product of human thought—except possibly God—can be divorced from its cultural base, and attributed with an autonomy of its own, so as then to become the basis of a closed intellectual system. This is true even though the ideas of monetary theory are born out of particular historical situations, to be then continually submitted to the test of experience;[58] for as Gellner (1974, p. 146) has pointed out, 'the truth about this world is that our inherited ideas are sometimes viable and sometimes not, and the intellectual crises occur when some important part of them is unacceptable'. How this happens in the course of monetary history, together with the consequences which then follow, is implicit in the general theme of chapter 7 below.

Monetary theory, as 'theology', is in no sense popular, and in so far as it has an effect (which is often its purpose) on aggregate monetary behaviour, it is mediated by a priesthood of bureaucrats whose function, divorced from their own character as individuals,[59] is simply to work the controls of the monetary system. It is not surprising that, at this level, the work is progressively being taken over by computers. One is forced to admit, none the less, that there is more to monetary theory than the sceptic sees at first impression. For all the multiplicity of historical events which theory has to contend with, or the complexity of any modern economy, the functions of money, the forms in which it appears and the institutions which support it are all truly elementary—so much so that almost every possible instance is dealt with in the present study—and the range of possible monetary systems is much more limited than appears at first sight. If Keynes, to take one example, was mistaken about the stickiness of wages in a situation of partial unemployment, his mistake was not so much about money as such, but about one aspect of the sociology of money, that is, the relationship to income which the class of the population consisting of wage-earners was prepared to accept. It was no doubt correct to suppose, intuitively, in the aftermath of the depression, that any unemployed man would accept work at the current wage: after all, beggars can't be choosers. The assumption just happens to be mistaken in the 1970s, and for reasons which the sociologist rather than the monetary theorist must explain.

One should ask, finally, whether there is, in any sense, a popular theory of money. In the western world, where the esoteric tradition can be followed back to Aristotle's discussion of the nature of money (*Nicomachean Ethics,* book V, ch. 8), it is probably more accurate to talk of popular monetary superstitions, with the reservation, perhaps, that superstition can be defined only in terms of divergence between popular thinking and official orthodoxy. In the world of primitive money—at least where its use is sacred rather than profane—a cognitive system always exists at popular level (just as the members of any poker school are perfectly familiar with the rules of poker): indeed, without it, the circulation of money would in a case of this kind have no function at all.

Conclusion

The book is now concerned to work out the themes introduced in this first chapter. Chapter 2, 'The Money Game', establishes the existence of a number of different types of monetary system in terms of a factor common to all of them, that is, the competition between transactors to acquire the maximum enjoyment of the 'wealth' which money represents. It also develops the idea of 'reciprocity' introduced in the present chapter, which is the basis for the analysis of 'distribution and redistribution' in chapter 7.

Reciprocity is also the basis of money as a medium of exchange, and the functional tie between money and exchange (which modern monetary theory generally takes for granted) is the subject matter of chapter 3. Chapter 4, in contrast, is concerned not with a transaction, but with an enduring relationship: that between debtor and creditor. This relationship is not only essential to the development of the institution of banking (which is described in chapters 10 and 11) but is also fundamental in the monetary role of the state, described in chapter 9. The two, in combination constitute the 'pure-money complex' (described in chapter 12).

Chapter 5 deals in general terms with a question ('The supply of money') which arises—sooner or later—in relation to any monetary system. A number of special cases, already implicit in chapters 2, 3 and 4, fit into the general scheme of this chapter. The role of the corporation, which is critical in certain systems of maintaining the circulation of money—particularly those involving the state (chapter 9) and banking (chapters 10 and 11)—is the subject matter of chapter 6.

Chapters 7 ('Distribution and redistribution') and 8 ('Boundaries in the use of money') continue the general analysis of the preceding chapters in terms, first, of the evolution of monetary systems in response to the interests of different classes of transactors, and, second, of the emergence of distant sub-systems. The approach of chapter 7 is, broadly speaking, historical; that of chapter 8, structural.

Chapter 9 ('The monetary role of the state') and chapters 10 and 11 (on commercial and central banking) deal with two institutions whose interaction maintains the supply and circulation of money in any modern economy. They combine to establish the basis of the pure-money complex (chapter 12), which is identified as an involuted sub-system with *time* as the critical element in all constituent transactions. The pure-money complex, although recognized most easily in terms of a modern industrial economy, is established as the essential nerve centre of any monetary system.

Chapters 13, 14 and 15 apply the lessons of preceding chapters respectively to the first, the second and third world, whereas chapter 16 is concerned with the interaction between different national monetary systems. Chapter 17, on inflation, is concerned with a distinctively monetary phenomenon, which, although it has had in recent years a pronounced effect on the development of the monetary systems examined in the preceding four chapters, is not inherent in the historical development of any of them.

Finally, chapter 18 returns—with the advantage of hindsight—to the basic themes introduced in the present chapter, so as to consider once again the question as to how far money, and the institutions which it has given rise to, in all their multifarious historical instances, are no more than different representations of one single phenomenon. But to reach any definitive answer to this question, one must start by considering, in the most general terms, what sort of a phenomenon it might be.

2
The money game

The object of this chapter is to establish the contexts in which money is used, in terms of an elementary games theory. The assumption underlying this approach is that the transactors in any sphere of payment will, subject to the rules of the games which constitute it, compete with each other, so as to maximize their own gains, measured in numerical terms—if necessary, at the cost of their opponents. Since, however, payment, subject to the operation of the rule of reciprocity (p. 11 above), is the basic move in any money game, the gains made by any one player must be measured in terms of the volume of payments made and received by him, and not in terms of the amount of money which he manages to accumulate. Success, therefore, is judged in terms of the individual player's share in the circulation of money, rather than in terms of his accumulated share of the total money stock.[1] The test is income and not wealth, although the latter may be taken to be the present value of the former.[2] It follows, then, that in any money game the relative position of the players can be judged only in terms of the state of play at any given time, although there may be any number of institutional means for a winning player to consolidate his position by means of acquiring income-yielding assets. This, indeed, is the basis of any theory of capitalism.

The present chapter is mainly concerned to establish the typology of money games, which is the heading of the following section. This is followed by a consideration of 'Money games in the true sense of the word', which is devoted to the familiar games of bridge and poker. A third section is then devoted to the money games of two traditional societies, the 'Are'are of the British Solomon Islands, and the Indians of Zinacantan in southern Mexico. The object is to establish the existence of serious money games directed to ends quite different from those of any modern system. This will at the same time counteract the ethnocentric bias implicit in much of our understanding of money. The particular choice of 'Are'are and Zinacantan was determined by a number of factors. The indigenous money games are still played, and the people have a quite explicit understanding of their social role; the strategies are clearly identifiable; last but not least, the monetary systems of both 'Are'are and Zinacantan have been very accurately observed and recorded right up to the present day.[3]

A final section contrasts the traditional money games of 'Are'are and Zinacantan with the game, 'household exchange', which is kept in play by the dominant popular use of money in the modern world. The basis of this game, which is that in which money is used for the exchange of goods and services, is the subject matter of chapter 3, 'Money and exchange'. The need to keep this game in play then provides a leitmotive for the whole of the rest of the book.

The typology of money games

In considering the typology of any money game, one must ask whether it is open or closed; terminal or perpetual; homeostatic or unstable; dependent on inside or outside money; zero-sum or non-zero-sum; hierarchical or egalitarian; simple or complex; economic or

non-economic. At the same time one must seek to establish, in general terms, the relationship between different types of categorization.

A money game is *open* if anyone is allowed to join it simply by virtue of being a transactor in the sphere of payment in which it is played. It is *closed* if the rules of the game themselves define the class of players. In these terms the market constituted by the London discount houses (p. 130 below) is closed.

A game which, by virtue of the operation of its own rules—governed, where necessary, by the laws of probability—must sooner or later come to an end as a result of the money-stock used in it coming into the hands of a single player, is *terminal*. Any other game is *perpetual*. According to this definition terminal games are a very special case, and are only monetarily significant as a component in a complex system. An example, well known in the nineteenth century, is the 'tontine', whereby a fixed sum of money was subscribed in the names of a number of contributors on the basis that the last of them to survive should take the whole. Obviously, the tontine was interesting only because at the end of play the winner was in a very strong position for playing any other money games open to him.[4]

A system is *homeostatic* if it has a built-in mechanism to restore it to an equilibrium position after suffering a disturbance. The property is obviously important for any perpetual money game, for without it certain transactors would be excluded from play, as much by a surfeit as by a lack of success. The difficulty is that the rules of any significant money game, such as that based, for instance, on exchange (chapter 3 below), do not necessarily ensure that it is homeostatic. If such a game is not to be purely marginal (as money-based exchange may well be at an early stage in the economic development of peasant societies), then, if it is to continue to be played, either it must be combined with some other game (by means of historical process discussed in chapter 7) or its rules must be made stricter. The historical development of capitalism (chapter 13 below) is an example of the former possibility; the medieval church's policy on usury and the just price (p. 18 above), an example of the latter. In practice, all attempts made in recent historical times to establish an ultra-stable money game, able to withstand any possible disturbance, have failed, so that the money games familiar to us are all more or less unstable. To find an example of perfect homeostasis, one must look to the money games of primitive societies, such as that of the 'Are'are described later in this chapter.

Where an *inside* money is used the supply of money to the players follows automatically from the course of play. With an *outside* money each player must bring his own stock of money with him before joining the game, although this does not mean that this money must also be used, or have been created for use, in some other money game.

A *zero-sum* game is one in which the gains made by the winning players are exactly balanced out by the losses incurred by the losers. In a non-zero-sum game, aggregate gains or losses accruing to all the players can occur in the course of play. In monetary terms, therefore, a zero-sum game is one in which any increase in the amount of money held by one player automatically corresponds to a decrease in the amount held by another. At first sight this would seem to be the normal, if not the invariable, case, since payment, which is the only move in a money game, automatically achieves this result. Appearances are deceptive, however. This result follows only if all payments are made in specie, of which the aggregate stock is maintained at a constant level. In all other cases, as chapter 4 demonstrates, changes in the amount of the money-stock mean that a non-zero-sum game

is being played. In practice, if the variations in the amount of the money-stock are no more than marginal, then the money game can be treated as a zero-sum game. This is often the implicit basis of homeostatic systems. In all other cases, such variations must correspond to changes either in the quantity of what is signified by money,[5] or in the numerical relationship between money and what it signifies. This latter case is the phenomenon of deflation or inflation, which is discussed in chapter 17.

A money game is *hierarchical* where, according to its rules, not all players have the same standing, such as, for instance, in any game in which a bank is an active player. Any other game, in principle at least, is *egalitarian*. The distinction in practice is often not so clear-cut. In an egalitarian game it may be possible for certain successful players to consolidate their position, and establish what is essentially a hierarchical order, which is then affirmed by appropriate alterations in the rules. Such, for example, is the transition to monopoly capitalism (discussed in chapter 13 below).

A *simple* game is one which is not reducible in terms of other component games, whereas a *complex* game is so reducible. With a complex game, however, the process of fusion whereby it is constituted may make it difficult to identify its component elements. The distinction between simple and complex games is largely heuristic for any modern monetary system. Monetary theorists, in particular, like to use simple money games as the basis for building models of complex systems.

The distinction between economic and non-economic games can be interpreted in different ways. The class of *economic* games can be confined to those which have a direct economic function, such as the distribution of goods through a market. On this basis games played within the pure-money complex (chapter 12 below) are *non-economic*. This distinction is in practice somewhat unreal, since a game within the pure-money complex makes sense only as a component in a complex game, of which other components may be economic games, strictly defined. If, however, the definition of economic games is extended to include all games which depend in this way on some economic game, then the class of non-economic games will be restricted to those played among populations which recognize no economic uses of money. This would exclude, however, the gambling games of Western society, which when played for money are involved in the economy on a massive scale and in any number of ways (Rothschild, 1978, table 1.1 on p. 3), but which fall outside the scope of accepted monetary theory: for present purposes such games are also classed as ‘non-economic’, since their connection with the economy is incidental rather than essential.

According to the above analysis, there are eight different ways, all based on binary oppositions, of classifying money games. If, arithmetically, this allows for 256 different categories to be established, many could hardly ever occur in practice, and only a limited number of combinations is of any real importance. Which they are depends on social, economic, political and cultural factors relating to the population defined by the transactors in any sphere of payment. In this context it is useful to have a picture of transactors choosing not only between different strategies in any particular game, but also between the different games they choose to play. This corresponds to the different uses of money which in chapter 1 define the sphere of payment. The point can be illustrated by different individual approaches to gambling. For one player this may be no more than a sport, in which the money lost or won counts for little; for another, it may provide for occasional lump-sums,

to be used for expenditure, which could equally be financed by hire-purchase or some form of savings account; for a third, the professional punter, it could provide a livelihood. Where the game played is hierarchical one finds also special classes of professionals, such as croupiers and bookmakers. And if, according to their rules, the games played are non-economic, the interest of the professionals depends entirely on their also playing economic games. The bookmaker earns an income which he uses to support his family.[6]

In any typology of money games, their relationship to the different types of institution introduced in chapter 1 is obviously important in establishing their role in a monetary system. The distinction made on p. 41 between internal and external systems of distribution largely determines the choice of games to be played. The basis of a money *game,* in the popular sense of the word, is always an internal system. At the same time it is characteristic of the modern world that the course of play of any serious money game is programmed from the start, and the only real decision to be taken by any player is whether or not to join in the first place. There are none the less long-term strategies which can produce very substantial gains for the winning players.[7] The idea of a game is more appropriate to the monetary institutions of traditional societies, as the cases of 'Are'are and Zinacantan, considered below, well illustrate.[8] But first, to present the game—in the elementary sense of the word—in its relationship to money, two card-games, familiar in the Western world, are analysed on the basis of what has already been established in the phenomenology of money.

Money games in the true sense of the word

The way in which transactions tend to define a sphere of payment, the pattern of the conversion operations between different spheres, and the way in which one form of money will dominate any integrated system (all of which are themes from chapter 1), together with the typology of money games (from the previous section), can be illustrated by comparing poker and bridge. In poker, any number of players, each holding a hand consisting of five cards, in successive rounds stake a steadily increasing number of chips on the strength of their respective hands, until a point is reached when either all players but one have dropped out—in which case the survivor takes the whole pot—or those remaining, having all staked the same amount, compare each other's hands, with the player with the strongest hand winning the pot. A player only knows the cards in his own hand: the strength of the other players' hands can only be inferred from the way they increase their stakes, judged in the light of the strategy followed by them in previous hands. The rules of poker establish unequivocally, and exhaustively, which of any two competing hands is the better; and an experienced player, by knowing how to judge the relative strength of his own hand, has some indication as to the strategies he must follow. But this is beside the point: what matters is that the chips are a form of money, or more precisely specie, and the outcome of the successive hands determines the payments which are to be made. One has therefore a perfectly defined sphere of payment, in which the transactors decide among themselves who can be admitted.

There is no reason why a given sphere, defined by a recognized group of people playing poker together, should not continue indefinitely, without any conversion operations across its boundaries. Since poker is a game of skill there may be a tendency for the chips to

concentrate, in the long run, in the hands of a single player, but as Keynes once said, 'in the long run we are all dead.' Equally, there is no need at all to play with chips; ordinary money, in the form of specie, does just as well. In this case a poker school may continue to exist as a sphere of payment, but its boundaries will then be open to the flow of money in both directions. The same will be true where the game is played with chips with a recognized monetary equivalence, with the possibility of conversion—in both directions—according to prescribed rules. These may impose some form of penalty, so that every conversion operation involves some loss of specie: this will tend to reduce the volume of boundary transactions, and maintain the integrity of the sphere of payment.

If an existing money-stock, in the form of specie, whether comprised of chips or coin, is in practice essential for poker, with contract bridge the position is reversed. The basis of the game is the rubber, consisting of at least two hands: for every hand there are four players, divided into two opposing pairs, which remain the same throughout the rubber. At the end of every hand the play of the cards, matched against the preceding bidding, determines a score, that is a number, which is 'plus' for the two members of one pair and 'minus' for the two members of the other. Each player keeps his own score, and since the pairs break up at the end of every rubber, and the tables are reconstituted, every individual, at the end of play, will have his own score. None the less, because the sum of the scores at the end of every rubber is zero, the aggregate of the scores of all the players, at the end of play, will still be zero. Nor need the number of players be restricted to the four who make up a table. The zero-sum of the scores remains unchanged, however many tables there are grouped together in different combinations.

Just as the poker school can go on playing indefinitely, with a given stock of chips, so also can a bridge club continue play without ever reckoning up, even though the running scores of the different players represent no more than an extremely specialized form of scriptural money. The practice, common among bridge players, to agree a rate of conversion between the points scored and specie, and to settle up at this rate at the end of every rubber, is by no means essential. In this case an interesting theoretical alternative is worth nothing: granted an agreed rate of conversion, and assuming that the players are possessed of scriptural money, properly recorded, then, if every bridge table had its own computer terminal connecting it to the records, with the scores being converted and transferred at the end of every rubber—or, indeed, at any other point in play—the zero-sum rule would still apply, the game would be indirectly played for money, and the sphere of payment which it defined would be assimilated into that of the whole system of scriptural money. The case is parallel to that of poker being played for ordinary money in the form of specie, and not for chips. Once again, the differences relating to the supply of money (discussed in chapter 5 below) apply.

The conversion between poker chips and bridge points, even in a club where both games are played, is never a practical issue. The mechanics of such conversion is, however, of some theoretical interest. Granted an equivalence rate between chips and points, then, so far as bridge is concerned, the losing pair simply plays the winning pair, at this rate, at the end of every rubber. Playing poker with scriptural money would present a rather more difficult problem: one solution would be to give the pot its own entry in the records, with every stake being entered on the 'plus' side at the same time being entered on the 'minus' side of the individual player. At the end of every hand the pot is cleared, with the aggregate

sum paid into it being transferred in the records as a 'plus' for the winning player. One could need to play only a few hands of poker in this way to appreciate why scriptural money is so unsuitable for the game.

The system could be improved by having the pot issue, according to demand, appropriate tokens to all the players, with every such issue being represented by a 'plus' entry for the pot, and a 'minus' entry for the players. The records, at the start of play, with n players each receiving x tokens, would be as follows:

Pot	Player (1)	Player (2).	...	Player *(n)*
$+nx$	$-x$	$-x$	...	$-x$

The pot is not richer by nx, as the records appear to show, since it is bound to convert all the tokens issued into scriptural money, on demand, and the total issue is precisely nx. Assuming that, at the end of play, player (1) has x_1 tokens, player (2), x_2 and so on, then, because the sphere of payment is completely enclosed,

$$x_1+x_2+...x_n=nx$$

and if all the players convert their tokens back into scriptural money, the result will be

Pot	Player (1)	Player (2)	…	Player *(n)*
0	x_1-x	x_2-x	...	x_n-x

with a zero-sum for the amounts recorded in the names of all the players. At this stage the pot, being *functus officii,* can disappear from the scene, and so can all the tokens, which need have been nothing more than old match-sticks collected from the club ashtrays.

The tokens considered in the previous paragraph are no different from the chips used for poker. In practice the role assigned to the pot is generally assumed by the management of the club where the game is played (Rothschild, 1978, pp. 305f.): this is no more than a special instance of an institution coming into existence to play a particular role in the supply of money. The general case is discussed in chapter 10. The need for such an institution, in the case of poker—at least if winnings, at the end of the day, are to be paid in scriptural *money* (which is plainly desirable where stakes are large)—provides an elementary example of an 'outside' money, that is a money which is not generated, spontaneously, within the sphere of payment. Bridge points, in contrast, are an 'inside' money: they are recorded automatically as players keep their own scores.

Poker and bridge, in terms of the taxonomy introduced in the previous section, are in any case egalitarian (in that all players have equal chances), zero-sum (in that this is inherent in their rules), simple (in that they are in no sense a compound of more elementary games) and non-economic (according to the canons of accepted monetary theory). Bridge is intrinsically closed, being essentially a game for four players; and poker, open, in that any number of players may join in a hand. According to normal club practice, however, bridge is open to all members who redraw for partners whenever a table is 'up' at the end of a rubber, and poker is not open to non-members. In relation to serious money games, both fall near the 'closed' end of the scale.

Both poker and bridge are terminal in the sense that a protracted session consists of no more than a succession of single incidents of the basic game. Even a poker school, meeting once a week, with the same members, starts the game anew every time the cards are dealt. The most that can be said is that both games can be played according to an institutionalized pattern which gives them some appearance of being perpetual. But, then, if they were so established, they would have to be homeostatic, with all that this would require in the way of players whose skill and luck were evenly matched. This is true, even though both games are egalitarian. In practice the members of any 'school' devoted to a money-based gambling game containing any element of skill will divide, over the long term, into two classes, one of consistent winners and the other of consistent losers. This does not prevent either game being a component in a complex system which is homeostatic.[9] This compound system will then almost certainly be hierarchical according to the terminology of chapter 8.

The significant difference between poker and bridge, which the present section makes apparent, is that the former depends upon an outside money, while the latter generates its own inside money in the course of play. A difference of this kind is a critical factor in the operation of monetary institutions, particularly those involved in the supply of money—as chapter 5 will make clear. It is also important in monetary theory (p. 23 above), which, however, seldom makes use of such elementary money games as are considered in this section.

Money games from AA to Z

The 'Are'are, a Melanesian people who occupy a part of the island of Malaita in the South Pacific, use a money consisting mainly of strings of pearls of varying lengths (de Coppet and Zemp, 1978, p. 116). It is used primarily for purposes of *ceremonial* exchange, a technical term for a type of reciprocity, described at the beginning of chapter 3 below, in which every payment may be seen as a gift importing the obligation to make a return gift—often in the same 'coin'—at some future time. Among the 'Are'are the circulation of money is concentrated on funerals (and to a lesser extent other *rites de passage* (see n. 27 to chapter 1), where the payments made in it are described as 'numerous, varied and unceasing' (de Coppet, 1968, p. 47), while consumer demand is generally satisfied without any recourse to money.[10]

The principal money games maintain two types of funeral cycle, one discontinuous, for the victims of murder, and the other continuous, for those who die a natural death or by accident. The latter become ancestors, and the purpose of the money game is then to establish the relative importance of the different ancestors in terms of the quantity of money presented on the platform, where, several years after death, the final consummation of the funeral ritual takes place.[11]

In the various stages of the funeral ritual (which is extremely protracted—cf. de Coppet, 1970b, pp. 768f.) presentations of money are made to the gravediggers and the officials in charge of the ceremony, either on the basis of the repayment of gifts made by members of these two classes on the occasion of previous funeral rites conducted on behalf of other ancestors, or as original gifts, not made on the basis of any such obligation, but sufficient to establish the title of the 'givers' to repayment, when, at some time in the future, they function either as gravediggers or officials in the funeral rites, again, of other ancestors

(ibid., pp. 770, 776). The stock of money appropriated for funerals remains more or less constant, since the original gifts are balanced by payments made by the officials—in the hours preceding the solemn proclamation of the total sums presented—to those who, having two or three years earlier acted as gravediggers, are responsible for organizing the provision of the vast quantities of food consumed on the occasion of this climax to the ritual (ibid., p. 771).

The nodal points of the primary system of distribution of money are to be found in the rites which consummate the funeral cycle of any individual (other than a murder victim) and which establish, in numerical terms, his rank among the ancestors. An individual, while still alive, prepares for this final consummation by participating, on the basis of an increasing scale of gifts, in the same ritual, so as to be chosen, finally, as a gravedigger or official. At the same time the circulation of money is linked to the real economy by means of the 'transformation of the products of horticulture and husbandry which the gravediggers bring to the feast' (de Coppet, 1970b, p. 780).

The living, once dead, are represented exclusively in terms of money (de Coppet, 1970a, p. 31). In the language of chapter 6, the ancestors may be regarded as corporations sole, jointly constituting the pure-money complex (chapter 12 below), which sustains the primary circulation of money. For although between funerals the money returns to the individual holders, the structure of the funeral exchange cycles remains intact, and the feasts 'provide the impulse for renewing them after having momentarily gathered the traces together in the ephemeral context of one particular ceremony' (de Coppet, 1970b, p. 777).

The Indians of Zinacantan, in the south of Mexico, are peasant farmers who earn a cash income, in Mexican pesos, by selling the surplus of their own subsistence agriculture. Their religion is a version of folk catholicism characterized by the celebration of an annual cycle of church feasts. A hierarchy, organized on four levels and consisting of some fifty officials, most of whom serve for only one year at a time, is responsible for maintaining the festive cycle. The financial responsibility for the most extravagant and expensive of the feasts is carried by certain 'mayordomos', who are officials of the lowest rank.

Because of the prestige attached to them, the more expensive mayordomos' offices are much sought after, and the six elders of Zinacantan who are responsible for nomination have for some years kept up written waiting lists of those aspiring to them. The incumbent of any of these offices is faced, however, with a formidable financial problem, for his total expenses will add up to a sum several times greater than any possible earnings (particularly since he will have much less time than in a normal year to devote to earning money). The problem can be solved only by an extended system of mutual credit, based on long-term loans free of interest (Cancian, 1967, p. 101):

> Money is usually borrowed from kinsmen and friends, but there is another important factor that determines whether a man is likely to loan money to help another with [an office].[12] This is the lender's status with respect to his own [official] career. If he is expecting to take his first [office] in a few years, or has long since passed [office] and is likely to take a second one, he is a good prospect for the [official] who is seeking a loan. Prospective [officials] do not hoard the money they expect to use for their [offices], but rather lend it out to other [officials] in anticipation of repayment at the time they will need it for their own [offices]. Thus, the prospective [official] will loan amounts of money ranging from 50 to 500 pesos to various individuals during the years before his cargo—all with the specific understanding

> that he will be paid back when he needs the money for his own [official] expenses. On the other hand, the [official] who is borrowing money will seek to borrow from several persons who will expect to be repaid at various times in the future (i.e. when their offices come up), thus securing for himself the advantage of gradual repayment.

Ideally, under this system the first half of a year in office is financed by calling in loans already made, and the second half by borrowing from prospective future officials (Cancian, 1965, p. 100). At the same time, the various offices can be ranked according to the expenditure attached to them along a scale which reflects the economic and social stratification of Zinacantan (ibid., ch. 10). It should also be noted that the ranking procedure is independent of the way in which the money is actually spent, although it is the need to spend large sums of money on fireworks, alcohol, music and so on—which may be called 'ceremonial goods'—that provides the motive power for the whole financial system.

It is now possible to consider these two examples of money games, from 'Are'are and Zinacantan, in the light of the typology introduced in the previous section. Although both are *open,* subject to certain admission procedures, to adult males, the participants form a *closed* system for the allocation of rank or prestige. Both games are perpetual,[13] and in principle *homeostatic*. The Zinacantan game is proving, in practice, to be *unstable:* it was set up only in the last twenty odd years, and alternative systems of finance, made possible by new economic developments (described in Cancian, 1972) seem likely to supersede it.[14]

The question of an inside or outside money is more difficult to answer, particularly for the 'Are'are. On the basis that the funeral cycle is the primary source of power for maintaining the circulation of the indigenous money, then once a player is admitted to the game, the supply of money to him follows automatically so long as he continues actively in play, which is the criterion of an *inside* money. This accords with the sacred character of the money in the local culture. On the other hand the money-stock itself, being in the form of specie, is not generated, like the score at bridge, by the actual play of the game: it exists independently of it. The answer is that, without its being established as money according to the local culture, it would be no more than a collection of ornaments, with a quite different symbolic usage. The system developed in Zinacantan for the finance of religious office is based upon an *outside* money, the Mexican peso: this would seem to be unavoidable, given that most of the ceremonial expenditure must be paid for in pesos. It could be argued, however, that the system generates its own inside money, in the form of a unit of account and based on the credit balances held within it. In theory, at least, this inside money could be expressed in units quite different to the Mexican peso, if necessary with a fluctuating rate of conversion between the two (Einaudi, 1953, pp. 235f.).[15]

The 'Are'are maintain their ceremonial exchange cycles with a constant stock of specie. The circulation of money, seen as a whole, is thus a zero-sum system. This is substantially true, also, for the money game which maintains the funeral cycle, since possible variations in the amount of money used in it are kept within quite narrow limits by the rules of the game. It does not follow that the class of players must be divided into winners and losers, as automatically follows from such familiar zero-sum card games as bridge and poker. In a sense all 'Are'are players succeed, since in the end every recognized ancestor has some rank; but some succeed more than others. The same is true of the Zinacantan officials, although their game has a stronger bias towards being non-zero-sum. This follows from the fact that the amount of money available in any year may be increased or decreased by

the strategies adopted by the players, which will decide whether the amount of the loans called in during the first part of a year in office is smaller than, equal to, or greater than the amount of money borrowed in the second part. Such variations will be reflected in the level of ceremonial consumption in any year, which in turn will depend on such economic factors as the amount of the harvest, and the market price of corn.

Both in 'Are'are and Zinacantan the money games now being discussed are egalitarian, even though the object of the players is to establish a higher prestige ranking than their competitors. These are only particular instances of the general proposition that the object of the players in any game is to win. These games are at the same time simple, although both are part of a more complex system, which in the case of Zinacantan can be taken to extend so as to cover the whole sphere of payment defined by the Mexican peso.

The main contrast between the money games of 'Are'are and Zinacantan is in their economic orientation. The 'Are'are game has no essential economic basis, even though the funeral ceremonies provide the occasion for conspicuous consumption on a very large scale. The primary object of the game is to establish rank, in the first place between the ancestors (who being dead have no economic needs), and only in the second place between those who participate in their funeral rites.

The Zinacantan game is economic since its primary purpose is to finance money expenditure on goods. The desire to achieve rank and prestige may explain the rules of the game, and provide the motive for participating: it is independent of the function of the money used, which is ultimately that of a medium of exchange.

Money games: traditional and modern

The money games considered in the previous section are played by societies which, in the jargon of the social sciences, are called 'traditional'. The institutions of such a society are regarded as having been established not by a historical process, but in primordial times, when, according to the local mythology, the world was created in its present form.[16] A *modern* society is conscious of its historical past—a span of time in the course of which different recorded events established, by a process of growth and transformation, the present institutional order. The process of establishing a modern society is, in the case of England, reflected in the way in which statute has superseded common law;[17] it is particularly significant that the legal basis of modern monetary institutions is almost exclusively statutory. In the Third World the same process of transformation is palpable at the present time, as the modern institutions established at the centre (generally on the basis of Western models) are extended to the periphery.[18]

Looking first at the traditional money games of 'Are'are and Zinacantan, and then ahead to the money games of the modern world, the question arises as to what are the main points of distinction between them. Starting from the typology introduced at the beginning of this chapter, the most useful way of approaching this question is to discover in every case the differences between the 'Are'are system and that of the modern world, and then to determine the place of Zinacantan between these two extremes. At the same time, one must be more precise about what money game it is that is chosen to represent the modern world system. For this purpose the most obvious choice is the game of money exchange as played by the average household, whereby its labour is sold for money, which in turn is

used to buy goods and services for its use and enjoyment: this is the game sustained by the dominant popular use of money.[19]

On this basis, the 'Are'are and Zinacantan games are closed in relation to modern household exchange, inasmuch as the latter is open, and indeed compulsory, for all potential transactors: the boundaries to such exchange are also much more open to the monetary transactions of other types of game, which—as chapters 7 and 12 show—play an essential supporting role.

Both the 'Are'are game and modern household exchange are perpetual, and the same is true of the system for the finance of religious office in Zinacantan. Such terminal systems as exist, such as the tontine, or the ceremonial cycle played out in 'Are'are for the victims of murder (de Coppet, 1970b, pp. 761f.), should probably be regarded as special cases, capable of being no more than a subordinate element in more complex systems.

The 'Are'are system may be regarded as being perfectly homeostatic. Modern household exchange is unstable at least as an aggregate phenomenon, whatever may be the appearances to the contrary in the case of individual households. The point, which is anathema to classical economic theory,[20] is dealt with comprehensively in chapters 7 and 12. The Zinacantan system of religious finance can be described as conditionally homeostatic, since, although the ceremonial system which it supports is in principle able to adjust to changes in the external exchange economy—which is the source of the ceremonial goods on which the money raised is spent—the financial system seems unlikely to survive in its present form in face of the changes which have taken place in recent years.

The 'Are'are game is played with an inside money: modern money games—at least outside the pure-money complex described in chapter 12—are played with outside money. The Zinacantan game is equally dependent upon an outside money, but it goes some way towards converting it to an inside money.

The 'Are'are funeral game is zero-sum: the same can hardly be said of household exchange, if only because the supply of money available may be so easily varied by the strategies adopted by the two sides. This is also true of the Zinacantan system, in its relationship with the outside world: this is the decisive point, since if it were a true zero-sum system, the aggregate expenditure on ceremonial goods would remain constant from one year to another. This is not the case.

The 'Are'are and Zinacantan games are essentially egalitarian in that, in principle, all players start with equal changes; modern household exchange is hierarchical, inasmuch as the exchange partners are almost always firms, which cannot be equated with households—a point argued in greater detail in chapters 7 and 13.

The circulation of money in the 'Are'are funeral cycle is simple, at least in so far as it is determined, unequivocally, by one set of rules.[21] If, in elementary monetary theory, a simple model basis may also be established for the exchange between households and firms, the game itself must in practice be regarded as complex in view of its dependence upon other money games. This is true also of the system for financing religious office in Zinacantan, but the game itself remains simple, in so far as the way in which the winners are determined in terms of prestige, and ranked according to the offices held by them, is independent of the aggregate amount of money it makes available, in any year, for ceremonial expenditure.

The final point of distinction is that the 'Are'are system, although not without economic implications, is essentially noneconomic: if modern household exchange were not

economic, it would have no *raison d'être*. The Zinacantan system also has an economic basis, for without the expenditure on ceremonial goods which it serves to finance, it would lose all its motive power.

TABLE 1

'Are'are	*Zinacantan*	*Modern household exchange*
closed	closed	open
perpetual	perpetual	perpetual
homeostatic	conditionally homeostatic	unstable
inside money	outside money	outside money
zero-sum	non-zero-sum	non-zero-sum
egalitarian	egalitarian	hierarchical
simple	simple	complex
non-economic	economic	economic

The results of the comparisons made above are given in table 1. Although no hard and fast conclusions can be drawn from a sample consisting of two traditional societies and one modern one, the table suggests a number of hypotheses:

(i) A national currency, such as the Mexican peso, whose use at popular level as a medium for the exchange of goods and services is strictly economic, is, in this sphere of exchange,[22] an outside money, maintaining a non-zero-sum system which is only conditionally homeostatic. If, therefore, the system of distribution (as defined in chapter 7) is to be stable at this level, this result can be achieved only by virtue of some other money game being played as well. This would explain the Zinacantan system of financing religious office (which ensures that the benefits from surplus production achieved by the more successful farmers are shared with the community at large) or any modern system of national insurance and public welfare.

(ii) The money game dominant in any sphere of payment is perpetual. This is not absolutely self-evident. A viable monetary system, based on a succession of terminal games, could no doubt be devised, but it is not certain what purpose it could serve. Terminal games are played at almost every stage in the evolution of monetary institutions, but they are always marginal.[23]

(iii) The monetary system of traditional societies tends to be based on games which are closed, egalitarian and simple; that of modern societies, on games which are open, hierarchical and complex. In a society such as that of Zinacantan, which faces in two directions, games characteristic of traditional societies may play an important part in maintaining the integrity of the local culture.[24]

In the light of the evidence which will be continually deployed in the rest of the book, such hypotheses as these will prove to be reasonable enough as generalizations, but no matter how many instances might occur to verify them, it would be idle to talk of proof. It must also be realized that the usefulness of the idea of a game, and of games theory, in

relation to the circulation of money in any sphere of payment is not unlimited. It implies, too readily, that payments are made in response to moves or strategies in situations where there is some freedom of choice. Even if, in some games—strictly defined—the next move is sometimes obvious in the terms of a winning strategy, it is seldom obligatory, as it is often under the rules established by monetary institutions. Money circulates not only in response to the strategies adopted by different players in money games, but also in response to the dictates of a mindless system, according to which payments are programmed in advance by virtue of the rules laid down by some corporate institution. Variations in the rates of interest charged by a savings and loan association are, for example, primarily dictated by the need to maintain the right balance between its assets and its liabilities. In such a case it is more accurate to think in terms of institutional control or regulation, than in terms of moves in a game.

3
Money and exchange

Economists assume that its use for the purposes of exchange defines a primary function of money (Newlyn, 1971, p. 1). Anthropologists maintain that this function, although far from being fortuitous, is not essential (Mélitz, 1974, p. 21; Schacht, 1973, p. 22). Monetary theory, as economists conceive of it, depends upon the coincidence of an exchange economy with a sphere of payment, as defined in chapter 1. If in any modern economy the process of integration seems to be so complete that the two institutions cannot be considered apart from each other, this is only because fixed exchange rates have now been established, once and for all, between coin, notes and bank deposits.[1] Although chapter 7, on 'Distribution and redistribution' will show this to be too simple a view, a concept of an ideal world in which money is used for the purposes of exchange and for nothing else, and in which money plays a part in all exchanges, is still fundamental in elementary economic thinking (Boulding, Pfaff and Pfaff, 1973, p. 1; Friedman, 1962, p. 14). This chapter looks at this world, and all that it involves—but subject always to the reservation that it may have no historical reality whatever.[2]

Exchange is itself not a very precise term. It is, like payment, a binary transaction, but unlike payment, it is a transaction in which something moves in both directions between the two parties. Exchange is also characterized by some form of reciprocity; each party plays the role of both giver and receiver, but there is no essential equivalence between the objects given and received, nor is there any need for the two sides to an exchange to take place simultaneously. At this point the economist's approach is significantly different from that of the anthropologist. The economist prefers to start with an exchange, better called 'barter', which is both 'equivalent' and 'simultaneous', where the anthropologist sees this as no more than a special, and in some ways unimportant, case. Malinowski (1922, p. 176), defined a whole spectrum of exchange transactions in which

> there will be at one end the extreme case of pure gift, that is, an offering for which nothing is given in return. Then, through many customary forms of gift or payment, partially or conditionally returned, which shade into each other, there come forms of exchange, where more or less strict equivalence is observed, arriving finally at real barter.

Economic exchange

In this light, the point at which the economist chooses to begin his analysis is no more than an end-point for the anthropologist. The economist's chosen starting point is, however, convenient for purposes of analysis, however restricted its empirical justification. Implicit in this choice are two decisively important factors: the first is that the exchange is the realization of a so-called 'double co-incidence of wants' (Newlyn, 1971, p. 1). This implies both homogeneity and diversity within any population among whom such exchanges take

place. The homogeneity is to be found in a common value system which enables the objects that are to be exchanged to be valued each in terms of the other. The diversity consists in the fact that, for every object exchanged, one side is making good a deficit and the other is reducing a surplus. If one man exchanges with another an apple for an orange, then, momentarily at least, the former had, to begin with, too many apples and too few oranges, and the latter, too many oranges and too few apples. This would suggest that the one grows apples and the other oranges—a first step in the direction of economic specialization.[3] The second factor implicit in this type of exchange is that every transaction is self-liquidating; that is, the two sides are in no sense bound to each other once the actual barter has taken place. This is an exchange system that looks after the distribution of a number of different categories of objects of value (to use a neutral term) among a given population, without giving rise to any social ties. Exchange is thus seen in purely economic terms, but even in a modern economy it is somewhat unrealistic to divorce exchange from social relations: any local shopkeeper would confirm this. Indeed, where the divorce is almost complete, one is confronted by the ethic of the supermarket culture.

This may be the direction in which modern society is going, but it has little to do with the societies in which an organized system of barter first appeared. For 'What are in the received wisdom "non economic" or "exogenous" conditions are in the primitive reality the very organization of the economy. A material transaction is usually a momentary episode in a continuous social relation' (Sahlins, 1972, p. 185–6).

None the less, if one is to see money emerging as a medium of exchange, one would expect to find this process taking place in an already established system of barter. The fact is, however, that, although such systems are easy to conceive of, actual examples are rare (Nicolas, 1970, p. 113). In the ancient societies where one would espect to find such systems as providing the setting for the emergence of money, they were largely unknown (Mauss, 1968, p. 199). Even in more recent times, such autonomous and independent systems do not commonly occur. In all the literature concerning traditional societies, one finds perhaps three areas which might have provided such a setting: the first is pre-colonial Mexico (Katz, 1956); the second the Congo basin (Vansina, 1973, chs. X and XI); and the third, the northern coast of New Guinea and the adjacent islands (Hogbin, 1951; Harding, 1967).[4] If, in these three areas, economic transactions were not exclusively confined to barter, one can find, in each case, an important sector of the economy which can be analyzed in terms of barter. The dominant characteristic of this sector was that it was concerned in long-distance trade between populations which were culturally distinct and politically independent from each other. Indeed, it is precisely in these circumstances—where social ties would be difficult to maintain—that one would expect self-liquidating transactions to predominate (Simmel, 1978, p. 225).

The standard of value and medium of exchange

For all that they are exceptional, these three cases require further consideration. But, first, one must look at the theoretical organization of a sphere of exchange. This is defined primarily in terms of the objects exchanged, and only secondarily in terms of the recognized transactors.

TABLE 2

	x_1	x_2..	x_i..	x_j..	x_n
		.	.	.	
x_1	r_{11}	r_{12}	r_{1i}	r_{1j}	r_{1n}
x_2	r_{21}	r_{22}	r_{2i}	r_{2j}	r_{2n}
:					
:					
x_i	r_{i1}	r_{i2}	r_{ii}	r_{ij}	r_{in}
:					
:					
x_j	r_{j1}	r_{j2}	r_{ji}	r_{ij}	r_{jn}
:					
.					
x_n	r_{n1}	r_{n2}	r_{ni}	r_{nj}	r_{nn}

For a sphere of exchange comprising n different categories, $x_1, x_2, \ldots, x_n$, table 2 gives the rates r_{ij} at which any one object x_i can be exchanged for another object x_j.[5] A number of points follow directly. First, the rate of exchange of any object for itself is one-to-one. This means that $r_{ii}=1$ for all i.[6] Second, the rate of exchange of any one object for another is the inverse or the reverse rate of exchange; e.g., if you get two x_j for one x_i, then you get a half x_i for one x_j. This means that $r_{ij} \cdot r_{ji}=1$. Third, by extension of this rule, the same product, 1, follows from any exchange circuit, that is, any series of exchanges ending up at its starting point.[7] This means that $r_{ij} \cdot r_{jk} \cdot \cdot r_{si}=1$. (This is not always true in practice, but where this rule does not apply, then exchange circuits will have a multiplier effect—(Harding, 1967, pp. 137f.)—for if $r_{ij} \cdot r_{jk} \cdot \cdot r_{si}=p_i>1$, then x_i, by being exchanged round the circuit, becomes $p_i \cdot x_i$. Equally, if the circuit is followed in the other direction, then x_i becomes $q_i \cdot x_i$, where $q_i=r_{is} \ldots r_{kj} \cdot r_{ji}$. Since, according to the second rule given above, $r_{ij} \cdot rji=1$, $q_i \cdot p_i=1$ also, so that if $p_i>1$, then $q_i<1$. The whole case, which is critical in the development of monetary institutions, is considered further in chapters 7 and 11.)

Implicit in this analysis of the barter system is the assumption that all objects, x_i, are transacted in integral, or whole number, values. For some objects, such as eggs, this is an inherent property (Crump, 1978, p. 505): for others, such as grain, some recognized process of measurement is necessary. Once this is done, m eggs can be established as the equivalent of n pounds of grain, with both m and n being integers.[8] On this basis, if eggs are x_1 and grain x_2 in table 2, then $r_{11}=r_{22}=1$, $r_{12}=n/m$ and $r_{21}=m/n$.

Suppose now that a new object, simply known as ε is introduced into the sphere of exchange, with the property that its rate of exchange against x_i, r_i is always an integer, so that for any single example of any object, x_i, one receives in exchange a whole number of ε—which is always possible, provided the assumptions made in the preceding paragraph hold good.[9] Then, combining the third rule on p. 55, whereby

$$r_{ij} \cdot r_j, \varepsilon \cdot r_{\varepsilon, i}=1$$

with the second rule, whereby $r_{j,\varepsilon} \cdot r_{\varepsilon,j} = 1$, we obtain

$$r_{ij} = \frac{r_{i,\varepsilon}}{r_{j,\varepsilon}}.$$

This means that the rate of exchange of x_i against x_j can be expressed as the ratio between two integers, $r_{i,\varepsilon}$ and $r_{j,\varepsilon}$, the first of which depends only on i, and the second only on j. Simplifying the notation, so that $r_{i,\varepsilon}$ becomes V_i, the latter may be defined as the 'value of x_i in terms of ε, which itself becomes the 'standard of value'. On this basis table 2 can be reduced to the simple equation,

$$r_{ij} = \frac{V_i}{V_j}.$$

All that one then needs to know, for any exchange, is the respective values, in terms of the common standard, of the two objects to be exchanged. The standard itself need not represent the value of any real object: the above argument is equally valid for purely hypothetical objects (Simmel, 1978, pp. 212, 192). The standard is established in any case.

The fact that the above mathematical analysis is implicit in any system of barter subject to the three rules stated on p. 55 establishes a certain logical priority for the *monetary* function of a standard of value (Bessaignet, 1970, pp. 48f.). Such priority depends however on excluding from the definition of money the objects used in traditional systems, such as that of the 'Are'are (pp. 42f. above), which are not based on exchange defined in any economic sense. Bessaignet (n.d., p. 174) is content to do this, assigning such 'objects of general use' to a quite different category. The objection to proceeding in this way is that it precludes the transformation of a sphere of payment, such as that established by the 'Are'are, into a sphere of exchange, in which the preexisting money is accepted as the universal medium of exchange.

Such a transformation is not only possible, but is quite a probable way for the factor, ε, to become real. The matter is quite simple. Since all the objects exchanged can be valued in terms of an integral multiple, V_i, of ε, the value of ε will be small. If, therefore, ε is to be represented by some tangible object, that most suitable for this purpose would have, ideally, the attributes mentioned on p. 4 above. If a sphere of payment, not based on exchange, exists in the same area, the money used in it is more likely to have these attributes than any possible alternative. It would be surprising, then, if it were not to be adopted by the sphere of exchange.

The point is argued in greater detail in chapter 5. The analysis, at this stage, does not depend on the way a universal medium is introduced into a sphere of exchange, but on the consequences which then follow. Of these the most important is that it is no longer necessary for there to be a double coincidence of wants for an exchange to take place. Returning to the example given on p. 53, the supplier of oranges will always be content to exchange them for the established medium, so that, as long as there is some demand for oranges—not necessarily among the suppliers of apples—he will always be able to acquire apples by means of an exchange process. Implicit in this state of affairs is a general willingness

among all the members of a sphere of exchange to hold sufficient quantities of the medium circulating in it. For this to be so the medium must be recognized as a store of wealth,[10] which in turn depends on maintaining confidence[11] in its continual usefulness, if not as a medium of exchange, then at least as a consumer good. This latter possibility explains an intermediate state, in which—returning to the three traditional economies introduced on p. 54—a particular good, such as cocoa-beans in pre-colonial Mexico (Katz, 1956, p. 58), cloth in the Congo basin (Vansina, 1973, p. 297), or pigs in the Siassi islands off the north coast of New Guinea (Harding, 1967, p. 35) is universally accepted in exchange. There is, at least at first sight, no reason why more than one good should not fulfil this function in a given sphere of exchange, although Clower's suggestion (1969b, p. 207) that any such good should be regarded as money, and that money should be defined exclusively in such terms, must be rejected for want not only of any adequate empirical foundation, but also of any inherent system for maintaining money, so defined, in circulation. The position is not altered by the fact that such exchange readily adapts to the use of an established exogenous money, a process that van Leynseele (1979, pp. 80f.) has described for the Congo basin. Nor is there any objection to an object which serves as a consumer good outside, but never inside, a given sphere of exchange being true money within that sphere; for in this case circulation is maintained indefinitely, for want of any alternative use of the money objects, and their function as a store of value is not impaired.

What, in monetary terms, is so significant about these three economies, is the fact that the rule stated in the equation

$$r_{ij} \cdot r_{jk} \ldots r_{si} = 1$$

(on p. 55) is not satisfied. It is possible to begin with a given object, and by completing a circuit of exchange to end up with more than one of the same object. The Siassi, for example, by starting off with one pig, exchanging it for sago at Umboi, the sago for pots at Sio-Gitua, and the pots for pigs on New Britain, end up with anything between five and ten pigs (Harding, 1967, p. 247, and chapter 13 below). Since such a profit, in pigs or anything else (including money), is the rationale of any trading venture, the position was no different for the Tio of the Congo basin (Vansina, 1973, p. 250) or the people of Tlatelolco in ancient Mexico (Katz, 1956, p. 76), all of whom established exchange circuits for which $r_{ij} \cdot r_{jk} \ldots r_{si} > 1$.[12] In this case the procedure described on p. 56 for establishing the standard of value, ε, cannot be applied, for no common measure could provide the basis for converting one pig into five. This does not explain the absence of money in the three economies, for they are in fact no more than elementary and somewhat idiosyncratic instances of commercial capitalism, which in the general case (described in chapter 7) takes the use of money for granted. What it does suggest is that one cannot expect to find the origins of money in any such system.[13]

Value, price and money

To continue the analysis in monetary terms, one must establish the difference between value and price. Value, as an abstract concept, 'expresses nothing but the relativity of things which constitute value' (Simmel, 1978, p. 121). Then, by virtue of the fact that it expresses, or represents, 'the value relation of valuable objects…money itself acquires a value by

which it…establishes a relationship to all kinds of concrete values'. This requires some elucidation. The point becomes important when ε acquires a concrete form and becomes a true money in the form of *specie*. In this case one such tangible unit has, by definition, the value ε. Money, if it measures value in terms of the unit, also measures the value of the tangible expression of that unit, in the same way as a pound weight weighs a pound (Bessaignet, 1970, p. 49). The difficulty is that, whereas a system of weights and measures can be defined in purely physical terms,[14] which remain constant over time, any system of value must depend on social factors subject to variation according to the economic behaviour of the populations which depend upon it.

The point may be illustrated by the history of coinage. In 790, when the monetary system of the Carolingian empire was reformed, the only coin in circulation was the silver *denarius,*[15] which functioned both as a means of exchange and as a weight (Morrison, 1963, p. 414). The value of the denarius was established as 1/240 of that of a pound of silver, and for accounting purposes a monetary system was adopted in which 12 denarii equalled a solidus, and 20 solidi, a pound, which survived as the basis of money in the United Kingdom until 1971. The weight equivalent of the denarius was the pennyweight, and there were 20 pennyweights in an ounce, and 12 ounces in a pound, the reverse of the monetary system.[16] One therefore has a *standard of value* defined in terms of the value of a pennyweight of silver, a *medium of exchange,* in the form of specie, defined in terms of the denarius, and a system of *units of account* defined in terms of l.s.d. There was thus an adequate basis for either type of monetary regime described in chapter 1.

In a money-exchange system, where any object is exchanged for money, then the amount of money which is paid for it is called *its price,* and the transaction (which is in principle self-liquidating) is called a *sale*.[17] The way in which prices are determined at the present time involves one immediately in the complexities of economic theory, but so long as money exchange was divorced from the profit motive—which denies, of course, the possibility of commercial capitalism—then prices could be fixed in one-to-one correspondence with a table of values such as that presented in table 2 and the maintenance of the price of the money-stuff would present no problems. The price, and not only the value, of a pennyweight of silver would be 1 denarius. It is no coincidence that a system of fixed prices was established almost immediately after the Carolingian monetary reforms (Doehaerd, 1952, p. 18), nor that the maintenance of this system was a major preoccupation of government in early medieval Europe (Ibanes, 1967, p. 10, and Simmel, 1978, pp. 98, 126).

The maintenance of the value of medium of exchange in terms of a commodity standard of value depends, in principle, on certain conditions, including not only the fixed system of prices, but also unrestricted commerce in the commodity itself, combined with complete freedom to manufacture specie out of it (Hennequin, 1974a, p. 41), which seldom occur in practice, if only because of the way in which the state tends to control the money supply (chapter 9 below). In practice, the standard can sometimes be maintained, even if these conditions are not satisfied (Hennequin, 1977b, p. 207), provided that the market price of the commodity base is established between sufficiently narrow limits. This happened for the classical gold standard between 1821 and 1914, but the case is exceptional. It can just as easily happen that belief in the established value of the commodity base automatically maintaining its price, in terms of other commodities, leads to a monetary policy directed towards increasing the stocks held, with inflation as the almost inevitable result. This,

the mercantilist heresy (Roll, 1973, p. 64), led sixteenth-century Spain to concentrate the economic development of its new American colonies on the winning of precious metals, a policy which led not only to an enormous increase in prices in contemporary Europe (Elliott, 1970, p. 194), but also to the ruin of Spain's own foreign trade (Keynes, 1936, p. 337).

If the users of money could be satisfied that its utility as a means of exchange would in all circumstances exceed its utility as any sort of consumer good, then, one would suppose, it would not matter what the value of specie was in terms of its material base. There are two reasons, however, why the position is not as simple as this. The first is that the usefulness of money depends largely on the confidence which potential users have in it, which cannot be taken for granted; this in turn depends in some degree upon the possibility, in times of economic or political crisis, of converting it into something else of equal value. Such conversion is assured so long as the value of the material base is only marginally lower than that of the money as specie. Silver or gold, or in China copper (Maspéro *et al.,* 1967, p. 214), coins can always be reduced to bullion, which, even if used to make ornaments and jewelry, can always be recast as specie.

The second reason is a variant of the first. If the value of the money-stuff differs from its nominal value by more than a small margin, then specie becomes open to a circuit of exchange such that $r_{ij} \cdot r_{jk} \ldots r_{mi}$ is either greater or less than one, with the consequences already described on p. 58. If, for instance, the value established according to the prevailing market price of the silver in a Swedish crown (kr.) is more than 1 kr., it pays to acquire as many such coins as one can, and melt them down with a view to selling their silver content on the open market, which is exactly what happened in a backyard foundry outside Stockholm in 1975 (*The Times,* 13 August 1975). If, on the other hand, the value of the silver content had been substantially less than 1 kr., it would have paid to have bought silver on the open market, so as to use it for making coins. Neither case is very helpful in maintaining confidence in the coinage, and so it is not surprising that 'the adoption of *token* coins (or coins with a market value above that of their metallic content plus coinage expenses)… dates only since about 1934' (Mélitz, 1974, p. 72).

Granted the present use of token coins, which is almost universal throughout the world, including, one would *now* suppose, Sweden, one is left to ask how the problems mentioned in the previous paragraph are now solved. The fact that the reduction of coin to bullion, or the counterfeiting of coinage out of bullion, have for centuries been criminal offences,[18] is evidence only of the state's interest in maintaining its monopoly rights over the supply of money, described in chapters 5 and 9. Every commercial supplier wishes to protect himself against cheap imitations. But the power of the state is not a sufficient explanation of the success of *token* money at the present time. For this, two other factors, one technological and the other financial, are largely responsible.

As to the first, the manufacture of coins is perhaps the world's earliest known mass production process. The effective demand for the product is relatively small (chapter 5), and the economies of scale in its production increase substantially with every techno logical improvement in the manufacturing process. If, then, at a certain stage the capital investment in advanced technology, ensuring a product of universally reognized quality, reaches a level that makes any competition unprofitable—particularly taking into account such factors as the possibility of imprisonment—silver can be replaced by cupro-nickel, so

that the average production cost of the hectagonal 50p piece is no more than 3p. The margin of 47p looks tempting to the counterfeiter, but the legitimate supplier, who commands the only effective distribution system, can, and does, saturate the market, and the capital investment required of any competitor is prohibitive.

The second, financial, factor is that, long before 1934, specie had lost its pre-eminence as a means of payment to recorded transfers such as are described as the alternative form of money in chapter 1. In any modern monetary system the primary money is a unit of account, rather than a medium of exchange.

The ready availability of alternative near-moneys, better able to serve as a store of value, may also be a factor enhancing the acceptability of token money, but it is almost certainly more important in relation to the use of scriptural money. Although, at the present time, near-money generally takes the form of paper assets, such as are described in chapter 4, there is a considerable demand for the *krugerrand,* a gold coin issued by South Africa, which is traded at a price differing only marginally from the value of its metallic content, as determined by open market transactions. If, therefore, one cannot tolerate the 50p piece, which contains only 3p worth of metal, one need only save up enough of them to buy a krugerrand, with the help of the local High Street bank. True, the krugerrand, having only one monetary function—that of the store of wealth[19]—is not a complete money, but the holder who is looking for a medium of exchange can always, by selling it, convert it into the debased specie which now passes for money in the modern world.

A principal difficulty, implicit in the foregoing analysis, is that history can provide no good example of a self-contained, *completely* monetized exchange economy in the sense that, within a closed sphere of exchange, sale is the only recognized transaction; that the price is always paid in specie; and that payment always takes place at the same time as the goods are delivered.[20] If there are monetary systems which approximate to these conditions, such as that of Carolingian Europe,[21] they are still inadequate to substantiate, empirically, any proposition about the true nature of money as a medium of exchange. Clower (1969b) and the others like him, who constitute a very influential school of thought, hardly ever buttress their arguments with historical evidence. The lack of such evidence is significant: the problem of finding an empirical starting point for the development of basic monetary theory has yet to find an adequate solution.

The question is whether the archaeologists, historians and anthropologists interested in elementary economic systems can do any better than provide a *gegenbeispiel,*[22] that is a contrary example, to disprove any of the theories maintained by economists. It is doubtful whether they can do so. A number of cases, such as that of the Kapauku Papuans of West New Guinea (cited by Mélitz, 1974, p. 131), are promising at first sight, but closer examination leads only to increasing scepticism. The Kapauku appear to have monetized almost every conceivable exchange transaction, not only in the field of economic but also in the sphere of social relations (Pospisil, 1963, p. 402). The Kapauku, apparently, pay for everything, with a money constituted primarily out of cowries (ibid., p. 308). There are, however, three ways in which the Kapauku monetary system fails to accord with Clower's theoretical analysis. First, the monetary system clearly consists of a sphere of exchange imposed upon a traditional scheme of ritual payments such as that of the 'Are'are described in chapter 2. Indeed, if money exchange is subtracted from the Kapauku system, the system which remains is not significantly different from many others recorded in the same general

area. Second, credit, which plays an important part in the Kapauku system, has no part in Clower's theory. Third, the system is not self-contained: not only does trade extend beyond the Kapauku national frontiers, but this is also where the cowries come from.

What is historically well established is the transition from money which is full-bodied (in terms of its metallic content) to *token* money. Once this process is under way, one reaches the stage of a 'token money…in the limiting case of paper notes, with no commodity value whatever'. At this point the transition to scriptural money follows almost automatically, for 'token money need not take a physical form at all. The vast majority of payments [by value] in a modern economy is made by means of entries in bank ledgers….' (Newlyn, 1971, p. 3). Once this transaction is complete, one leaves the realm of money, or specie, established in terms of a medium of exchange and used, implicitly, for the exchange of different objects, and enters that of *scriptural* money, established as a unit of account, with the corresponding property that a sum of money, at a given time, may be exchanged for a different sum at another time (Simmel, 1978, p. 121). To understand what this means, one must develop the notion of credit, and look at the institutions which support it. This provides the basis of the following chapter.

4
The debt relationship

Debt is a relationship between two parties, established by law, or recognized by custom, which arises by virtue either of an action of one party, affecting the other, or by a transaction between them. The result is that one party, the debtor, is obliged to the other, the creditor, for an amount which can be measured in terms of a recognized or agreed denomination. The relationship is thus binary, asymmetrical, quantitative and enduring. The creditor, at the same time, acquires an interest (in the form of a claim on the debtor), which endures until an appropriate settlement is made between them.

The two ways in which a debt can arise correspond to the categories of tort and contract in Anglo-American legal systems. In tort, a wrong done by one party establishes a claim by the other for damages. In a modern society, where such claims commonly arise out of negligence, say in the course of driving a car, causing damage,[1] they are hardly important in establishing the use of money, or in maintaining it in circulation. In a traditional society, where the wrong done is more likely to be adultery, or even homicide,[2] the opposite may well be true. Among the Tolowa-Tulutni Indians of California (Du Bois, 1936, p. 54),

> All injuries, whether insult, mayhem, or murder, were torts for which compensating payments could buy atonement. In theory at least there was no infringement which a money transaction would not settle. In a society of this type, rapprochement between law and finance becomes much more intimate than we are accustomed to envisage it. In fact, the two almost reach identity.

And the position was not much different in Anglo-Saxon England (Holdsworth, 1936, pp. 47f.).

In contract (which represents a much later stage in the evolution of legal institutions (Paton, 1951, pp. 350f.), the debt arises by virtue of an agreement made between the parties: when one party has performed his obligations under the contract, the other becomes his debtor, and remains so until he has done the same.

Although every debt is quantifiable,[3] there is nothing in the nature of a debt itself which requires all debts to be quantifiable in terms of the same denomination. Each denomination may then define its own 'sphere of credit', with money then being defined as 'anything which is generally acceptable as a means of settling debt' (Bannock, Baxter and Rees, 1972, p. 286), and in any modern society it is the state which enforces the acceptability of its own money for this purpose. This is the basis of money as legal tender (Knapp, 1921, p. 22), so that in any modern state money is the basis of all legal proceedings (Parsons, 1967, p. 320) and all debtors have the right to discharge their debts by paying an appropriate sum of money.

Spheres of credit

The definition of a sphere of credit in terms of the unit in which the debts comprised in it are expressed, rather than in terms of the unit in which they may be settled, is essential to allow for the cases in which spheres of credit do not coincide with established spheres of payment.[4] In the most elementary case, however, the debts are incurred in terms of the same unit as that in which they may be settled, and the transaction which gives rise to a debt is an original loan from the creditor to the debtor. This is a quite possible situation, as is illustrated by the way in which the Tiv of central Nigeria lend goats to each other (Bohannan and Bohannan, 1968, p. 122).[5] Then, for all members of the population incorporated in the sphere of credit, whether as debtors or creditors, one can compose a diagram isomorphic to table 2 (p. 55), in which $Y_1, Y_2, \ldots, Y_i \ldots, Y_j, \ldots, Y_n$ represent the different members, and s_{ij} the amount by which Y_j is indebted to Y_i. Since one cannot be in debt to oneself,[6] $s_{ii}=0$ for all i. Further, since a debt owed by one person to another is equivalent to a credit which that other has against the first, $S_{ij}=-S_{ji}$, or alternatively, $S_{ij}+S_{ji}=0$ for all i and j. Finally

$$\sum_{i,j=1}^{n} s_{ij} = 0$$

that is, the sum of possible s's is zero.[7]

It would be perfectly possible for any pair of transactors, Y_i and Y_j, to keep their own record of their own debit (dr.)/credit (cr.) position, but if this were done the number of possible records would be ½ $n(n-1)$.[8] Suppose, on the other hand, that for every Y_i, the sum

$$\sum_{j=1}^{n} s_{ij} = S_i$$

were calculated, and centrally recorded. The number of entries would be equal to that of the transactors, n—a considerable simplification, particularly where n is large.

TABLE 3

	Y_1	$Y_2 \ldots$	$Y_i \ldots$	$Y_j \ldots$	Y_n
		.	.	.	
Y_1	s_{11}	s_{12}	s_{1i}	s_{1j}	s_{1n}
Y_2	s_{21}	s_{22}	s_{2i}	s_{2j}	s_{2n}
:					
Y_i	s_{i1}	s_{i2}	s_{ii}	s_{ij}	s_{in}
:					
Y_j	s_{j1}	s_{j2}	s_{ji}	s_{ij}	s_{jn}
:					
Y_n	s_{n1}	s_{n2}	s_{ni}	s_{nj}	s_{nn}

Any new transactions, such that Y_i became indebted to Y_j in a sum s'_{ij} ($=-s'_{ji}$), could be entered in the record, so that S_i became $S_i+s'_{ji}$, and S_j, $S_j+s'_{ji}=S-s'_{ij}$. The result is then mathematically identical to the alternative form of scriptural money introduced in chapter 1.

This result is at first sight somewhat paradoxical. Granted that the system is set up in terms of some good, such as the goats kept by the Tiv, then for every transfer of that good a record is entered of a counter-transfer consisting of nothing more than a debt entered in terms of goats. At this stage the only use the system has is to enable restitution to be made, if desired, to the point of achieving the perfect state of *mngwotngwotiki* described on p. 71. Suppose, however, that the elementary system were to be chosen as the basis of a money game, as described in chapter 2; then, according to the character of the game, the system could be adapted to it either in terms of the unit in which it was first set up, or in terms of the counter-unit established in the previous paragraph.[9] One would make the first choice for poker, and the second for bridge.

It follows, then, that, even though the system is first set up in terms of a good, such as the Tiv goats, it can establish a means of payment subsisting quite independently of any right to convert the recorded credit entries, i.e. those for which $Y_i>0$, into that original good. Indeed, if such a right existed, this good would have a status no different from that of any other good which might be sold, so that payment of the price was effected by an appropriate alteration of the records. At this stage there is no reason why this basic good should not become a purely hypothetical construct, representing nothing more than the units in which the records are kept.[10] This is money made real as a means of payment in terms of a *unit of account*. A comparison of the algebraic analysis given above with that given in chapter 3, relating to money as a medium of exchange, shows that the unit of account provides the means for a simpler, and in some ways more elementary, system. Its basis is to be found in even the most primitive systems of distribution (Mauss, 1968, p. 199), and the first steps to establishing a recognizably modern prototype were taken by the ancient Assyrians, in terms of grain, some three to four thousand years ago (Bogaert, 1966, p. 59). Yet money, as a popular institution, is primarily a medium of exchange, while systems based exclusively on units of account, such as the Eurodollar (chapter 16)[11] or the special drawing rights (SDR) of the International Monetary Fund (IMF) (chapter 14), function at an esoteric level far beyond the reach of the general public.

In the most general case the two systems exist side by side, with provision for conversions between the two in both directions. For if there is an agreed rate of X units of exchange to Y units of account, then any two transactors who are recognized as members of both spheres of payment may engage in a conversion operation where the one pays to the other the sum X in specie, receiving, in return, the sum Y in scriptural money—the first payment being made by delivery of specie, and the second by altering the records. In theory, though hardly in practice, the use of specie could be abandoned, leaving all payments to be effected by scriptural money. The reverse procedure involves considerable difficulties even at the theoretical level, largely because of the need to deal with negative balances. A modern monetary system takes for granted that $X=Y$, and that there is only one denomination for both specie and scriptural money, but this need not be so. There is no such equivalence with the SDR or the Ecu—both modern international monetary units—nor was there any between the l.s.d. system of units of account used in renaissance Siena and the specie, based on the gold florin, which circulated there (Bowsky, 1970, p. 70).[12] Historically, the

equivalence $X=Y$ must be regarded as a special case, depending largely on institutional developments in quite modern times.

Two factors have ensured, first, the predominance of specie in historical times and, second, its survival into modern times. The first is that in any medium of exchange system the stock of specie is limited, if only by virtue of the scarcity of its raw material base, and this imposes its own discipline upon the transactors in the sphere of payment. The second factor is that payment may be made effective anywhere and at any time: scriptural money requires access to the records. The increasing use and importance of scriptural money in modern times has depended upon substantial improvements in the means for dealing with these two factors. In regard to the first of them—the control of the money-stock—the purely monetary controls developed are discussed in chapter 10. As for the second factor, technological advances, leading to vastly improved communications, have made it much easier to record transactions in scriptural money.[13]

The social structures of credit

The first part of this chapter, which established the possibility of a monetary system based on credit, left out any discussion of the elementary social structures of credit, but these are decisive for the development of monetary institutions. The fact is that the establishment of generalized accounting systems for debt and credit—the essential basis for any scriptural money system—is a process which in many well-established spheres of credit (particularly in traditional societies) has hardly begun, and which is nowhere completed (not even in modern societies). The general position, as represented by table 3, still prevails, although one must not assume that a debt relationship exists between every possible pair Y_i, Y_j; i.e., in many cases, where $i \neq j$, $S_{ij}=0=S_{ji}$.

The debt relationship between Y_i and Y_j (assuming that it is significant, for the two may never have any dealings with each other) can be of two kinds, reciprocal and hierarchical. Where the relationship is reciprocal, then at certain times, Y_i will be indebted to Y_j, so that $s_{ij}>0$, whereas at other times the relationship will be reversed, so that $s_{ij}<0$. Where the relationship is hierarchical, such a reversal never takes place: Y_i is then chronically indebted to Y_j. In this second case, which will require a good deal of further analysis, the different Y_i can be allocated to a whole series of classes of creditors, *[Y], [Y'], [Y''],...,* so that a member of *Y* may be indebted to a member of *[Y'], [Y''],...,* a member of *[Y']* to a member of *[Y''],...,* and so on, but never the other way round. A social organization is thus implicit in the credit structure.

At the most elementary level, characteristic of relatively small groups in a traditional society, *reciprocal* credit may be based on little more than an established pattern of gift-giving, supported by the obligation that for every gift another must always, sooner or later, be given in return (Mauss, 1968, p. 211).[14] This has been referred to (Sahlins, 1972, p. 294) as 'weak reciprocity', simply because of 'the vagueness of the obligation to reciprocate'. At this level there is no need for the gifts to be representable in terms of any sort of common denomination, although what is acceptable as a gift, in any particular situation, is generally well established by custom. A specific credit system does, however, require some degree of uniformity, such as follows from the use of a common denomination. At this stage the credit position, at any one time, establishes a temporary hierarchical ordering of members of the sphere of credit, simply because some will be preponderantly debtors,

and others, preponderantly creditors. This state of affairs is potentially disruptive in an egalitarian society. The ideal state of redemption or salvation, which is the focus of many types of religious belief, is often characterized by a state which the Tangu of New Guinea call *mngwotngwotiki,* a word which connotes 'a particular field of relations in which the individuals concerned are temporarily unobliged to each other' (Burridge, 1969, p. 8). At a more practical level, a reciprocal credit system cannot simply be assumed to be automatically self-regulating. This depends upon the circulation of the assets in terms of which the system is maintained. The time factor is critical, as in all credit systems. In practice, the credit outstanding at any time amounts to a pattern of redistribution imposed, according to the rules of the system, upon an existing pattern (LeClair, 1962, p. 1195) of distribution. The debt relationships depend, in turn, on the way such redistribution actually takes place: this will be analysed, with the help of a number of examples, in chapter 7.

The case of hierarchical credit is represented, schematically, in table 4 below, which does no more than record the second case in the second paragraph on p. 70. The (−) sign means that the class which designates the row is indebted to that which designates the column: *[Y]* is indebted to *[Y″],* for instance. The (+) sign means the opposite, so that the diagram, with reversal of the signs, is symmetrical about the diagonal. The (±) sign, which occurs only in the diagonal, means that, within every class, credit—where it exists—is reciprocal.

TABLE 4

	[Y]	*[Y′]*	*[Y″]*	…
[Y]	±	−	−	−
[Y′]	+	±	−	−
[Y″]	+	+	±	−
	+	+	+	±

An established system of exchange, based on money, provides an elementary starting point for an analysis of hierarchical credit. On this basis, the class *[Y]* can be taken to consist of customers, *[Y′]* of retailers, *[Y″]* of wholesalers, and so on, with the payment of the price being deferred on every sale.[15] This, the familiar case of trade credit, does little to further the analysis in monetary terms. In social terms, the system, which is extremely common (Radcliffe, 1959, paras. 297–311; Crump, 1976, p. 151), tends to tie customers to a single retailer and retailers to a single wholesaler, thereby maintaining existing channels of distribution and—derivatively—established patterns of consumption.

Suppose, however, that *[Y″],* instead of being concerned in wholesaling, lends money to *[Y],* so that *[Y]* can buy from *[Y′]* without deferring payment; then table 4 reduces to table 5. In this case the relationship between *[Y]* and *[Y″]* is primarily financial,[16] and the basic question is what consideration *[Y]* furnishes to *[Y″]* in exchange for the money lent. A subsidiary question, of relatively little importance in the modern world but often critical in the Third World, as to what interest *[Y″]* has in the original transaction between *[Y]* and *[Y′],* is best dealt with as a preliminary matter. The answer to the question is twofold. On one side, the debts owed by *[Y]* to *[Y″]* may consist of trade debts first owed by *[Y]* to *[Y′]* and then assigned by *[Y′]* to *[Y″]*. This is, for instance, the common form for hire-purchase transactions. On the other side, *[Y″]* may claim, as security, the subject matter of the transactions between *[Y]* and *[Y′]*. Then

in case of default, the security is forfeited to *[Y"]*. Indeed, *[Y"]* is not necessarily restricted to security so defined;[17] in the last resort any or all of the assets of *[Y]* may become forfeit. Indeed, in marginal rural economies of the Third World, where neither land nor labour may be sold,[18] both may be liable to forfeiture by a defaulting debtor (chapter 14), thus enabling the normal rules of the market to be circumvented. The process of changing the social status of the defaulting debtor went even further in medieval Europe. Excommunication was then a recognized penalty for default (Viner, 1978, p. 47; Ladurie, 1979, p. 335),[19] with all that this implied for establishing the defaulter as an 'outlaw'[20] (Hill, 1979, p. 82).

TABLE 5

	[Y]	*[Y"]*
[Y]	±	−
[Y"]	+	±

The financial relationship between *[Y]* and *[Y"]* is almost inevitably reflected in the organization of the society in which it occurs. If the relation between the two classes is too close, so that the members of each of them are tied to those of the other by purely social obligations, the pressure to provide credit beyond the limits of economic good sense becomes too great. Leach (1968, p. 131) has shown—at an elementary level—how in a village in Ceylon the traders who lend money on mortgage tend to be members of a different caste, if not of a different religion or language group, from the majority of the inhabitants. This is a case in which the mathematical factors determine the social structure: if the rate of interest falls too low in relation to the rate of default, *[Y"]* will itself be threatened with bankruptcy,[21] so that if it is to avoid this fate it must maintain a certain social 'distance' from *[Y]*. If in Ceylon *[Y]* and *[Y"]* may be established on the basis of the traditional division of the local society into separate castes, religions and language groups, this is not necessarily the case in every society in which a hierarchical credit system is established. Significantly, in this latter case, the emergence of such a system leads almost inevitably to the establishment of a rudimentary class structure.[22]

It is finally to be noted that the class *[Y]* in table 5 can be divided into two sub-classes, $[Y_1]$ and $[Y_2]$, according to the credit relationship illustrated in table 6. The case is important, for it means that *[Y"]* has become a banker, so that $[Y_1]$ represents the class of current account holders and $[Y_2]$ the class of those with overdrawn accounts. The dividing line, within *[Y]*, between $[Y_1]$ and $[Y_2]$ is constantly changing, so that any member of *[Y]* may be, according to individual circumstances, a member of either sub-class. The potential of this case for further development is critical to the supply of scriptural money (which is considered in chapter 5, providing at the same time the main theme of chapter 10).

TABLE 6

	$[Y_1]$	$[Y_2]$	*[Y"]*
$[Y_1]$	+	±	±
$[Y_2]$	±	±	−
[Y"]	−	+	±

Interest and money assets

The furnishing of consideration for money lent is, however, the key factor in building up and maintaining any hierarchical credit structure such as is represented in table 5. Quite simply, *[Y]* must pay *[Y"]* for the time for which *[Y]* has the use of the money supplied by *[Y"]*. If a sum, *p,* today is exchanged for another, *q,* after the lapse of time, *T,* then the difference $q-p$ represents the consideration furnished for this transaction. This factor, known as interest, is fundamental in all modern credit systems, which represent 'le triomphe de la notion d'intérêt individuel' (Mauss, 1968, p. 271). The factor $(q-p)/T$ defines the rate of interest, *r,* at which money is hired. It means that the owner of a debt has an asset which—if the interest is payable at fixed intervals, rather than at the time the debt is repaid—will provide him with a fixed income at an agreed rate. The lending of money at interest—or *usury*—has at various times been prohibited, on religious grounds, under Judaism (according to the Mosaic Law),[23] Christianity (Viner, 1978, pp. 86f.) and Islam,[24] which certainly retarded the development of credit-based institutions such as banking.[25] In the course of time the prohibition was restricted to loans granted to members of the same religion, so that the classes *[Y]* and *[Y"]* in table 5 could be established on the basis of different religions. This explains how Jews were accepted as money-lenders both in medieval Islam (Goitein, 1967, p. 256) and in medieval Europe (Ibanes, 1967, p. 17).

Once the restrictions on usury[26] are lifted, so that money can be lent at interest, the monetary character of the asset held by the creditor is determined by five factors: (i) the amount owing, *M,* (ii) the rate of interest, *r,* (iii) the length, *t,* of that part of the term which has still to run, (iv) the probability that there will be no default when the terms expire, and (v) the facilities which exist for converting the debt into money at any time.

Factors (i), (ii) and (iii), being purely numerical, would, if a constant value, *K,* could be assigned to factors (iv) and (v), yield a function $F=f(M,r,t)$, which, multiplied by *K,* would give a value $V=K\cdot f(M,r,t)$ to the debt. Common sense suggests that this value is a direct multiple of *M,* which allows $V=K\cdot M\cdot f(r,t)$ as a simplified version of the above equation. Following the principle established in chapter 3, whereby value is determined by the existence of a market and the prices which prevail in it, one is led to consider what factors, relating to *K* and $f(r,t)$, equate the value of the debt, *V,* with its nominal value, *M,* and to what degree of approximation. The closer the approximation, the greater the degree to which one may be substituted for the other, and so the more perfect *V* becomes as a near-money.

It is convenient to start with factor (v), the facilities for converting debt into money, for this enables a prevailing rate of interest, ρ, to be established at any given time. This may be taken to be the rate applying to debts which, by agreement between the parties, may be redeemed at any time—such as is allowed for certain deposit accounts with banks or other savings institutions. Then, in terms of the previous paragraph, $V=M$, and $K=1$, because the debt is immediately convertible at par and $f(r,t)=1$ also, since the debt is immediately determinable. (In this case $t=0$, so that $f(r,0)=1$ for all *r:* if, for some reason, such as the partial insolvency of the debtor, the debt is not repaid in full, this is a factor affecting *K*.)

$K=1$ in other cases besides that of deposit accounts. In these cases there must be no possibility of default (factor (iv)), which will depend upon institutional factors considered in chapter 10; and the transfer or the assignment of the debt, free of transaction costs, must be possible at all times (factor (v)). This may be effected by an appropriate alteration in the records kept by the debtor—whereby the name of the assignee is substituted for that of the

assignor—analogous to the way in which payments are made in scriptural money (p. 68 above). Alternatively, ownership of the debt may be established by holding a document of title, with transfer of the owner's title being effected by handing over the document, bearing the signature of all previous holders (including the original creditor) if that is required according to the terms of the original debt. The latter procedure is known as indorsement: it is commonly required, but it is not essential.

Granted that K=1, the character of the debt will then depend solely upon the rate of interest, r, and the length of the unexpired term, t. At first sight, if the alternative to holding a debt was to hold money, then for any rate of interest, $f(r;t)$>1, so that one would suppose that all holders of money would choose to convert it into debts—for which, *ex hypothesi,* K=1—at the highest prevailing rate of interest. The choice is simply between holding an asset which yields an income and one which does not. Even a marginal rate of interest should tip the balance in favour of the former. Indeed, granted any level of demand for credit, and such a demand is essential for maintaining any system of scriptural money (for the only alternative is *mngwotngwotiki*), one could reasonably expect such money itself to carry its own rate of interest. All this requires, in practice, is that banks should pay interest on current accounts, as they do, for instance, in Holland. But even in Holland, money is held also in the form of banknotes (which represent a sort of transition between specie and scriptural money) and coins (which are specie),[27] neither yielding interest.

On the present analysis, if money is debt, the question arises as to how debts which are money are to be distinguished from those which are not. The preliminary condition, K=1, established above is plainly not sufficient. Keynes's (1936, p. 167) point, that the line can be drawn 'between "money" and "debts" at whatever point is most convenient for handling a particular problem', is not immediately helpful in the general case. Assuming, however, a series of moneys, M_1, M_2, M_3...each class including all preceding classes, but being extended according to different values for $f(r;t)$,f_1, f_2, f_3,..., so that $f_1<f_2<f_3<...$, then the question is what establishes the demand for money of each of these different types.

As a starting point M_1 can be taken to be the ultimate money (Bichot, 1978, p. 38) defined in terms of all forms of money, both scriptural and specie, which are mutually convertible and generally accepted in payment, having regard to the amount of any particular transaction.[28] In practice, this definition requires that r=0=t, so that f_1=1. The preference for M_1 over M_2, which must be sufficient to counteract the advantage that f_2>1, can be explained only in terms of the superior properties of M_1, purely as *money:* this can only mean that the superiority of M_1 is to be found in its usefulness as a means of payment, which endows any holder with the essential monetary attribute of 'liquidity'. The question facing any such holder, in any market economy where money is transacted as a means of exchange, is (Keynes, 1936, p. 166) to what extent he is

> prepared to part with immediate command over future consumption for a specified or indefinite period, leaving it to future market conditions to determine on what terms he can, if necessary, convert deferred command over specific goods into immediate command over goods in general? In other words, what is the degree of his *liquidity* preference—where an individual's liquidity preference is given by a schedule of the amounts of his resources, value in terms of money… which he will wish to retain in the form of money in different sets of circumstances.

Where Keynes (1936, chapter 15) investigates liquidity on the basis of functions relating to different motives for holding cash (which may be taken to be equivalent to M_1), for present

purposes it is more instructive to use a function, L_i, relating to the general preference for M_i, and determined exclusively by its usefulness in satisfying—directly or indirectly—the different motives for holding cash, such as are presented by Keynes.[29] From the definition of M_1, M_2, ..., it follows that $L_1 > L_2 > \ldots$, and since it is only the ratio between the different L_i which is important for the present analysis, it may be taken that $L_1 = 1 = f_1$. The products[30] $L_1 : f_1$, $L_2 : f_2$, ..., then determine the order of preference for M_1, M_2, ... If, at a given time, $L_k : f_k$ is the highest of these products, one may expect a general conversion of money into M_k, assuming the supply of M_k to be sufficiently elastic to allow for this. As the demand for M_k is satisfied, preference for it, in terms of liquidity, and measured by L_k, will decrease, so that, for any k, L_k may beyond a certain point be taken to be a decreasing function $L_k(M_k)$ of M_k, so that eventually $L_k : f_k$ will no longer be a maximum, and some other 'money' will be preferred to M_k.

In practice, the series M_1, M_2, ..., has a very restricted number of terms, and the function $f(r;t)$ which in combination with L determines the amounts of M_1, M_2, ..., and so on held, is determined by a very narrow range of values of r and t, although this range, particularly as it concerns r, may vary fairly considerably over time. The character of any M varies also with the passage of time,[31] until a point is reached when the debt it represents is repaid, at which point it becomes equivalent to the same amount in M_1: the balance between M_1 and M_2, M_3, ..., must therefore be continuously maintained by new conversions of M_1 into M_2, M_3, ..., determined in every case by the prevailing maximum of $L_i : f_i$. This is an example of the 'roll-over' process.

Although the system of scriptural moneys, and near-moneys, has been analyzed above in purely abstract terms, it is given concrete form in any advanced monetary system, and statistics are regularly published of the amounts outstanding in M_1, M_2 and M_3 for all leading currencies.[32] The assumption is that one is dealing with an aggregate rather than an individual phenomenon, so that in considering conversions between M_1, M_2, ..., and so on the monetary theorist will be concerned more with the class of transactors than with the individuals who comprise it.

The class which engages in such transactions is somewhat restricted, since the transactions costs involved make it uneconomical to deal in any but relatively large amounts.[33] Central to it are members of the pure-money complex described in chapter 12, all with more or less specialized functions. There is however a considerable penumbra, comprising all holders of money with limited access to conversion facilities. The holder of a current account (M_1 in the United Kingdom) at a bank, by virtue of his right to make transfers to and from a deposit account (including in the United Kingdom), is a member of this penumbra, which extends even to the most isolated areas of the economy.

The character of the different moneys, M_1, M_2, ..., is determined in part by the way in which the debts they represent are recorded, and then may be assigned. The debt may arise by virtue of a transaction of which there is no record save the memory of the parties to it, supported, perhaps, by that of witnesses; and a transfer or assignment may equally take place by word of mouth.[34] Practical considerations make the use of written records essential in any but the simplest credit system. These may take two forms: according to the first, the holder of the debt may be determined by an entry in a central account, with assignment being effected by a recognized form of written instrument. This may be addressed either to the bookkeeper who looks after the accounts (which is the normal practice in giro-banking

in countries such as Holland, Germany and Switzerland),[35] or be handed to the assignee, who may either clear it through his own central account, or hand it on to a third party—with or without indorsement according to the circumstances—who will thereby acquire his rights. This latter case, which establishes a circulating medium provides a very commonly transacted form of near-money, which, in the form of a banknote, is the most perfect example of the second form that scriptural money can take. The dividing line between the two forms is established at the point at which the medium of payment, once established, may circulate indefinitely and quite independently of any central records. The holder of a banknote need not have an account with a bank, or any other sort of financial institution. Indeed, one could transform a monetary system based on credit into one based on exchange by closing the banks, and relying on the circulation of banknotes, with the support of specie, which is functionally equivalent.[36]

Historically, the banknote faces in two directions. It may originate as a document of title issued in exchange for coin, or the equivalent weight in precious metal, such as were issued by goldsmiths in London and Amsterdam in the seventeenth century: in this case it is a surrogate for specie. It may equally be issued, as a surrogate for scriptural money, in exchange for a debit entry in a central account. This is, in fact, no more than a particular illustration of the paradox noted on p. 68. The question, which really adds up what is money and what is counter-money, according to the terms of this paradox, depends on what is the ultimate money in any system. In a modern economy, where the government treasury supplies specie only to the central bank, which looks after its issue as well as that of its *own* banknotes (Radcliffe, 1959, para. 347) to the whole sphere of payment (which may be taken to include the whole national economy), banknotes are no more than a useful extension of scriptural money, even though the debt which they represent cannot—as chapter 10 explains in some detail—be discharged except by payment of other banknotes; for this is no more than an inherent property of the ultimate money in any system.

The money market

The analytical scheme of the previous section can be extended to embrace a much wider class of monetary assets, which share the general property that K=1 (p. 75 above) and are traded competitively in a recognized open market. If, historically, this market first developed to deal in bills of exchange,[37] its main stock-intrade at the present time consists of government debt, represented by units freely assignable at all times in either of the ways described on p. 78. The money market, narrowly defined, may deal only in short-term bills, which are bought and sold at a discount, representing a rate of interest calculated on the basis of the first paragraph of the previous section. If the bills themselves carry no express rate of interest (which is the normal practice for terms of three months or less), the discount represents the only interest earned on them. Whatever the date of maturity, the discount will always be equivalent to a fixed annual rate of interest. Where the market is extended to include dealings in long-term government stock, such a rate of interest will be incorporated in the terms of issue.[38] Then, depending upon the state of the market generally, the current price for long-term stock will vary in relation to the price to be paid on redemption[39] according to how its rate of interest relates to the prevailing short-term rate. The relation cannot be stated in any precise mathematical formula, because of the uncertainty ‘as to the

complex of rates of interest for varying maturities which will rule at future dates' (Keynes, 1936, p. 168), which factor also establishes a limit to the preference for holding interest-bearing securities rather than money. This uncertainty is unavoidable, if only because one critical factor in determining this complex of rates at any future time is the short-term rate which will then rule.

The most that can be said is that every long-term stock, at any time before maturity, will have a rate to redemption equal to the sum of its yield, at the prevailing price, based on the expressed rate of interest, and the rate of *compound* interest (which conceivably may be negative) at which this price must accumulate, so that, at maturity, it will equal the sum then payable on redemption. Then, at any one time, one may expect all long-term stocks of the same maturity to have the same rate to redemption, no matter when and on what terms[40] they were issued.

Implicit in this analysis is a market in which first-class government debts can be freely traded. It is this which ensures a uniform rate to redemption for stocks of the same maturity; for otherwise holders of stock with a lower rate would always sell so as to convert to a higher rate.[41] On this basis the market establishes a rate to redemption for stocks of every possible maturity. This rate for stocks close to maturity will be close to the short-term discount rate: for stocks with distant maturity the two rates may diverge substantially.[42] The relationship implies for every future date (at least until the latest maturity of stock currently traded)[43] an estimate of the market's expectation of what the rate-profile (starting at one end with the short-term rate which will then prevail) will then be. If it would need a computer to work out the actual form of any such profile, it would provide any speculator whose view of the future of the market disagreed with it with the basis for his own market operations.

The position is not as simple as this, in part because different classes of investors deal in the short-term money market (which is preferred, for instance, by banks (Clapham, 1970, vol. ii, pp. 187, 307)) and in the long-term capital market (which is preferred for example by pension funds), so that, in practice, 'open market operations' means different things to different people. It is, none the less, fundamental to any institution comprised in the pure-money complex as defined in chapter 12 that it can at any time buy and sell a wide class of monetary assets in an open market, in which prices are determined according to established principles of supply and demand. This is particularly important to the banking system, led by the central bank (as described in chapter 11), which is constantly concerned to relate the supply of money to the prevailing rate of interest.

The operation of the money market transforms a relationship between persons, that between debtor and creditor, into one between certain recognized classes of monetary assets. The transformation is profound, as any medieval schoolman would have recognized.[44] The market has an essential basis in pure mathematics, which ties money to monetary assets (including near-moneys, which are no more than another way of looking at the same thing) in a way more perfect than any relationship between specie and the stuff out of which it is made. The strength of the money market, as an institution, cannot be taken for granted: if it functions at all, it is only because it has developed out of a long history of transactions between professional operators, concerned to maintain a completely monetized, international exchange economy. The parts of the world bypassed by this historical process have no money market. This, as much as any other factor, makes it next to impossible for

essential monetary institutions, such as central banking, to function effectively. Any number of countries in the Third World, which in the last quarter of a century have tried to establish carbon copies of Western monetary institutions, are slowly coming to realize this.

If there is one lesson to be learnt from this chapter, it is simply that the historical development of monetary institutions has led to the establishment of a form of money, introduced in general terms in chapter 1 as scriptural money, on the basis of a binary relationship between two individuals, one a debtor and the other a creditor, in such a way that this historical background is in no way reflected in any present-day characteristic of this form of money. The secret of this transformation is that the debtor has become perfectly specific (in the guise of the state) and the creditor, completely general (in the guise of any one who happens to have had the debt assigned to him). No one can be substituted for the debtor; anyone can be substituted for the creditor. This phenomenon was described, correctly, by Keynes as perfect inelasticity of substitution (1936, p. 231). Its consequences are considered further in chapter 11. And what goes for pure scriptural money goes also for all the near-moneys, and monetary assets, which its supports.

5
The supply of money

The supply of money provides the key to the understanding of many different kinds of monetary phenomena. The subject is beset by paradox at every stage. At the most elementary level, it is tied up with the question of the origins of money (also considered at the beginning of chapter 7 below), which has never received a satisfactory answer. The problems arising out of the supply of money are quite different for the two types of money introduced in chapter 1. For the first type, specie, they are at first sight somewhat intractable. For the second type, scriptural money, the aggregate of monetary transactions automatically maintains the supply of money.

The supply of specie

For specie the need is first to create, and then to maintain, a stock of money sufficient for the transactions to be carried out within the sphere of payment. In this case any transactor assures his own individual supply of money by successfully engaging in any or all of the monetary strategies which together determine the recognized use of money. But the aggregate of these transactions, although it ensures the circulation of money, does nothing to assure the supply of money to the sphere of payment.

The point, which is extremely important for further analysis, can be illustrated by referring to Fisher's equation:[1]

$$MV=PT$$

where M is the total stock of money, V the velocity of circulation, P the price level, and T the output of interests which form the counterpart for all transactions entered into.[2] Now in theory M can be maintained perfectly constant, at *any* level, simply by adjusting V and P to the desired level of monetary activity. An increased volume of transactions can, for instance, be accommodated either by lowering the price level, or by increasing the velocity of circulation. In any case, once a monetary system is established, variations in the total stock of money will almost always be small in relation to the aggregate volume of monetary transactions. The problem of the money supply then becomes quite marginal (but not for this reason unimportant).

In practice, however, there are upper and lower limits, which we may call M'' and M', so that of necessity $M'<M<M''$, if the monetary system which M maintains is to remain viable. The consequences, for demonetization, if M falls below M', or, for hyperinflation, if it rises above M'', will be considered later. What is now important is how M reaches, and breaks through, the threshold represented by M'. This is where questions about the origins of money, as an institution, come in.

One possible line of argument must first be cleared out of the way. It is that there is no essential lower limit to *M,* that money need be no more than a sort of talisman (see Mauss, 1968, p. 179 n. 1), conferring upon the holder for the time being certain rights determined according to the local culture, which itself also contains the solution to any problem following from too small a money-stock. The island of Yap in the South Pacific, whose money consists of a constant but very small stock of stones, of varying sizes and conventional uses (described in Lancaster, 1962) apparently provides support for this argument. In fact, however, the Yap islanders supplement their exiguous stock of hard money by a very extensive dealing in debts. This could be regarded as an elementary attempt at a transition from the specie to scriptural money, were it not for the fact that the debts, as in any preliterate society, inevitably go unrecorded. It fails, moreover, to answer the question as to how the stones were first supplied as money. In practice, the nature of the transactions in which money is used requires, in every case, that the minimum stock of money, *M′,* must be large in relation to the number of possible transactors. More than this, whatever the functions assigned to money, it will only perform these functions efficiently,[3] if the number of transactors is also above a certain threshold, say *N′.* If, then, the average useful holding of money—determined by the character and frequency of the transactions for which it can be used—is m, then $M'=mN'$. Although it would be next to impossible to establish precise figures for *m* and *N′,* their product could hardly be less than 1,000, and in most cases could be expected to exceed 10,000. The problem, therefore, is to create and maintain a stock consisting of a very large number of objects, suitable for use as money.[4]

The properties which these objects must have are established in chapter 1. They must be uniform, durable, portable—and scarce. Each of these properties is relevant to the supply of money. Consider first the question of uniformity, which is essential for the recognizability of money. The only two possibilities are those given on p. 6. Either the money occurs in nature or it is manufactured, when the question of a suitable raw material occurring in nature again arises.

A natural commodity, usable as money, with the additional properties of durability and portability, is not easy to find. In practice, the number of such commodities is extremely limited. Of these the cowrie—*cypraea moneta,* a small shell which is to be found along the shores of the Indian ocean—has been much the most successful. It is not difficult to see why. It is small, durable, instantly recognizable, and difficult, if not impossible, to counterfeit. The need to import it into any sphere of payment in which it does not occur naturally may be used to guarantee its scarcity. Where it does occur naturally—in Ceylon, or along the Malabar coast of India—it appears *never* to have been used as money (Quiggin, 1949, p. 29).

This is an extremely important point. It is almost impossible to use a commodity at the place and in the form in which it occurs in nature as money, because of the difficulties in controlling the factor *M* in Fisher's equation. The problem is to keep *M* below the critical threshold, *M″,* above which the monetary system ceases to be viable. In practice, every natural source of a *pure* commodity money (that is, one which is not submitted to any sort of manufacturing process before it becomes money) is surrounded by a sort of penumbra, defined primarily in economic terms, within which it cannot usefully function as money—of whatever kind.

In purely economic terms, the penumbra ceases to be critical along a line beyond which high costs of transport—which may be taken to be the most important factor costs (Keynes,

1936, p. 233)—will restrain the external demand for money to a degree sufficient to ensure its scarcity in the areas to which it is exported. In other words, beyond this line $M<M''$, in every sphere of payment in which the objects circulate as money. In practice, also, this line, if drawn somewhat vaguely in economic terms, tends to be precisely defined in geographical and political terms. The penumbra is thus transformed into a quite recognizable economic enclave (compare Chapman, 1957, pp. 115–17). In the southern Pacific, at least one island, which in terms of the present argument may be taken to be autonomous, is entirely dependent upon an exchange economy based on the export of shells for use as money. In such a case the enclave itself does not need to have a money economy; nor, if the definition of money requires its use as a means of exchange, need there be any such economy among the populations which import the money objects. The only exchange necessary is that across the boundaries between the different spheres of payment,[5] and even here the supply of money may be subject to the necessity for warlike operations.[6] (The necessity for such operations is, incidentally, a good means of ensuring the scarcity of money—Pospisil, 1963, p. 308.)

According to this analysis, money objects flow from a given source, *X* (which is not a sphere of payment, or at least not one using these objects as money), through a number (which need be no more than one) of discrete spheres of payment, separated by boundaries defined in political and geographical terms. The final point in this flow pattern may well be a sink, *Y* (to continue the use of terms borrowed from hydrodynamics), represented by a population which imports these objects, but not so as to use them for any recognizable monetary purpose. Indeed, such use may become impossible at this stage, simply because $M<M'$.

The use of money in the spheres of payment separating *X* from *Y* can always be analysed in terms of Fisher's equation. The most likely statistical result of such an analysis will be a progressive increase in the value of *M,* which, until the very last stage, can be accommodated in any of the ways mentioned at the top of p. 84. The question remains as to why there should be any demand for the money objects in *Y*.

The simplest answer is that they are used for the purposes for which they are naturally suited. Thus salt, which for a long period of time served as money in the greater part of Ethiopia, was also used for cooking in every household (Pankhurst, 1965, p. 360). This will hardly do for objects such as the cowrie, with no inherent natural use. Such objects must be desired for some ritual purpose,[7] and cowries, for instance, have always been popular as ornaments (Quiggin, 1949, p. 25).[8] In a place, such as *Y,* where they are not used as money, they will be slowly accumulated, solely to be used in this way. (The use of cowries as ornaments may also occur at the source, *X:* in the one case, that of *Y,* $M<M'$, and in the other, that of *X,* $M>M''$.)

The durability of potential money objects in *Y,* where they are not in fact used as money, raises important problems about their transmission on such unavoidable occasions as the death of the owner. In a significant number of cases this problem is avoided, by providing either for ritual destruction on certain specified occasions, as occurs for instance on an enormous scale in the Potlatch of certain well-known Indian tribes of British Columbia,[9] or for burial in the grave of the deceased owner,[10] which is essentially no more than a variant on the same theme. Alternatively, priority of ownership of such objects can be given to prescribed corporate bodies—such as the monasteries of western Christendom (see Herlihy, 1957)—which retain them as treasure.[11]

The absence of any lower limit to the quantity of potential money objects in *Y* avoids all the difficulties relating to an originating stock of money. All that is necessary for *Y* itself to become a sphere of payment is that the quantity, *M,* should be built up by whatever means, and over however long a period of time, to a point where $M>M'$. At this point the stock may be converted into money by the introduction of a suitable money game (see chapter 2), so that anyone wishing to acquire one of the objects may do so more easily by adopting one of the strategies provided for in the rules of the game, than by going to an outside source. It is important to realize that $M>M'$ is a necessary, but not a sufficient, condition for this transformation to take place. But once this happens the rules of the game will generally ensure that the internal circulation of the new money is sufficient to meet the needs of any individual transactors (see p. 83). Political factors, such as the hostility of neighbouring populations, may guarantee the monetary *status quo* to the point noted by Pospisil (1963, p. 308) for the Kapauku of western New Guinea, where 'The irregular and relatively meagre flow of shell for making money is prevented from causing even a slight inflation by the constant physical loss and deterioration of the old currency.'

Thus, in Fisher's equation, once a monetary system is established, *M* may be expected to remain stable. This expectation may, in practice, be disappointed for a number of reasons. In the first place, it assumes a homeostatic system governing the other three factors in the equation. For a long time such an assumption was taken for granted by anthropologists, but with little scientific justification.[12] In practice, the factors in Fisher's equation are sensitive to any change in the number either of qualified transactors, or of recognized transactions.

In the second place, the establishment of a monetary system does not necessarily eliminate all the bad habits of the pre-monetary phase.[13] Money may still be buried in graves, or given to monasteries to be melted down into plate. The position can be reversed by robbing the graves, or sending plate to be minted into money—of which there are any number of historical examples (see p. 14 above)—but the risk of demonetization, simply because $M<M',$ is real.[14]

Scientifically, the greatest problem consists in finding adequate empirical support for the transition from potential into actual money objects. Anthropologists, who are the only scientists concerned with the populations where such a transition is likely to occur, are not well equipped to observe what is essentially a historical process. The evidence is extremely meagre, and only one single observer, working in New Guinea at the beginning of the twentieth century (Foy, 1913) seems to have directed his attention explicitly to this point.[15]

The whole question is clouded by *a priori* assumptions, developed by economists[16] concerned to establish a basic monetary theory, but having little regard for the need for adequate empirical foundations. The first false step is to assume that the primary function of money is as a *medium of exchange* (see for example Clower, 1969b, p. 205). Then, on the basis of a sphere of exchange[17] (in which goods become defined as *commodities* by virtue of being exchanged), 'a commodity is regarded as money…if and only if it can be traded directly for all other commodities in the economy' (ibid., p. 207).

If this is the true explanation of the origins of money, then, at the same time, one means of ensuring a continuing supply of money is established. The question, being one of origins, must be limited to the confines of a totally enclosed economy. The degree of differentiation of production among the units comprising this economy must then be high enough to ensure

a level of exchange sufficient to allow for one commodity to assume, significantly, the role of a currency, that is, a universal medium of exchange.[18]

None of the evidence for the existence of such an economy will stand up to close examination. Travellers, mostly from around the turn of the century, who reported the use of currencies of this kind in diverse parts of the world, discovered them only because they insisted on interpreting primitive institutions in terms of established Western economic theory.[19]

The whole line of argument leads to insuperable logical problems. Suppose that within a totally enclosed economy a commodity is transformed into a currency: how does it then cease to be a consumer good so as to become a true money?[20] The durability, which is desirable in the commodity base of any money, and even more the scarcity, which is essential if $M<M''$, hardly characterize the generality of consumer goods, even at the present time. In whatever society it was that commodity money—according to the conventional economists' argument—first occurred, it is almost impossible to conceive of any consumer good with these characteristics.[21] Even if one must grant the impossibility of finding the necessary historical, or more likely pre-historical, evidence of the transformations being looked for, the absence of such evidence cannot conceivably justify the contention that they actually took place.

(The use of cattle for the purposes of exchange, which occurs, for instance, in several parts of East Africa, would seem to provide some evidence of the transformation of a commodity into a currency. Seeing that cattle are distinctive, and therefore recognizable; durable, in the sense that a herd, within acceptable limits, can be counted upon to replace itself; portable, in that they have their own motive power; and scarce, in that the size of a herd which a population can care for is directly proportional to its own numbers, it is reasonable to conclude that they have the properties requisite in a commodity money given on pp. 4 and 85. As already noted in chapter 1, the Indo-European languages provide some linguistic evidence for the desired transformation. The ethnography of the East African cattle complex fails, significantly, to instance a single case of cattle satisfying the criteria cited on p. 89. The most one can say is that, if cattle were anywhere a true money, that is, used *only* as a *universal* means of exchange, then the problems of supply would be solved, with $M'<M<M''$.)

The discussion about the origins of money, viewed in the light of the conclusion reached on p. 85, that natural money objects are almost certain to be imported into every sphere of payment in which they circulate, leads to the second possibility mentioned on p. 85, which is that of a manufactured money. The category is not entirely distinct from that of natural money. In the first place, the raw material for a manufactured money is natural, and as with the 'natural' moneys, is often an import into the sphere of payment. In the second place, the natural moneys, such as the cowrie shell, are often made up in strings (see for example de Coppet and Zemp, 1978, p. 107, and Pospisil, 1963, pp. 301–4) or other aggregate forms—and this is essentially a manufacturing process.

A manufactured money has, none the less, quite different characteristics to those of any natural money, and the dividing line between the two is not difficult to draw. The important properties of a manufactured money are of three kinds: technological, economic and political. As for the first, the very large quantity of money objects required for a minimum money stock, together with the need for uniformity, demand a level of mass production

(Lopez, 1953, p. 18) far above that of any other commodity likely to be produced in the elementary economies in which the use of such money objects first occurred.[22] The technological demands are thus quite formidable; they require also an unusually high level of investment in both human[23] and industrial capital.

On the economic side the factor chain[24] will be relatively complex. The advanced technology will not itself ensure the necessary scarcity of the money objects: the raw material, itself generally subject to the necessity for some sort of manufacturing process, such as refining, must also be scarce so as to insure that $M<M''$. It is thus best confined to a few sources, remote from the spheres of payment in which it is used. This also tends to extend the factor chain. In a stable system the restricted demand for 'new' money to be added to the existing stock will almost certainly confine production to a very small number of craftsmen. Indeed, if the loss of money to the system becomes too small, even the living of this small number will be jeopardized.[25] Up to a certain point, the system will perhaps tolerate the injection of new money—subject always to the law of diminishing returns to the producers—but as M approaches M'', even this possibility will disappear.[26] In practice, the producers of money, if they are to stay in business, must have the advantage of a constantly recurring, institutionalized loss of money to the sphere of payment.

This process, which, historically, has taken many different forms, is best illustrated by the use of coins as money. (This is quite legitimate, since whatever other forms of manufactured money there may have been, coins have been far and away the most successful,[27] for the reasons given on pp. 5–6.) Now coins may be lost to a sphere of payment in any number of ways: they may be exchanged across its boundaries; they may be buried as grave goods; they may be melted down into plate;[28] they may simply be hoarded; they may even wear out. In Merovingian France, for example, the risk was never that M came too close to M'', but rather, that, as a result of the factors mentioned above, and of another to be considered in the next paragraph, it came too close to the lower limit, M'. Indeed, at the end of this era, during the four centuries, the ninth to the thirteenth, following the reign of Charlemagne, there was no gold money in circulation (Vilar, 1976, p. 30f.).

The dominant political factor relating to the manufacture of money is the need to maintain confidence, which in turn requires that what comes from certain recognized producers as money is certified as genuine. It might happen, at least in theory, that in a given sphere of payment in which an agreed form of manufactured money circulated, any individual entrepreneur was free to make it—subject, of course, not only to the normal limitations of a free competitive economy, but also to the special economic factors mentioned in the preceding two paragraphs. In practice, however, producers of money enjoy a legal monopoly, protected by means of substantial penalties for counterfeiting. Although this does not necessarily require a state form of government,[29] it would be difficult to find a manufactured money which was not backed by the authority of a state.[30] Indeed, the manufacture of money is generally a state monopoly, and even in cases of the private manufacture of money, such as that of Merovingian France, the state will exert the right to license the producers, at the same time guaranteeing the genuineness of their product, in exchange for a fixed share, known as *seignorage,* of the money produced. The role of the state is absolutely critical, since, as the guarantor of money, it has the power effectively to withdraw the existing stock of money from circulation, and issue a new stock in its place. This process, which is known as mutation, is an extremely elementary form of taxation

(see, for example, Bloch, 1953), simply because of the seignorage which it yields.[31] At the same time, it is profitable for the money-makers, who take in the old stock, at a discount, in exchange for the issue of the new—in most cases simply by debasing the material content of the new issue in relation to that of the old. It is not, therefore, surprising that those who were in a position to accumulate large stocks of money often preferred to melt it down into plate—sometimes to the point of bringing M dangerously close to M'. Nor is it surprising that the state, with its exclusive right to decree a mutation, soon reserved to itself the money-making monopoly, so as to enjoy all the profits which this process yields.[32]

The argument of this chapter, so far as it relates to commodity moneys, may be summarized in two general conclusions.

(i) The supply of a natural money is linear, in that the money objects move from a definite source, *X,* through any number of discrete spheres of exchange, to a sink, *Y,* in such a way that they function as money only in the intermediate spheres and not in either *X* or *Y*.

(ii) The supply of a manufactured money is circular, in that the source of money is also the sink; that is, *X* and *Y* coincide[33] (Knapp, 1921, p. 41).

In the second case, the circular supply of the actual money tends to be superimposed upon a linear supply of its raw material base, whose volume is determined by the size and location of natural deposits and the level of foreign trade. The general model is of a sphere of payment which imports its money base, say silver, from a source *X,* exports it to a sink *Y,* retaining at the same time a stock *M,* which circulates internally as a manufactured money.[34] A positive balance of trade will tend therefore to increase *M,* while a negative balance will tend to decrease it: the internal consequences depend upon the adjustments made to the factors in Fisher's equation. These external factors are also critical in keeping M within the limits of the inequality $M'<M<M''$.[35]

The genesis of scriptural money

The first paragraph of this chapter states that, where money is a debt, the aggregate of monetary transactions automatically maintains the supply. This statement requires some explanation. The essence of money as a debt is that the class of recognized transactors divides into two categories, debtors and creditors, with every payment being made effective by means of a bookkeeping entry. It does not matter, for the moment, who keeps the book. As already established in chapter 4, the aggregate sum of all bookkeeping entries is zero. The first problem in this case is to determine the quantity of money in circulation. The solutions given are purely conventional, with the aggregate supply of money being determined by the sum of the credit entries in the books. The logic behind this convention is that those transactors who are in credit are, *ipso facto,* owners of debts, which, by the nature of the system, may be freely used for all recognized monetary transactions. According to the simplest—and narrowest—definition of money, these debts carry no interest, and are repayable on demand. This type of money, M_1, is all that matters at the present stage. Since however the supply of M_2, M_3,..., and so on is also determined by bookkeeping entries, what is said about the supply of M_1 in the following analysis is substantially valid for these other categories.

The power to make payments—which chapter 1 established as the essential monetary ritual—differs between creditors and debtors. The former are free to make any payment up to the limit of the amount standing to their credit. The latter may make only such payments, and on such terms, as have previously been agreed with those who keep the books (who, in practice, are greatly concerned to protect the interests of the creditors). There is no restriction on who may receive payments, but it does not necessarily follow that a debtor, receiving a payment, becomes to that extent free to make new payments: this again depends upon what is agreed with the bookkeeper.

Four types of payment occur:

(i) by a creditor to another creditor: because, in this case, the credit of the payee is increased by precisely the same amount as that by which that of the payer is diminished, there is no change in M_1;

(ii) by a creditor to a debtor: in this case the credit of the payer is reduced by the same amount as the debt of the payee is reduced. This reduces M_1 by this amount;

(iii) by a debtor to a creditor: in this case—the reverse of (ii)—the credit of the payee is increased by the same amount as the debt of the payer is increased. This increases M_1;

(iv) by a debtor to another debtor: because in this case—the reverse of (i)—the debt of the payee is reduced by precisely the same amount as that of the payer is increased, there is no change in M_1.

A *prima facie* consideration of these four cases leads to a somewhat surprising conclusion about the supply of money. Cases (i) and (iv) leave M_1 unchanged. Case (ii) reduces M_1 and case (iii) increases M_1. There is no restriction on payments falling under cases (i) and (ii). Payments falling under cases (iii) and (iv) are subject to restrictions imposed by the bookkeeper. Thus, comparing cases (ii) and (iii)—the only ones affecting the amount of M_1—one would expect case (ii), which is free of restrictions, to prevail over case (iii). But case (ii) reduces M_1 while case (iii) increases it, so that, in so far as this expectation is realized, the trend will be towards a progressive reduction in M_1. The trend towards *mngwotngwotiki,* if an ideal cherished by monetary conservatives, is scarcely the present-day reality. (Indeed, if it were, there would, eventually, be a danger of M_1 falling below the critical threshold, M', with all the consequences already examined in connection with commodity money.) But the question still remains, what maintains M_1 at a reasonable level, having regard to the needs of transactors?

Many ramifications of modern monetary theory are involved in the answer to this question. The essential point is that the bookkeeper, as a financial intermediary between the debtors and creditors, is in a position to lend his services on terms profitable to himself. This mechanism adopted is to charge interest on accounts in debit at a rate sufficient not only to cover the costs of maintaining the system (which may include the payment of interest on accounts in credit), but also to yield a margin of profit. It follows that the bookkeeper has an interest in increasing the quantity of M_1—so much so that in certain times and places, such as the United States in the nineteenth century, any number of 'bookkeepers' or, better, 'wildcat bankers', entered the field in cutthroat competition with each other (Galbraith, 1975, chapter 8). Even under a more stable regime there is a tendency for M_1 to increase (subject to conversions into M_2, M_3 and so on), if only because of the high level of government indebtedness, which is discussed in chapter 9.

The location and control of the money supply

In the two cases considered in this chapter, the supply of specie is maintained by the manufacturers and that of scriptural money by the bookkeepers; but the question remains, who are these manufacturers and bookkeepers, and how are they controlled? In principle these roles can be assumed by anyone who can maintain a viable money supply, and there is no essential reason for restricting the class, as the independent moneyers of early medieval Europe (Lopez, 1953, p. 3) illustrate in the former case, and the wildcat bankers of nineteenth-century America in the latter.

In practice, the supply of specie tends to become a state monopoly, and the control, at least, of the supply of scriptural money the responsibility of a central bank. These developments, and the reasons behind them, are described in chapters 9, 10 and 11. This process of centralization is important for maintaining confidence in money, particularly when the state establishes its own money as legal tender, in which case it may be used, as of right, for the settlement of debts.

Confidence, however, is a question not only of the power of the state, but also of the will of transactors, who will also be interested in the acceptability of the money they hold outside the sphere of payment defined in terms of the authority of the state which issues it. Thus, in early renaissance Europe the gold florin circulated far beyond the confines of Florence, notwithstanding the attempts of local rulers, such as the King of France, to suppress it (Dieudonné, 1927, p. 935), just as the Eurocurrencies described in chapter 15—which only appear as scriptural money—are now the preferred medium for the finance of international trade. In such cases there is no control of the money supply in the greater part of the effective sphere of exchange, and in the case of the Eurocurrencies even its location may be difficult to identify.

One must conclude, therefore, that central control is not always necessary for establishing a successful money. If such control is taken for granted, it may only be because the whole trend of monetary history has been towards establishing it—a process which has culminated in modern central banking, and the control of the money supply by the state. It is perfectly arguable, however, that the world's money supply would be in a much healthier state if this process were reversed, and the supply of money returned to private enterprise. As chapter 16 will show, the market in Eurocurrencies represents an important step in this direction. The historical precedents are well established, whether one looks to the supply of specie in Merovingian France or to the supply of scriptural money by the bankers of Renaissance Italy.

6
The role of the corporation

Corporations play an essential role in almost every monetary system. The first five chapters already provide numerous cases where this role is implicit. The attributes with which a corporation may be endowed not only correspond to many of the fundamental attributes of money introduced in chapter 1, but—in appropriate circumstances—also enable it to assume, better than any individual, or group of individuals, functions relating to exchange (chapter 3), the mangement of credit (chapter 4) and the supply of money (chapter 5). A corporation is established by law or custom with an identity recognized as distinct from that of any of the individuals concerned in its operations, and a constitution which defines its powers and its relations with other corporations or individuals. The promotion of new corporations and the government of existing ones are also subject to legal or customary restrictions, which largely determine the range of possible activities and functions. Among populations where the range is narrow, the corporate structure may be expected to be weak and to play no more than a subsidiary role in social, political and economic organization. A wide range will allow for a dominant role. The structure is generally conservative in the sense that the factors that define it are slow to change: in periods of rapid advance it will tend, therefore, to reflect the demands of an earlier age, and only partly satisfy those of the present time.[1]

What are the attributes which explain the essential monetary role of the corporation? In the first place must come the extreme flexibility of the corporation as an institution. A corporation may be purpose-built for any particular combination of functions. Its formal constitution (which will be written in any modern society) provides a vehicle particularly suitable for defining monetary functions, especially in the field of redistribution (see chapter 7). The corporation can not only hold money, and make and receive payments; but, according to the powers bestowed upon it, it can engage in almost every kind of monetary transaction. The only attributes denied to a corporation in a modern legal system are those which, of their nature, cannot apply to it. The fact that a corporation can neither marry nor commit adultery is quite unimportant in relation to its potential for development in other directions.

The most important natural disability which the corporation can escape is mortality. This partly explains the conservatism inherent in corporate organization. A society, in so far as it is organized on a corporate basis, has the advantage of a fixed institutional structure with and within which certain recognized transactions take place. Such a structure may exist at a very elementary level of social organization, in which case it is almost certain to play an important part in prescribed transfers of goods or payments of money.

The different corporate types

An example of the role of the corporation, at an elementary level, is to be found in the organization of society on the basis of corporate kin groups, which is particularly common

in sub-Saharan Africa. Every individual will be a member of one group, his membership being determined by descent either through the male line (patrilineal) or through the female line (matrilineal). In a patrilineal system a woman who marries may become a member of her husband's group: the reverse is seldom the case in a matrilineal society, if only because, in any unilineal system, it is the adult *males* who are responsible for the day-to-day management of the corporation. The important point (Radcliffe-Brown, 1950, p. 43) is that

> unilineal reckoning makes it possible to create corporate kin groups having continuity in time extending beyond the life of an individual or family. There are innumerable social activities that can only be efficiently carried out by means of corporate groups, so that where, as in so many non-literate societies, the chief source of social cohesion is the recognition of kinship, corporate kin groups tend to become the most important feature of social structure.

The importance of corporate kin groups in an exchange system is well illustrated by the Nuer of the southern Sudan, a neolithic people with no central government, who reckon their wealth in cattle. The transactions for which cattle are used take place between two partilineal kin groups, and relate particularly to individual members of them. Thus where a death occurs in the course of a feud, an indemnity in cattle must be paid to the deceased's lineage (Evans-Pritchard, 1940, p. 161). Much more important, however, is the payment of bridewealth in cattle by the husband and his kin to the kin of the bride, thus establishing an exchange system in which humans move in one direction and cattle in the other. Although this is no more than a system based, at best, on a sort of proto-money (p. 89 above), it may be analysed in terms of money and counter-money according to the scheme set up on p. 68.

But the point made by Radcliffe-Brown, that 'corporate kin groups tend to become the most important feature of social structure', is true of corporations generally, even among populations where the role of kinship in social organization is unimportant. This, the more general case, is true of almost any Western society.

In continuing this analysis, corporations may be taken to be of two kinds; the corporation *aggregate* (of which kin-groups provide a primordial example), and the corporation *sole*. The corporation aggregate may be taken to be originally constituted by a class of members, who define its functions and mode of operation and provide for their own succession. Although a corporation aggregate cannot exist without members, the way in which it serves their interests is determined by its original constitution. This will provide also for the way in which the members, at any time, may amend it, and also may determine what other powers they will have in controlling and directing the operations of the corporation. The day-to-day management will often be entrusted to a small class of officials, who need not be members.

At a certain stage of historical development, the corporation sole,[2] embodied by the sovereign or king, represents the government of the population subject to him, and as such is likely to have a quite specific role in the operation of any monetary system. The idea of a corporation sole, which has no place in continental legal systems (Paton, 1951, p. 327), has been the source of some confusion in the English law (ibid., p. 279). Its character is easy enough to grasp, if it is seen as an office, to be distinguished from the incumbent for the time being.[3] The corporation is the crown,[4] as opposed to the individual, the king. The particular rights or privileges of the crown, in regard to the supply or manufacture of money,

have already been noted in chapter 5, but in terms which equate the crown to the state. The transition from crown to state, although important for the development of political institutions, need cause no difficulty in regard to money. The crown, as a corporation sole, is one form in which the state, essentially a corporation aggregate, may be embodied.[5] The state is more convenient for analytical purposes (ibid., p. 282) because of the

> superior advantage of the analogy of the corporation aggregate…. it emphasizes that subjects are also members of the State. The *corporation sole* is a convenient conception, only if the powers are exercised by one human personality at a time. Since the powers of government are often widely distributed the organization of the State can best be understood if we think of the analogy of powers shared between the members and directors of a corporation; the memorandum and articles of association of the State are to be found in the fundamental presuppositions of the legal order which may be expressed in a written constitution or unwritten.

The monetary role of the state is examined in chapter 9. At the present stage it is sufficient to note that, as the state developed, historically, as a form of political organization, the corporate role of kinship—characteristic of many primitive societies—tended to decline. At a certain transitional stage it is still important in relation to the corporations defined dynastically, in terms of the king's own kinsmen. This explains, for example, the *House* of Orange. This stage is passed in the modern world, but in Swaziland, for instance, the Dlamini's are still a *ruling* house.[6]

The monetary role of corporations

The development of corporations, defined in purely monetary terms (such as characterize modern legislation relating to corporations),[7] is more or less coincident with the rise of the modern state. At a much earlier stage, corporations founded for quite a different purpose, such as monasteries[8] and other religious foundations, attracted an enormous amount of wealth, leading them to assume important monetary functions, such as minting new coinage (Dolley, 1958, p. 285; and Spufford, 1971, p. 581), accepting deposits,[9] lending money (Fryde and Fryde, 1971, p. 441) and levying taxes (Kraus, 1979, p. 25).[10]

The success of these corporations as monetary institutions followed from there being no limit either to the time for which they could endure[11] or to the amount of property they could hold[12]—both of which are important attributes of the modern corporation. Their monetary policies, often focused upon the hoarding of specie and its conversion into treasure, tended to be regressive in economic terms (Lopez, 1951, p. 220).[13] At almost every stage, from early medieval Europe (ibid., p. 307) to as far afield as China (Gernet, 1956, p. 20) or Mexico,[14] the accumulated wealth of the religious foundations existed beside a state which was heavily in debt, often as the result of warfare. In the end the Church in Europe, as a monetary corporation, unable to bear either the depradations of the state or its own excessive expenditure, was reduced to a similar state of indebtedness (Lopez, 1952).

At this stage—though not for the first time in history—lay corporations, set up with specifically monetary functions, began to appear. The exchange-bankers, who operated in Genoa from the middle of the twelfth century (Bogaert, 1966, p. 167), represent the beginning of this process, although at first they were only incorporated in the form of a

partnership (de Roover, 1974, p. 120).[15] The Bank of St George, a state institution, may be regarded as a true corporation, which, but for its dissolution in 1444, might have assumed the functions of a central bank (ibid., p. 139, and see chapter 11 below).

The joint stock corporation, which first appeared in the seventeenth century, established the basis of the corporate structure of any modern capitalist economy.[16] Ownership of the corporation is established through its stock, which is divided among its members either in the proportions entered in a central register, or according to bearer certificates, each of which carries the entitlement to a given amount.[17] In this case the stockholders are the members of the corporation, and although, as such, they will have some control over it, through the exercise of such voting rights as are provided for in its articles of association, their main interest will be in receiving a share of the profits in the form of dividends. This right will be original (for those who first subscribed for the stock) or derivative (for those acquired their stock by transfer from a previous holder). In either case a price will have been paid for the stock,[18] which represents therefore a pure capital investment.

The principle of limited liability, whereby the members of a corporation are not, as individuals, answerable for its actions,[19] is decisive in establishing the corporation's separate identity. At the same time, the individual members have no rights as such to control the policy and management of the corporation,[20] while outsiders dealing with it 'need not inquire into the regularity of the internal proceedings…and may assume that all is done regularly' (Palmer, 1976, p. 291)[21]—a principle extended within the European Economic Community even to acts not permitted by the corporation's own constitution (European Community Act, 1972, s. 4).

The corporate structure of any economy depends upon the size of the corporations included within it, the identity of their members, and the nature of their business activities. The tendency in the present phase of late capitalism is for corporations to be either exceedingly large but few in number, with a substantial part of their stock held by other corporations and their business activities covering countless different forms of trade, manufacture and investment (see chapter 13), or relatively small and extremely numerous, with a restricted membership generally confined to individuals and a narrow range of business activities. The different types of incorporation possible depend on the provisions of local legal systems.[22] A corporation, subject to these provisions, will be purpose-built, which makes it difficult to deal with corporations in general terms. In contrast to individuals as legal persons, the character of any corporation is defined pre-eminently in monetary terms, or—at the most elementary level—in terms of exchange, as the case of the Nuer illustrates. An example, at an intermediate level of development, is furnished by the *cofradía,* a corporation which, at local level, plays an important part in Latin American folk-catholicism. Every *cofradía* is associated with a saint recognized in the Church's calendar, and its main task is to provide for the public celebration of his feast-day. Members are recruited from the adult male population, and in any given year a number of them will be chosen as officials with specific responsibilities for organizing the celebrations. These officials will not only have little time for looking after their own subsistence, generally as peasant farmers, but they will also be responsible for raising the very considerable sums of money which the *cofradía* needs for discharging its ceremonial functions.[23] In some cases the *cofradía* may receive income from its own land (MacLeod, 1973, p. 456, n. 51), in a way comparable to many modern charitable corporations,[24] but members also have to contribute from their own resources.[25]

The *cofradía* wears a modern aspect for the way it has an identity independent of any of its members for the time being,[26] and has some form of monetary bookkeeping, but a traditional aspect for its disregard of all commercial operations. At this level the corporate base is egalitarian, in the sense that such corporations as exist—for example in the form of *cofradías*—all function at the same level, and, in a sense, in competition with each other without any mutual rights of ownership; whereas in the modern economy the corporate base tends to be hierarchical, with strong interlocking rights of ownership and the allocation of functions defined in terms of oligopoly.[27] This process has developed to the greatest extent with the international corporate conglomerates, generally known as 'multinationals', which, wherever they operate, establish a local base in the form of a subsidiary incorporated in accordance with the provisions of the relevant national law, but subject always to policy decided at the top of the corporate hierarchy.

Corporations are key elements in the taxonomy of any monetary system. An understanding of the monetary transactions in which corporations are involved, whether among themselves or with individuals, and whether with members or non-members, is not only necessary for any interpretation of the phenomenon of money, but also, if exhaustive, is of itself almost sufficient. In short, that part of any monetary system in which corporations are not involved is essentially marginal, even at the most elementary level. The corporation is a persistent element in almost every form of social and economic organization. It is not surprising that colonial governments often frustrated the formation of corporations according to indigenous models (Smith, 1965, pp. 34f.), or that communist states deny the privilege of incorporation to the informal private sector (see chapter 13 below). Indeed, incorporation, when it is not according to the law, easily becomes a conspiracy, which was how early attempts to form trade unions were regarded in England (Trevelyan, 1944, pp. 482f.).[28] A complete monetary taxonomy must also include the informal corporate sector, particularly in those cases, characteristic of the communist states and much of the Third World, where the formal sector is not equal to the monetary demands of the general population. If monetary institutions working within this sector are generally little known, it is not so much because the part they play is unimportant, but rather because they are disregarded in the models favoured by capitalist economists, and their existence denied—except perhaps as illegal associations—both by Marxist and neo-colonialist orthodoxy.

7
Distribution and redistribution

The statement of the problem

It follows from the definition of money in terms of the ritual of payment that it is subject to a continuing process of distribution. This is what the 'circulation' of money means. As a result of this process, every transactor in a sphere of payment will have, at any given moment, a monetary position, established by the money he holds (in all possible different types) and the debts he owes, which together—in combination with his own monetary 'history' and the money games open to him—determine his monetary standing. This is generally conceived of in terms of 'liquidity', which is a measure of the scope of any transactor to continue playing the money games of interest to him.

The aggregate monetary position of all transactors, at the given moment, may usefully be called the 'pattern of distribution' of money. It is the *monetary* result of the 'system of distribution' according to which the flow of money among transactors is determined. The system itself, although constituted out of all the different payments made over the course of time, can be analysed in terms, first, of the different monetary institutions which exist in the sphere of payment, and, second, of the strategies adopted by transactors in their dealings with and within such institutions. Every such institution corresponds, therefore, to a sub-system of distribution, with its own contribution to the pattern of distribution.

A system, or sub-system, may be either determinate or inde-terminate. Following the approach adopted by LeClair (1962, pp. 1194f.) for the *distribution of product,*

> a determinate system would be one in which, if the system were known…the pattern could be predicted with great accuracy; an indeterminate system is one in which, perhaps because individuals are given options concerning what they will do…, the pattern of distribution cannot be predicted accurately, although it may be possible to say that some particular individual will get as much as some quantity but not less, without being able to say what quantity he would get between these limits until the distribution has been completed.

It follows that, for any monetary institution which provides the basis of a money game, in which the individual players 'are given options concerning what they will do', the system of distribution maintained by it will be indeterminate.[1] Although, theoretically, a determinate system could be established, the only conceivable examples which could occur in practice are of sub-systems which are designed to rectify unacceptable patterns of distribution which would otherwise follow from the operation of the aggregate system of which they are a part. Such sub-systems are in principle the basis of some types of taxation and insurance, although in practice it would be difficult to find an instance of either institution without any indeterminate element.

The absence, in practice, of significant determinate systems does not really matter, so long as the actual indeterminate systems which one has to deal with are homeostatic in

terms of chapter 2. The problem is first to discover at what stage, if any, in the evolution of monetary institutions such a system will operate, and then to establish the conditions which are then necessary. The problem is intractable in so far as the lesson from history is that new institutions continue to appear, and the form of existing institutions is always subject to change. The discussion of corporations in the last section of the previous chapter provides no more than one example of this process. Is there, then, or has there ever been, a sort of systemic *mngwotngwotiki,* in which the system of distribution maintains at all times a pattern of distribution in which every transactor is able to be a player in the games which are important to him? And if there is no such system, is the range of monetary institutions sufficient to ensure, by means of a process of continual transformation, that the distribution of money within any sphere of payment need never fail to meet the essential needs of transactors?

Reciprocity and distribution

The idea of reciprocity, as the basis of any monetary institution, has already been introduced in chapter 1. The effect of reciprocity on distribution can be quite simply stated. The payments made in any monetary system are the counterpart of a complex of reciprocal transactions, which provide the whole motivation for them. These reciprocal transactions, or rather their aggregate effect, are what the transactors are ultimately interested in. If, therefore, the basis of reciprocity is established, then the system of distribution of money following from any succession of transactions, taking place according to the rules of any given monetary institution, will also be established. In the general case of an indeterminate system, the strategies adopted by transactors—which will be directed towards maximizing the benefits received by them in terms of the institution discerned—will also play an essential part in determining the characteristics of the system of distribution of money. And because, by the operation of the principle of reciprocity, money can always, by the ritual of payment, be converted into these benefits, the interest of transactors shifts spontaneously to maximizing their own share of the flow of money (in which process the acquisition of monetary assets, as defined in chapter 4, may well play an important part). It follows, therefore, that a rule of reciprocity governs any system of the distribution of money. The somewhat elusive concept of reciprocity obviously requires further analysis.

The idea introduced in the passage from Malinowski quoted in chapter 3 (p. 53 above) is developed in terms proposed by Sahlins (1972, pp. 193f.), who established a ‘spectrum of reciprocities’, extending from ‘generalized reciprocity’, through ‘balanced reciprocity’ to ‘negative reciprocity’. At the extreme of generalized reciprocity (ibid., p. 194),

> the expectation of a direct material return is unseemly. At best it is implicit. The material side of the transaction is repressed by the social: reckoning of debts outstanding cannot be overt, and is typically left out of account. This is not to say that handing over things in such form, even to loved ones’, generates no counter-obligation. But the counter is not stipulated by time, quantity or quality: the expectation of reciprocity is indefinite….

Although Sahlins is thinking in terms of goods rather than money, and assumes, generally, that those who have too much give to those who have too little, the passage quoted above is perfectly applicable to elementary monetary systems—not based on exchange—such as

that of the 'Are'are, whose system is stable precisely because the counter-obligation is so *unspecific*. So long as the circulation of money is dominated by the funeral cycle, there is no need for a system of *re*distribution.

In monetary terms, balanced reciprocity is represented by a sale of goods according to the provisions of s. 28 of the Sale of Goods Act, 1893,[2] whereby 'the delivery of the goods, and the payment of the price, are concurrent conditions'.

It is essential for establishing money as a medium of exchange, and this, in turn, is its whole basis as an economic institution. The principle may also be adapted to the lending of money for a fixed term at a prescribed rate of interest. In a market economy in a state of pure competition, where price, or the rate of interest, is determined by supply and demand, balanced reciprocity is perfectly specific. The pattern of distribution, as it affects any individual, is determined by the prevailing prices for the inputs and outputs of his own domestic economy. There is no need to delve into microeconomic theory to demonstrate how, at this individual level, the balance of payments can be either positive or negative, and not necessarily confined between any determinate limits. This means (Sahlins, 1972, p. 195) that

> Balanced reciprocity is less 'personal' than generalized reciprocity…it is more 'economic'. The parties confront each other as distinct economic and social interests. The material side of the transaction is at least as critical as the social: there is more or less precise reckoning, as the things given must be covered within some short term. So the pragmatic test of balanced reciprocity becomes an inability to tolerate one-way flows; the relations between people are disrupted by a failure to reciprocate within limited time and equivalence leeways. It is notable of the main run of generalized reciprocities that the material flow is sustained by prevailing social relations; whereas, for the main run of balanced exchange, social relations hinge on the material flow.

The basis of Sahlins's definition of negative reciprocity is 'to get something for nothing with impunity', or, in more general terms, 'appropriation', in a situation in which 'the participants confront each other as opposed interests (Sahlins, 1972, p. 195). The usefulness of the definition, as it is applied by Sahlins, is impaired by the fact that it is extended to cover cases of 'barter', on the somewhat questionable assumption that in any such case one party inevitably exploits the other.[3] If, however, the definition is restricted to cases of true appropriation, then negative reciprocity can be regarded as the inverse of generalized reciprocity, in the sense that there is, in this case also, an indefinite expectation of reciprocity, taking the form of an eventual re-appropriation of money previously appropriated.

In social terms, generalized reciprocity is altruistic; negative reciprocity, antagonistic. They are both flexible, in so far as the amount of any payment may be determined *ad hoc*—in the former case on the basis of what the payer is inclined to give, and in the latter case on the basis of what the payee is inclined to appropriate. Moderation, in the one case on the part of the payer and in the other on the part of the payee, should be sufficient to counteract any threatened instability, and therefore to avoid the need for any new system of redistribution. But whereas such moderation can rightly be expected in an altruistic system, it is contrary to the nature of an antagonistic one.

The position is not quite so simple. The whole basis of the potlatch of the north-west coast Indians of British Columbia was to acquire wealth and prestige by the competitive giving away of vast quantities of blankets (which were essentially the local currency) in a

process referred to as 'fighting with property'.[4] This implies a strong tendency to increase the stock of 'money'; this, in the period in which blankets were used, may well have been possible, simply as a result of increased trading with the Hudson's Bay Company—the ultimate source of this 'currency'. In the general case of a system of generalized reciprocity any tendency for the stock of money to increase may be suppressed by the operation of inherent factors governing its amount. This is almost certainly the case with the 'Are'are, examined in chapter 2.

In a system of pure negative reciprocity, a converse argument shows that the tendency of the money stock is to decrease: obviously, if the holder of money may expect always to lose it as a result of forceful appropriation by someone else, he will be little inclined to run the risk of this, unless he is reasonably certain that he can give as good as he can get. Monetarily speaking, the obvious policy is to maintain a low profile. This explains why elementary systems of negative reciprocity are practically impossible to find.[5] Negative reciprocity is, in contrast, a common characteristic of important sub-systems, in both traditional and modern societies. For an example of the former one need only consider the way in which the Kapauku (introduced in chapter 4 above) maintain their supply of money by raiding their neighbours. For an example of the latter one need look no further than any modern form of taxation.[6]

In terms of Sahlins's spectrum of reciprocities, one has reached a point where systems of generalized reciprocity may be expected to be stable, so that there is no reason why they should not be the historical starting point of any monetary system, however complex; while systems of negative reciprocity are essentially unstable, and will function therefore only as components of a complex system. The question remains open as to whether, and on what conditions, systems of balanced reciprocity may be stable: this relates directly to the stage in the evolution of monetary systems at which such systems will occur.

Economy, stability and balanced reciprocity

This section is concerned with the economic use of money. This presupposes a sphere of exchange,[7] in which all transactors have a need for goods and services which can be met not from their own resources, but only from those of other transactors. It is assumed, initially—without there being, at this stage, any empirical basis for the assumption, but merely to simplify the argument—that the aggregate supply of goods and services exactly meets the demand. On this assumption it would be possible, on the basis of the quantities of different goods and services to be transacted, first to establish a system of exchange rates, such as one finds in table 2 above, then to derive a common standard of value by the process outlined in chapter 3, and finally to establish this standard in the form of money, or, more precisely, specie. The system would be one of balanced reciprocity, without there being any question of one class of transactors exploiting another.

Now although a system of this kind provides the basis for almost all economists' thinking about money—largely because it offers considerable scope for the *a priori* reasoning, which, as chapter 1 shows, is characteristic of monetary theory—it cannot be taken as a starting point for any kind of analysis without first dealing with a number of critical objections to it. Again, for the sake of simplicity, one can start by taking the money used in the system for granted, without worrying about its origins. Then, if the supply and demand factors

were constant for every transactor, the system would be determinate, and the money used would be otiose.[8] All one would need is a sort of rationing system, such as was familiar in the Second World War, in which goods and services were allocated and distributed on a predetermined basis. Indeed, at the beginning of the war, a scheme was published 'by which the whole of the Australian economy could have been organized by means of coupons, which would have replaced money for the duration' (C.Clark; cited by Douglas, 1967, p. 129).

The only effective answer to this objection is that the system must be indeterminate. This means that the supply and demand of goods and services by the individual transactor is not predetermined, from which either one of two possible consequences follow. The first is that, if prices remain unchanged, then supply will no longer be equated with demand and money will tend to be concentrated in the hands of those transactors who offer goods and services for which demand exceeds supply, while the remaining transactors will be left with a surplus they cannot exchange for money. The second consequence, which is a reaction to the first, is to adjust prices so that supply and demand are once again equated. Once this happens one has the familiar market situation in which those who can predict the way prices will move can make a profit in money. That is, money, as a medium of exchange, has generated an institution, the market, which is open to a game with fairly obvious strategies. 'Playing the market' is indeed no empty phrase.

The analysis now moves into a somewhat different area. The question now to be asked is, is the game homeostatic according to the definition given in chapter 2? Granted that over the short term some players win at the expense of others, is the balance restored over the long term? Or, allowing for a more flexible position, is the long-term relationship between the class of winners and that of losers acceptable to the individual members of both classes? Allowing for the obvious social implications of this question, the belief that it could be answered affirmatively dominated monetary theory in the Western world until Keynes pointed out, in the most unequivocal terms, that this was a case of the wish being father of the thought.[9]

The question of the possibility of a homeostatic exchange system must be asked in regard to two different cases. The first is that of a total system, in which exchange is essential in every single household if it is to meet its essential needs, and its members be adequately housed, fed and clothed. The second is of a part-system, in which at least some households can meet their essential needs without engaging in exchange: this, for instance, is the position of countless inhabitants of the Third World, who provide for their own subsistence by farming their own land.[10]

It is implicit in all modern Western monetary theory that it is dealing with a total system. It is no more than a matter of observation that not one of the total systems it is actually confronted with can be presented in terms, simply, of balanced reciprocity—even if no objection is made to the class structure inherent in these systems.[11] Taking the industrial revolution as that stage in history at which a total exchange system was established for the first time on any substantial scale, it is significant that the way had already been prepared, on the monetary side, by the emergence of all kinds of institutions concerned with the redistribution of money outside any system of balanced reciprocity based upon the use of money as a medium of exchange for goods and services. The historical process is described in chapters 10 and 11 below. It is difficult to prove a negative, but in the light of the historical evidence it is certainly incumbent upon those who wish to establish any sort of

monetary theory on the basis of a *total* system, based on balanced reciprocity, to provide some empirical justification for doing so.

The existence of part-systems, economic in their orientation and based on a rule of balanced reciprocity, is no more than a matter of record. Two different cases must be considered. The first is concerned with such part-systems as form no more than one component, or sub-system, in a complex total system, such as is characteristic of any modern industrial economy. Almost any stock exchange provides an example of this, at least if brokerage services are treated as no more than a purely mechanical element. A part-system of this kind is viable simply because it is completely marginal to the great majority of transactors in the sphere of payment in which it is located. The modern state will provide even for the monetary needs of those who lose their fortune on the stock market, if not on a scale sufficient to maintain their previous standard of living.[12] These part-systems are significant not so much for what they do for the relatively small numbers of individuals involved in them (who are generally good fat cats), but for their contribution to sustaining the pure-money complex described in chapter 12 below. In any case, they are derivative rather than original: they do not come into existence until the monetary economy has already reached an advanced stage of development. They are, in short, institutions concerned in redistribution rather than in distribution.

The second case is of such part-systems as constitute the total *monetary* economy of populations whose essential economic base is subsistence production, and not exchange. In this case the individual household participates, marginally, in the exchange economy, by selling either the surplus of its own subsistence production or specialized craft or market garden products.[13] In so far as the market serves to distribute these products within a closed circle of populations, which apart from such product specialization are homogeneous, it may well maintain a homeostatic part-system based on balanced reciprocity, particularly if no use is made of credit.[14] This second case has attracted a good deal of attention from anthropologists; and in certain regions, such as the Indian highlands of southern Mexico and Guatemala, examples of such part-systems appear to be quite common. Whatever such part-systems may have to teach about the distribution of money at local level, they cannot be regarded as anything but derivative, at least in their modern form. Their monetary basis has always been that established, at the centre, by the Spanish colonial administrations, and continued and developed by the independent governments which came to power in the nineteenth century; and at the present time they are integrated, at least in part, into a stratified marketing system, which extends far beyond any local boundaries.[15] These systems do, however, provide some empirical basis for the assumption made at the beginning of this section, that the aggregate supply of goods and services exactly meets the demand.

Two questions now fall to be considered: the first is whether any such system can generate its own money (in which case it could be regarded as both homeostatic and original), and the second is whether a viable *total* system can emerge, without the support of *new* sub-systems whose function it is to correct, by a process of redistribution, unacceptable patterns of distribution which the primary system, inevitably, gives rise to.

It is a popular view among economists that elementary systems of exchange explain the origins of money.[16] Now plainly, if the first function of money, in point of time, was as a medium of exchange, it cannot be otherwise. This is not, however, something which can be proved by *a priori* reasoning. Once one starts to look at the evidence, it all points

in a contrary direction. There are any number of monetary systems known, such as that of the 'Are'are (introduced in chapter 2) or of the Tolowa-Tulutni (introduced in chapter 4), which have, on any evolutionary scale, a lower place than that of any system in which money is used as a medium of exchange. It could be argued that the use of such moneys is confined to homeostatic systems which allows no possibility of money being transformed into a medium of exchange. This is the basis of Bessaignet's (n.d., pp. 3f.) distinction between *objets d'usage général* and money defined essentially in terms of its function as a medium of exchange. But then, one is confronted with a monetary system, such as that of the Kapauku, in which the same 'specie' combines all possible uses. If there is little evidence of the sort of transformations which would lead pre-existing primitive moneys into assuming the function of medium of exchange, this need only be because the circumstances in which such transformations would occur are unlikely ever to be recorded by economic historians or anthropologists.[17] This does not justify making assumptions about alternative processes of transformation which lead to the emergence of money as a medium of exchange. Thus, the proposition that the good most commonly traded in a sphere of exchange may be expected to become money, by reason of its gaining acceptance as a *universal* medium of exchange, is no more than an unproved hypothesis,[18] and one which is, on the face of it, implausible, since it denies the essential monetary attribute of scarcity. And if the argument presented above is somewhat laboured, this is only because it is necessary to prove mistaken a line of reasoning which has been adopted by theorists at least since the time of Aristotle.[19] The answer to the first question asked in the previous paragraph must, therefore, be negative.

The same is true of the second question. The point need hardly be laboured, since the negative answer follows immediately from the discussion on p. 114. The fact that both questions receive a negative answer leads to a general conclusion of decisive importance. It is that exchange systems, based on the use of money, emerge as the result of imposing a system of redistribution on pre-existent systems of distribution (which may then disappear, almost without trace),[20] and that such systems, as they evolve into total systems, can only do so with the support of yet further systems—or, better, sub-systems—of redistribution. In short, total systems of money-based exchange are complex, and over the long term can never be homeostatic. It follows, as Schumpeter has noted (1978, p. 19), that propositions essential to much nineteenth-century economic thinking, which turn on the fundamental concept of equilibrium, have become either inapplicable or much more difficult to prove.

It is not contended that the medium of exchange function of money is in any way secondary: it is precisely this function which sustains the unparalleled demand for money in any modern economy. The argument is that, in a completely monetized economy, money can only fulfil this function in a complex system incorporating an essential infrastructure of redistributive sub-systems, which must continually change and adapt if the total system is to remain viable. In an era in which every year produces its harvest of new financial legislation, one would hardly think it necessary to argue the point at all. It is however not only its importance, but also its novelty, which justify the attention given to it in the present chapter.

Hierarchy and equality

The different types of reciprocity, which provide the starting point for the present analysis of the distribution of money, are themselves characteristic of different types of ordered

system. The concepts of hierarchy and equality then provide a useful basis for further developing the taxonomy of systems of distribution of money. The distinction between these two concepts, introduced in chapter 2, was founded upon the different opportunities of transactors, or 'players', according to the rules of the game being played. The need for redistribution follows not so much from differences in opportunity, but from differences in outcome. Any number of games—following chapter 2—are hierarchical, in that according to their rules not all players have the same standing, and yet are egalitarian in terms of the succession of patterns of distribution prevailing over the course of time. Conversely, there are egalitarian games which sustain hierarchical patterns of distribution. The difference, being one between principle and practice,[21] is inevitably the cause of dissension. The two aspects of any system are not, however, strictly comparable. Opportunity is defined in institutional terms; outcome depends on the response of transactors, which is essentially a human factor. Thus one possible response of a *class* of transactors dealing in a market organized on the principle of balanced reciprocity is to establish themselves as capitalists, with all the consequences considered in chapter 13 below. At a certain point the organization of the market will change in such a way that it is transformed from an egalitarian into a hierarchical institution. This does not necessarily mean either that the principle of balanced reciprocity is abandoned, or that the outcome, in terms of distribution, favours the capitalists.[22] These are no more than historical developments, for which the hierarchical ordering of the market was a necessary condition precedent.

If, according to classic Marxist analysis, the basis for a hierarchical ordering of the market is to be found in a class structure, it is equally important to note the critical role of corporations, and particularly of the state, in establishing an *institutional* hierarchy. To take but the example of the modern welfare state, the money paid to the government in the form of taxation and paid out in the form of benefits illustrates the functioning of a hierarchical system. In terms of outcome this system is egalitarian: its basis, however, is negative reciprocity. The example is hardly elementary, since it requires the existence of a tax-base established by some other monetary system: this could be that of the market economy, such as it is in the present phase of late capitalism, with the need for the welfare state arising out of the relative success and failure, measured in monetary terms, of those engaged in it.[23]

Returning to first principles, the question to ask is what sort of elementary non-complex systems there are which, at least in terms of opportunity, are either egalitarian or hierarchical. As for egalitarian systems, that of the 'Are'are, because of the equal chances of all possible participants, is at least one example which provides an answer to the question. It does not matter that its outcome is hierarchical: indeed, the fact that some players do better than others, in the last resort by having a higher money count at the consummation of their own funeral ceremonies, provides the motivation for keeping the system going. The important point is that the system is homeostatic: the significant ancestors may be ranked hierarchically, but the system can continue indefinitely by virtue of the principle of structural amnesia, which continually replaces the most remote ancestors by the most recently deceased.[24]

An elementary hierarchical system, comparable to the egalitarian system of the 'Are'are (which is no more than an example of many such systems known to anthropology), is not easy to find. The problem is that such a system represents a relatively short stage in the

evolution of monetary institutions, for which the evidence from history and archaeology is inadequate. But the ancient empires of Assyria, Egypt, China and the Incas (Vilar, 1976, p. 26), in which there was no market use of money, appear to have maintained hierarchical systems of distribution based on some recognized means of payment. The gold which the Chinese emperors of the Han dynasty bestowed on their subjects 'established a complete system destined to spread a new fortune of heavenly origin throughout the empire' (Mestre, 1937, p. 49), and although at this stage there was a market system based on the use of copper coinage, the imperial government did not participate in it, its need for consumption goods being satisfied by tribute paid in kind (ibid., p. 50).

The evidence from anthropology, which reveals any number of hierarchical systems for the distribution of produce,[25] suggests that where these form the basis for the development of analogous monetary systems, the latter always prove to be unstable. Archaeology (Vilar, 1976, p. 29) and linguistics (Benveniste, 1969, chapter 4) point to the same conclusion. The point is important, since if a system of distribution is unstable—which means, essentially, that it generates patterns of distribution which are intolerable—then the defect can be cured only by imposing upon it a new system of redistribution. This historical process has determined the character, and indeed the complexity, of almost all known monetary systems. Even the 'Are'are system is hardly simple: it is presented above in a simplified form, so as to make it useful as an illustration. The system was doubtless built up in a number of stages, but in the absence of any historical record the process cannot be further analysed.

In terms of distribution, two lines of evolutionary development are possible, subject to the possibility, at certain stages, of one being transformed into the other. One line starts with a system—hierarchical in terms of opportunity—for the redistribution of goods, such as prevailed in China at the beginning of the Han dynasty, when the state collected and distributed grain (Maspéro and Escarra, 1952, p. 53). This is then transformed into a monetary system,[26] leading eventually to unstable patterns of distribution. At this stage the system retains the characteristics of both generalized and negative reciprocity, but its defects are counteracted by allowing an alternative system of redistribution, based on balanced reciprocity, to develop. This means no more than that a market system is superimposed on a fiscal system. At this stage, also, temporary disturbances in the pattern of distribution can be corrected by a credit system, although in China this was a much later development (Maspéro *et al.,* 1967, p. 296). In this line of evolution, where the hierarchical system of distribution tends to be dominated by a corporation, generally in the form of the state—if only because of the political base necessary for any comprehensive system of negative reciprocity—one finds a succession of systems of distribution, each one being set up by imposing a new system of redistribution on the previous one, which then comes so to dominate it that the process must be repeated.

In general, the trend is towards increasing complexity, with new institutional forms, such as insurance, being adopted to solve particular problems of adjustment. At certain stages the solutions adopted are regressive, if only because the system has become too complex for the society which it serves. The monetary system of Merovingian France was certainly more elementary than that of the Roman province which it supplanted (Babelon, 1909, p. 280). So also the monetary system established in the Soviet Union (see chapter 14) is in many ways medieval rather than modern.

The second line of evolution, which starts with an egalitarian system for the distribution of money, based on generalized reciprocity—and illustrated by cases such as the 'Are'are—makes no progress, provided that no market system based on balanced reciprocity adopts the established means of payment as a universal medium of exchange. This may happen on a small scale without disturbing the equilibrium of the primary system (as appears to be the case with the 'Are'are themselves (de Coppet and Zemp, 1978, p. 116), but once the exchange economy becomes fully monetized, the first established system will very quickly cease to dominate. The result is a system—egalitarian in terms of opportunity—based on balanced reciprocity. In certain special circumstances, such as are exemplified by the Kapauku, who use money for every possible transaction of the nature of exchange, this second evolutionary phase may also be stable. It will cease to be so as soon as an internal state system for the supply of money arises. If it is difficult to be precise about the circumstances in which this happens, there is no doubt whatever that, when it does, it sets off the whole dialectical process of institutional development which follows from the dominance of any system which is hierarchical in terms of opportunity. At this point the two lines of evolution come to coincide.

The historical dialectic of money

Whether, historically, the starting point for the development of modern monetary systems is to be found in Lydia, in the seventh century BC, where coins were first made in the western world, or at some earlier time in China is uncertain, and of itself not particularly important. The consequences of the event are the basis of all subsequent monetary history. The imposition of a new system of redistribution is not a common event: there have been relatively few monetary revolutions in the two to three millennia of the modern era. Such as they are, they will constantly recur in the discussion contained in the following chapters. But monetary systems are essentially conservative, and those who control them are reluctant to abandon established monetary orthodoxies.[27] The first reaction to any strain imposed on a system is to defend it by means of institutional measures incorporated in it. At a certain point such measures prove inadequate, and the system, to survive, must acquire a radically new institutional base.

Undoubtedly the most important revolution in the history of any monetary system occurs when the use of money as a universal means of exchange comes to dominate all alternative uses. This point has already been made a number of times. The issue of money by, or under licence from, the state, coupled with the obligation to accept such money as payment in all exchange transactions, is another decisive step. Deposit banking, which can occur at a very early stage,[28] is also critical in the supply and distribution of money, the more so when the banking system establishes its own means of payment, whether by the issue of banknotes or by establishing a giro-system such as enables payment to be made by means of bookkeeping entries. Forms of combination, such as the *accommendatio* of the Roman law (Hopkins, 1978, p. 42), which provided the basis of joint maritime trading ventures, and continued in use in medieval Egypt (Goitein, 1967, p. 247) and in the city states of Renaissance Italy (Lopez, 1956, p. 230), also established new systems for the distribution of money. Institutions of this kind, with the support of deposit banking, provided the basis necessary for the development of commercial capitalism based on money,[29] just as the joint

stock company was essential for the development of industrial capitalism (Landes, 1966, p. 450). Marine insurance, which was firmly established by the end of the seventeenth century (van der Wee, 1977, p. 355) and extended, gradually, to other forms of accident cover, and life assurance and pension funds, which first appeared in the nineteenth century, now ensure the redistribution of money on a massive scale.[30] All this, and much more besides, is the theme of chapter 12. Finally, one has to reckon with the socialist systems which control the distribution of money in countries at many different stages of economic development, and which are considered in chapter 14.

What future developments can one expect in systems for the distribution of money? The potential of computerized payments has yet to be fully realized,[31] but it is uncertain how far computers will change anything but the mechanics of payment.[32] This is critical, however, for the continuous increase in the use of scriptural money—which is already very substantial in relation to any earlier period (Bichot, 1978, p. 40). The social consequences of these developments are already apparent, for instance in the structure of the labour market:[33] their contribution to the continuing monetary dialectic is still imponderable.

Taking a synoptic view of the distribution and redistribution of money in the course of history, one is forced to conclude that, at least in the modern world, no systemic *mngwotngwotiki* will ever be established, whereas the dialectical process will never, in the end, let transactors down. Hyperinflations (such as are described in chapter 17) may occur; and if the monetary system then seems to collapse in ruins, it is always a phoenix which rises from the ashes. The fact that money is so adaptable to the demands made upon it, and so indispensable in the uses to which it is put, explains why it is among the most universal and durable of all social and economic institutions.

8
Boundaries in the use of money

The sphere of payment, as defined in chapter 1, is essentially complex, and its boundaries difficult to determine. It is, none the less, a compound of different uses of money, which are designated u_1, u_2,..., u_n so that any actual sphere of payment (at least, if this definition is realistic) can be reduced to a number of different areas, each one corresponding to one of these different uses. This is an analytic process, essential for explaining the way in which any monetary system is organized. The problem is to identify the bounded areas which are significant for this purpose.

The most important characteristic of such an area is that it will have an internal circulation of money at a level which is high in relation to that of monetary transactions taking place across its boundaries. Such words as 'rent', 'wages', 'dividend', 'premium', 'interest' and 'stake'—to cite only a few examples—described the payments which, alone or in combination, characterize different bounded areas. Because of the chameleon-like property of money—that its characteristics at any time are determined by the immediate context in which it is used[1]—these words are equally apt to describe payments both within a system and across its boundaries. There is indeed no hard and fast way of dividing a sphere of payment into such bounded areas. The way followed is determined largely by practical considerations, such as, for example, the need to establish a system of taxation. In the modern state, monetary policy, both in the public and the private sector, is often determined, at least implicitly, by the way in which bounded areas are identified. The boundaries will themselves then be liable to change in response to the policies decided upon. This is an aspect of the dialectical process described in chapter 7.

Hierarchy and equality

The types of payment exemplified by the words from the vocabulary of money cited in the previous paragraph are characteristic of certain recognized institutions of modern society. There would be no rent if all premises were occupied by their owners, no wages if the entire working population were self-employed, no *dividends* if the joint stock company had not developed as a vehicle for business enterprise; and so on. In determining what sort of bounded systems are established by these institutions, one must first investigate whether the distribution of money according to them is, in the terms of chapter 7, egalitarian or hierarchical. The answer to this question, at first sight, is obvious enough. Anyone of these types of payments implies the existence of two hierarchically ordered transactors: there is no rent without both a landlord and a tenant. But as chapter 1 makes clear, such a hierarchical ordering is inherent in any definition of money as a means of payment. In theory, a monetary system could be established in which money, or one sort of money, was used *exclusively* for the payment of rent. It would only be necessary for every transactor

to be both a landlord and a tenant.[2] To the extent, however, that landlords and tenants form mutually exclusive classes, a hierarchical order is established between two different classes, such that there is a constant flow of money—in the form of rent—from one to the other. The existence of the two classes is, none the less, a product of social and not monetary order, even though the use of money may help to perpetuate it. Once the two classes are established, the circulation of money must be maintained by some other institutionalized form of payment, such as wages, complementary to that of rent. So long as the two classes remain mutually exclusive, then, inevitably—in a system containing no other class—the class of landlord will coincide with that of employers, and the class of tenants with that of employees. It still does not follow that the landlords (employers) are dominant and the tenants (employees) subordinate: some new exogenous factor is necessary to establish their relative positions in the hierarchy. In economic terms, what is significant is that the landlords (employers) have established command over a scarce resource, land.[3] In political terms this is sufficient to establish their dominant position in the hierarchy. In monetary terms this will mean that the landlords, as the dominant class, will control the supply of money *vis-à-vis* the tenants, who comprise the subordinate class.[4]

Whether a hierarchy restricted to two classes corresponds to a bounded area significant for the circulation of money depends upon factors of social organization, which vary from one case to another. The role of money in any such case tends to be marginal, to the point even that its use may be almost entirely avoided by establishing the relationship between the two classes in terms of some non-monetary exchange, generally characterized by negative reciprocity (see chapter 7). Historical and ethnographic examples are not difficult to find. The feudal relationship between lord and tenant is an obvious case (Milsom, 1976, p. 39), with any number of parallels in the Third World of the present day.[5] In other types of hierarchical organization the national currency may be replaced by a restricted special-purpose money issued by the dominant party: in the early stages of the industrial revolution wages were often paid in moneys of this kind, so as to ensure that wage-earners purchased all consumer goods from their employers.[6]

The scope for special-purpose moneys in hierarchical systems is limited, and for two reasons. For to the extent that the system is closed such a money will tend to be otiose, as the previous paragraph shows; and to the extent that it is open, it will be next to useless for transactions across its boundaries.[7] If, however, the use of special-purpose moneys in hierarchical systems is exceptional, this is not so when it comes to egalitarian systems, in which the transactors fall into different classes according to different categories of payment. If such egalitarian systems are unfamiliar, it is only because they occur almost exclusively in traditional societies, although, somewhat paradoxically, the most usual explanation in monetary theories of the origins of money is based upon its usefulness for one particular purpose, the payment of the price of commodities (Clower, 1969b, p. 207) in an *egalitarian* system of exchange (see p. 58 above).

The Tiv of central Nigeria, who maintain three separate spheres of exchange, provide a classic example of bounded egalitarian systems, which are none the less ordered hierarchically. The low-est comprises a wide range of commodities basic to the local subsistence economy; the intermediate sphere comprises a number of recognized ‘prestige’ interests, such as slaves and certain ritual offices, which were not traded in any market; at the highest level, ‘rights in human beings other than slaves, particularly rights in women’

(Bohannan, 1967, p. 126), were exchanged for each other. The intermediate sphere has its own money, consisting of brass rods,[8] which in certain circumstances can be used for conversions into the other two spheres. These are regarded as exceptional, and the Tiv maintain, quite explicitly, 'two different types of exchange…marked by separate and distinct moral attitudes' (Bohannan and Bohannan, 1968, p. 234), according to whether or not the exchange in question involves a conversion from one sphere to another.

Although in the Tiv case the general circulation of money is confined to the intermediate sphere of exchange, there is no theoretical objection to a system in which all commodities are divided into n classes, $[C_1], [C_2], \ldots, [C_n]$, each with its own money, $\mu_1, \mu_2, \ldots, \mu_n$. If, in practice, certain conversions between the different spheres do take place—as happens with the Tiv—the concept still does not immediately lose its value. It is important (Barth, 1967, p. 166) for so long as it

> serves to summarize the major structural features of a flow pattern…. The barriers between spheres, in this view, are barriers to ready transformation, i.e. all factors that impede the flow of value and restrict people's freedom to allocate their resources, and reverse these allocations…. The barriers…are…compounded of a variety of factors, only some of them of a moral or socially sanctioned nature.

Bounded sub-systems in the modern economy

Separate spheres of exchange, based on egalitarian monetary sub-systems, exist in modern as well as in traditional societies. A poker-school, using chips convertible into ordinary money at an agreed rate, is one example, already examined in chapter 2. Another less trivial example is provided by the informal exchange economy which flourishes in Poland. In addition to a socialist economy (see chapter 13) based on the *zloty,* there is a free exchange economy, maintaining its own sphere of payment based on the dollar,[9] involved in the provision of a limited range of goods and services which are not generally available and confined, in principle, to special transactors, mainly consisting of foreign visitors who are able to make payments in hard currencies. The barrier between the two spheres is defined by law: the Polish government's object in maintaining them is to increase its foreign currency earnings. In practice, illegal conversion operations between the two take place on a very substantial scale, so that the scope of the special sphere is extended far beyond that defined by law in accordance with the policies of the central bank. The picture is surprisingly reminiscent of the elaborate conversions between different spheres of exchange in traditional economies such as are described by Barth (1967) for the Fur (of the southern Sudan) or Bohannan and Bohannan (1968) for the Tiv. In Poland the process has gone so far that the national economy, organized according to the socialist principles discussed in chapter 14, is supported by an alternative informal economic system—essentially capitalist in its mode of operation—based upon extending the special sphere of exchange to embrace a class of transactions which, in principle, lies far outside its boundaries.

The monetary system of the socialist state, described in chapter 14, is generally well suited for analysis according to the models established in the present chapter. The economy is organized on the basis of a corporate sector, which is co-extensive with the state, and an individual sector, which comprises the whole of the state's population. The state's system

of inside money, based on accounting entries, operating according to a 'credit plan' and concerned largely with the exchange of producer goods and ancillary services, is essentially *egalitarian*. Its system of 'outside' money, based on specie (including banknotes), operating according to a 'cash' plan and concerned largely with the exchange of wage-labour for consumer goods, is essentially *hierarchical*.[10] The autonomous, informal system maintained by the population at large, and concerned to make good any deficits in the supply of goods or services in either of the two state systems[11]—for which purpose it resorts where necessary to the illegal use of foreign currency—is also essentially *egalitarian*.

A comparable case is provided by the Eskimo community of Port Burwell in the north of Canada. The greater part of the Eskimos' exchange economy is based upon the export of fish, fur and handicrafts, paid for by *crediting* their accounts at the local co-operative store, which is also the only source of supply for the household goods not produced by their subsistence economy (Riches, 1975, p. 23). Although, in principle, an Eskimo can draw cash at the store, it is deliberately kept in very short supply. At the same time, most accounts are overdrawn, which justifies the store in refusing to issue cash to the majority of its customers (ibid., p. 24). The result is that the normal exchange economy of the Eskimos is conducted almost exclusively by means of bookkeeping transactions recorded by the co-operative. This is no more than a simple case of scriptural money.

The Eskimos do however enjoy a cash income, which 'stems from the payments of Canadians visiting the settlement—and who are therefore without local store accounts—for both casual and domestic work, and for Eskimo clothing and handicrafts' (Riches, 1975, p. 23). The cash is hardly ever used for purchases in the cooperative store, but is reserved for occasions, such as the arrival of the summer supply ships, when the accounts at the store cannot be of any use. It is then spent on special luxuries which the store never stocks.

Gambling, to which almost every one in the settlement is addicted, provides the only means of conversion between the two spheres of payment. This is because in the game played in the settlement, *partik,* bullets (which may be bought at the co-operative) and cash are used indifferently as stakes, with a recognized fixed rate of conversion between them (Riches, 1975, p. 26f.).[12] In this case, significantly, gambling, which is the only bridge between the two bounded areas defined in terms of cash and credit, is also the only egalitarian use of money.

If, at first sight, a modern capitalist economy is not susceptible to the same clear-cut analysis as that of the Eskimos of Port Burwell, this may be because of a lingering belief that 'free enterprise allocates resources in the manner most beneficial to the whole society, provided that the government does not interfere with its operation' (Robinson and Eatwell, 1973, p. 47). If this were true, then the monetary basis of any national economy would be *purely egalitarian,* except possibly at the level of the individual household, within which it is difficult to conceive of the distribution of money taking place according to the principles of free exchange. It is not necessary to accept Marx's critique of capitalism, which aimed to establish it as a hierarchical system, to realize that even in the nineteenth century the monetary system of the modern state contained essentially hierarchical structures. One need only study the growth of central banking (see chapter 11) to see the truth of this.

In the twentieth century one does not have to look far to discover any number of bounded sub-systems. To take but one case, there is an obvious difference between transactions for which specie is used, and those for which scriptural money is used—even though there is

an extensive boundary zone in which either means of payment is acceptable. The two sub-systems are defined, moreover, in terms not only of subject matter, but also of transactors. British wage-earners are paid in *specie*.[13] and all kinds of other institutions, such as public housing, are adapted to take this factor into account. A wage-earner concerned to make use of institutions which take the use of scriptural money for granted, such as buying a house on a mortgage, is constrained therefore to engage in a protracted series of conversion operations. With a banking system nowadays only too anxious to attract 'cloth-cap' clients,[14] this is hardly more of a problem than that facing a salaried man who has to go to the bank every week to draw out housekeeping money. But the two types of transactors, once defined according to the distinction between specie and scriptural money, tend to relate to different types of monetary institutions, as the example drawn from housing illustrates. Public housing is provided by local authorities, is financed according to the methods established for public sector borrowing, is let at an uneconomic rent by virtue of subsidies provided by the Exchequer (see n. 73 to chapter 9), and represents no form of capital accumulation by the occupier. Private housing is a capital investment of the occupier, financed by special institutions of the private sector,[13] with the advantage of indirect subsidy by the Exchequer in the form of tax allowances for interest and insurance premiums,[16] not forgetting exemption from capital gains tax, The basic distinction between public and private housing is not to be found in the character of the actual accommodation provided (which can well change from one side to the other),[17] but in the monetary institutions which support them. In one particular case, that of private rented housing, these institutions have become so weakened by legislation that the category is fast disappearing.

Another bounded sub-system is represented by credit-card holders. Since the monthly accounts submitted to them must, in practice, be paid by cheque, they constitute a sub-class of the class of holders of bank accounts. The sub-class is defined partly in terms of wealth (which must be established at a prescribed level before a credit card is issued), and partly in terms of occupation (because of the nature of the goods and services for which credit cards are the most convenient means of payment). Definition in terms of occupation relates, once again, to the question of tax allowances. The use of a credit card in the conduct of a business will mainly, if not exclusively, be confined to tax-deductible expenditure. This in turn has its effect on the price structure of the goods or services paid for, as can be nicely illustrated by the case of air-tickets. It is no secret that it costs about twice as much to fly to Dusseldorf—from almost anywhere—as it does to fly to Majorca. So also, where the normal weekday return ticket from Amsterdam to London to Amsterdam costs £87, an 'instant' return, which obliges the passenger to be away for a weekend, costs £52. The monetary basis for this distinction is no more than that—in the general case—£87 is tax-deductible, where the £52 is not. The weekday return is thus cheaper for anyone with a marginal tax rate higher than (87–52)/87=40 per cent. There is therefore a balance of advantage to any corporate taxpayer, and any individual taxpayer with net earnings of more than about £12,000 per annum. On this analysis, business flying is *cheaper* than private.[18] In this case—flying between Amsterdam and London—these purely monetary factors may provide the *only* objective means of distinguishing between two passengers sitting next to each other.[19]

Where the use of credit cards is closely related to tax-deductible payments, the use of specie, particularly on a scale where scriptural money would provide a safer and

more efficient means of payment, is often closely related to tax evasion. A wide class of craftsmen, particularly concerned in the building industry, divides its clients into two classes, according to whether or not payments for work done are tax-deductible as a business or professional expenditure: a doctor may claim a deduction for the costs of redecorating his study, where a schoolteacher may not do so. The doctor will pay by cheque, on the basis of a written bill, including value added tax, which he will keep for his own records. The schoolteacher will pay in specie; no value added tax will be charged, and he will also probably pay less, because the contractor will make no declaration for income tax. True, in this case the contractor, and quite possibly his client also, will be guilty of tax fraud, with all the penalties which that may involve; but this, in monetary terms, is no more than a marginal factor, which can be taken into account by adding an insurance element to the sum charged for the work done.

In certain special cases the position is improved upon by a ring of traders creating their own money. In the second-hand car market, which is characterized by a system of redistribution involving a large volume of transactions between the dealers themselves, it is customary for payments to be made in the form of cheques payable to the bearer, which remain in circulation, through any number of transactions, until, shortly before expiry, they have to be presented for payment. In practice, however, the majority of cheques need never be presented, because at some earlier stage they return to the original drawer, in the normal course of dealing, and are simply destroyed. This is a very nice case of a self-maintaining sphere of payment, which continuously replenishes its own money stock. This makes possible a large volume of unrecorded transactions, which is always a useful basis for tax evasion.

The market in bills of exchange, operated by the London discount houses and trading in instruments created by the accepting houses[20] on behalf of their clients, has much the same characteristics, although it is quite different in scale and function, and is in no way involved in tax evasion.

The generality of bounded sub-systems

The existence of bounded sub-systems is in no sense a peculiarity either of modern economic systems, whether capitalist or socialist, or of the traditional societies. These sub-systems may be found at every intermediate stage. The ring of motor-dealers, and the way in which they trade, is not essentially different to the network of Javanese bazaar traders described by Geertz (1963, p. 40), who are subject to the same 'almost complete absence of idle liquid funds, a tremendous velocity of circulation of money, and a strong aversion to establishing high levels of equity in the objects with which they trade'. And the use of cheques, which are seldom paid in cash, is exactly parallel to the use of bills of exchange in the great French fairs in the time of Louis XIV (Bichot, 1978, p. 32). The rotating credit association, which is to be 'found over a great part of that broad band of underdeveloped or semi-developed countries stretching from Japan on the East through Southeast Asia and India to Africa on the West', and which is based upon 'a lump sum fund composed of fixed contributions from each member…to be distributed, at fixed intervals and as a whole, to each member of the association in turn' (Geertz, 1962, pp. 242, 243), is another such bounded sub-system.

The hierarchical ordering of different types of money, illustrated in the present chapter by the dichotomy between specie and scriptural money, has an obvious parallel in the relationship between coin and cowrie in West Africa. Ancient China also maintained a hierarchical system of spheres of payment (Mestre, 1937, p. 59), with that at the highest level—restricted to the nobility—being maintained by gifts of gold made by the emperor to chosen subjects (ibid., p. 49). Other lower spheres of exchange were established on the basis of silver and copper (ibid., pp. 50, 51).[21] A sphere of payment, defined by the circulation of certificates of ordination, in principle intended for Buddhist monks and maintained by the exemption from taxation and forced labour which they conferred, also existed at certain times (Gernet, 1956, p. 25); indeed, in times of difficulty, the government was only too ready to sell titles and offices which carried a right to fiscal immunity (ibid., p. 46). The whole history of China is characterized by bounded sub-systems, with explicit social or political functions, which can be defined in terms of money.

The control and function of boundaries

If, in the end, one asks why bounded sub-systems are so important in determining the way in which money circulates, the answer is to be found in the fact that the primary function of any boundary is control, a word which occurs surprisingly frequently in the title of legislation relating to money.[22] Control implies power, which in monetary affairs tends to be that of the government or the central bank. The boundary between taxed and untaxed income, a decisive factor in many of the examples given earlier in this chapter, is inherent in any system by which a government raises revenue by taxing income. The bounded system of the London money market is essential to the control of the money supply by the Bank of England. The same is true of the market in foreign exchange.

A dealers' ring, such as that described on p. 130, controls the market[23] and establishes its monetary autonomy in opposition to the central bank and the taxing authorities. This leads to the important point that control reflects the interests of the sub-system on the side of the boundary from which it is exercised. There is a tendency, therefore, for attempts at alternative forms of control to be outside the law.[24] In the present chapter the extended foreign currency sphere in Poland is an example of this, but such alternative sub-systems are also particularly characteristic of the Third World.

Every boundary represents a conflict of interests. The question of maintaining boundaries has, therefore, an important political element, as the Common Agricultural Policy of the European Economic Community—which keeps the prices of agricultural produce from within the boundaries of the Community high—only too clearly illustrates. The key to this policy is that it establishes boundaries, in monetary terms, which inhibit free trade in agriculture produce.[25] Occasionally boundaries may be dissolved as a result of legitimate political process: this happened when the Truck Acts (1831 and 1887) gave wage-earners the right to be paid in specie (Trevelyan, 1944, p. 546).

If, in the modern world, boundaries are explicit only in the field of foreign exchanges, they are still essential to the anatomy of any monetary system. In practice, where a monetary institution cannot function except on the basis of definite boundaries, it takes the task of definition upon itself. The point is well exemplified by any fiscal legislation. The different schedules of the United Kingdom Income Tax Acts recognize, and to some degree establish,

boundaries in the British monetary system, as is clear from examples given earlier in this chapter. Conversion, as noted by the Bohannans, is the general monetary characteristic of a boundary.[26]

A national monetary system is made up of both hierarchical and egalitarian sub-systems: the fact that the two types are com-pounded together to establish an integrated system, in which the typical transactor, whether individual or corporate, has access to many different sub-systems, ensures the circulation of one general-purpose money, limiting the use of special-purpose moneys to marginal sub-systems such as those characteristic of some forms of gambling. Historically, the success of one single general purpose money is exceptional, and even at the present time one can find autonomous sub-systems with an independent monetary base not only in the socialist states or the Third World—where the formal structure of the national monetary system encourages their growth—but also in the informal sectors of the national economies characteristic of the present phase of late capitalism.

9
The monetary role of the state

The state is essentially a political unit concerned with (Fortes and Evans-Pritchard, 1940, p. xiv)

> the maintenance or establishment of social order, within a territorial framework by the organized exercise of coercive authority through the use, or the possibility of use, of physical force. In well organized states, the police and the army are the instruments by which coercion is exercised. Within the state, the social order, whatever it may be, is maintained by the punishment of those who offend against the laws and by the armed suppression of revolt. Externally the state stands ready to use armed force against other states, either to maintain the existing order or to create a new one.

Just how the state is constituted is a matter for political theory rather than for the phenomenology of money. It is sufficient for the analysis of the monetary role of the state that its *coercive authority* extends to the monetary affairs of those subject to it. It is convenient to regard the state as a corporation of which its subjects are members, though this must not be taken to imply that the members necessarily have any democratic rights. There is nothing to prevent the state, as a corporation,[1] engaging in exchange transactions—whether or not involving the use of money—on the basis of balanced reciprocity; and this is, indeed, characteristic of one side of the state's economic activities, if only in the sphere of international trade and finance.[2] In monetary terms it is the use by the state of its *coercive authority* to assure its own needs that distinguishes it from any other corporation.[3]

The state as supplier of money

The state may use its coercive authority in two ways. In the first place it will be involved in some way in the supply of money. Historically—as chapter 5 shows—this has almost always meant that the state has either reserved to itself a monopoly in the production and issue of specie, or so controlled its supply that it profited directly from any additions made to it. For such policies to succeed the state must establish such specie as legal tender: this means that everyone is obliged by law to accept it, in payment of debts. The position has been shortly stated by Hicks (1977, p. 47):

> Almost universally, and almost throughout history, money has been a national institution (or state institution); money is a means of paying debts, debts which are recognized in particular legal systems, systems which derive their authority from particular states.

But even if the power of the state to enforce its own laws is sufficient to maintain confidence in the specie issued by it within its own boundaries, this is not of itself sufficient to yield the state any but a marginal profit from its involvement in the supply of money. In the case

of specie, confidence (which is essential for maintaining demand, especially outside the boundaries of the state) has depended, historically, not so much upon the state's power to enforce the acceptance of its money as legal tender (which before the era of the modern nation-state was always somewhat questionable), but upon the value of the metallic content of the coins issued. This being so, the most successful money (measured in terms of confidence) was that with the smallest potential for yielding a profit to the state from its issue—unless, of course, the state was able to exploit a new, and unprecedentedly profitable, source of supply of the money-stuff. This is the key to the whole history of Spanish silver-mining in the Americas, which from early in the sixteenth century transformed the supply of specie throughout Europe. In any case, by the beginning of the twentieth century it was well established that there was no real profit to be made by the state out of the minting of its own money, as the British Treasury pointed out to the India Office in the year 1901, in relation to a proposal to mint gold sovereigns in India. As Keynes (1971, p. 47) noted, shortly after,[4] 'The Treasury's arguments were, as they deserved to be, successful.'

It is not to be wondered at that mutation (pp. 92 and 138), to which the state in medieval Europe so often resorted as a means of adding to its own revenue, was almost always counter-productive. True, if a reluctant population could be forced to demand *new* money by the state withdrawing its *imprimatur* on the old, such profit as might accrue from the new issue would go, at least in part, to the state. The higher the profit, however, the greater the degree of debasement, and therefore the lower the demand for the new money would be. It is no coincidence that the most successful monetary reform of the early Renaissance had nothing to do with mutation, but was based upon the issue, first by Genoa and then by numerous other states, of new full-bodied gold coins (Lopez, 1956, pp. 235f.).

When, finally, in the course of the present century,[5] the state was in a position to issue debased coins—whose metallic content was worth but a fraction of their nominal value—it was because they were no longer expected to be, at one and the same time, a medium of exchange in constant circulation and the reserve basis of the national monetary supply. Keynes noted, as early as 1913, that Egypt was then the only country where these two functions were still combined in a single currency (1971, p. 50). The failure of the recently issued Susan B.Anthony dollar (*The Economist,* 15 September 1979), which costs three cents to produce, suggests that, in the United States at least, the culture of money, at popular level, is still pre-Keynesian.

In any case, the general success of modern debased coinage is entirely dependent upon the fact that scriptural money is the basis of any modern system. The undoubted profits to be made from increasing the supply of scriptural money accrue to banks and other financial institutions, so that the state has no direct interest in them. The most that can be said is that some part of these profits may go to the state as a result of its proprietary interests—often acquired as a result of nationalization—in the banking system.[6]

Taxation and the finance of state expenditure

The fact that the state's interest in the supply of money is so inadequate for ensuring that its financial needs are met leads inevitably to the adoption of the second form of coercion, which is probably more fundamental, and which in any case can be exercised independently of the state's involvement in the supply of money. The institution adopted is taxation,

whereby the subjects of the state are obliged by law to contribute, on a prescribed basis, to its expenditure. Numerous historical examples of taxation in kind, and not in money,[7] suggest that the institution is inherent in even the most elementary hierarchical forms of government.[8] Indeed, like credit, taxation is possible in terms of a non-market economy based on one single good. It is thus more fundamental than the state's control over the supply of money, which is often assumed, at least partially, as a substitute form of taxation.[9]

The expenditure incurred by the state and the ways in which it can exert its power combine to determine the forms of taxation which it adopts. The most important head of expenditure, historically, arises out of the state's relations with its neighbours, which means the costs of diplomacy (Andreades, 1948, p. 76), and sometimes of tribute (ibid., p. 73), in times of peace and the costs of military operations in times of war.[10] Internal, as opposed to external, expenditure tends to be concentrated on the maintenance of the sovereign and his court,[11] and by the extension, the bureaucracy of the state. The costs of law enforcement in the early stages of state formation fall largely under the head of military operations.[12] The appropriation of state revenue, raised by taxation, to public welfare is a late development,[13] which came into its own only in the twentieth century.

So long as war makes the heaviest demands on state finance, taxation will tend to be intermittent, and raised *ad hoc*.[14] This was the normal approach to all taxation until quite modern times.[15] The successful waging of war should, ideally, bring a profit to the state, and in some cases, such as those of the first and the fourth crusades, the ideal is actually realized (Lopez, 1954, p. 613). War, with its rewards in the form not only of booty but also of prisoners to be ransomed (Kraus, 1979, p. 67), or kept as slaves (Polanyi, 1966, p. 36), and new territories to be subjected to tribute (Lopez, 1956, p. 227), is pre-eminently an economic enterprise of the state; but it is one which, like many other such enterprises, consistently fails to yield the return promised on the money invested in it. In practice, little attempt is ever made to place the burden of military expenditure on those most likely to profit from it. Confiscation of wealth, whether accumulated by religious foundations (Bazant, 1971, pp. 1f.) or by successful businessmen such as the Jews and Lombards in medieval Europe (Ibanes, 1967, p. 65),[16] may provide a quick solution to the problem of state finance, but it is in the end likely to be self-defeating.

Before the emergence of a consolidated system of state finance—essentially a development of the late seventeenth century—the state tended to farm out its taxes, that is, to sell the right to collection in exchange for the immediate payment of a capital sum (Bowsky, 1970, p. 121).[17] Most taxes were indirect; that is, they tapped the wealth of the community by charges on transactions, whether at a fixed rate or in proportion to volume. In the end almost every expedient adopted to raise money by taxation fails, if only because the tax base, that is the resources of the non-state sector available for expropriation, always tends to contract as a reaction to excessive depradation. If, in the modern era, direct taxation, which primarily affects income, has taken over from indirect taxation, which primarily affects consumption, the problem of a deficit on the tax yield has been only multiplied, not solved. At the risk of generalization, it is safe to say that the state, once having resorted to taxation, in whatever form, to meet its expenditure, is confronted almost immediately with the problem of a chronic deficit, which it has to make good by some other means.

In these circumstances the state can sell its rights to future income for a capital sum (van der Wee, 1977, p. 376), or, by virtue of its coercive authority, it can sell trade monopolies

(Carus-Wilson, 1958, p. 258) or offices of profit (Lopez, 1951, p. 231; Maspéro and Escarra, 1952, p. 54). In the last resort it can try to make a profit out of its control of the supply of money. In a monetary system dominated by specie this is best done by mutation, a process described on p. 92 above. The objection to this procedure is spelt out on p. 136. For although the state may debase (Lopez, 1951, p. 229) the coinage, to its own profit—which is essentially what mutation amounts to—it creates thereby a money of poor quality, which, in the first place, will be used to pay debts owed to the state (often taxes)—this being a commonly cited instance of the application of Gresham's law, that 'Bad money drives out good'—and in the second will be acceptable outside the boundaries of the state (where Gresham's law can hardly apply: Miskimin, 1963, p. 117) only at a discount, taking into account its true value (van der Wee, 1977, p. 337). The likely consequences are domestic inflation (Hennequin, 1972, p. 40) and an adverse balance of trade (Miskimin, 1963, p. 116). Nor is mutation necessarily a popular alternative to taxation: in later medieval Europe 'entire populations agreed to new taxes in exchange for a promise that there would be no mutation' (Bloch, 1953, p. 154), and in the Soviet Union, where the practice is still current,[18] the majority would no doubt express the same preference if they were free to do so.

When it comes to scriptural money, it would seem at first sight that the state was subject to none of the restrictions which make mutation so unacceptable as a means of raising revenue. To the extent that the indebtedness of the state can be equated with a deficit in scriptural money (in terms not of M_1[19] but of some M_i, for which $i>1$—p. 76 above), a modest increase may, by virtue of its inflationary consequences, provide a popularly acceptable alternative to higher taxation (Friedman, 1972, chapter 2). If the process is allowed to go too far, say by the profligate printing of banknotes (Galbraith, 1975, p. 51), the monetary base of the economy will be destroyed (Simiand, 1934, p. 82).

The state as debtor

In the end, the state is forced to borrow money to meet its expenditure, and although in principle the terms upon which money is borrowed need be no different from those generally governing the supply of credit, the state as a borrower has proved, historically, to be a very special case.

Three characteristics distinguish the state from other borrowers. The first is that it must borrow money on an unparalleled scale. This means not only that a very wide range of instruments—such as are described, briefly, at the end of chapter 4—has had to be developed to enable the state to satisfy its demand for money, but also that there must be institutions which can provide this money. If, in theory, the state could satisfy its needs by borrowing from private individuals, in practice the state has always needed to rely on the banking system (described in the following chapter) to lend it money. Historically, successive stages in the development of borrowing by the state have almost always been closely related to parallel steps in the evolution of the banking system, and, more generally, of the pure-money complex (described in chapter 12).

The second characteristic is that the state can offer no security for the repayment of the debts owed, beyond its powers continuously to borrow new money[20] and to raise enough taxes to pay interest as it falls due, and occasionally to reduce its indebtedness by repaying the principle sums owed. It was only in the seventeenth century that men began to realize

that the state might not ever be able to pay off its debts, and that its borrowing would therefore have to be organized on the basis of massive chronic indebtedness; before this time, when the state was confronted with debts which it could not repay (as England was in the fourteenth century as a result of the French wars of Edward III), the only possible consequence, in the long run, was the ruin of its creditors. This was the lot of the great Florentine bankers—the Bardi and the Peruzzi—who provided the funds for Edward III to fight the battle of Crécy (de Roover, 1974, p. 129).[21] Even the powerful Banco di San Giorgio in Genoa, which had showed signs of developing as a central bank, was itself dissolved in 1444 (ibid., p. 139). It was only in the seventeenth century that institutions developed to *consolidate* the indebtedness of the state on a long-term basis. This process, which began in France and Sweden (van der Wee, 1977, pp. 376f.), attained its greatest success in England—first because of the support of the Bank of England (ibid., p. 385) and then, later, because of the participation of two other large corporations, the East India Company and the South Sea Company (ibid., p. 388).

The consolidated national debt shares one important property with the money which the modern state raises by taxation. There is no essential tie between the sums received and particular items of expenditure. The accounts are consolidated on both sides of the line, receipts and expenditure. This practice, if none other, makes it impossible to identify any assets of the state as security for any part of its indebtedness. The alternative procedure, known in the field of taxation as 'hypothecation',[22] of allocating prescribed revenue to definite classes of expenditure, was the common practice in the financial operations of the state until as late as the mid-nineteenth century.

The third characteristic of the indebtedness of the modern state is its close link to the supply of money. It is not only—as is made clear in chapter 11—that banknotes represent, at least indirectly, a part of the indebtedness of the modern state, but also that many other instruments—in the form described in the last section of chapter 4—such as Treasury bills, are, in effect, a form of near-money. The supply of money, at any time, is therefore largely determined by the pattern of distribution of the state's own indebtedness.

The welfare economy of the modern state

This consists of that part of the 'grants economy' which is controlled by the state. The idea of the 'grants economy' is implicit in the whole treatment of the distribution and redistribution of money in this book (see for example p. 117 above). It is concerned with the non-market means, that is means not based upon exchange (Boulding, Pfaff and Pfaff, 1973, p. 1), adopted so as to make grants to individuals in accordance with certain prescribed norms. If the term itself is modern, the essential idea of the redistribution of money implicit in it is no more than one aspect of the *generalized reciprocity* introduced in chapter 7. In common with taxation, its basis is prescriptive rather than contractual, a common enough characteristic of monetary transactions in which the state is involved. On the other hand, the grants are made to *individuals,* in accordance with certain specific types of need, such as sickness or unemployment. If, in certain cases, such potential beneficiaries are required to secure their rights by paying contributions in advance according to a prescribed scale, the transaction, if characteristic of the pure-money complex (p. 118 above), has no real basis in exchange or contract. The actuarial relationship between contributions and benefits, which

is the numerical basis of all contracts of insurance made within the private sector, will be at best somewhat tenuous, for the state can always make good any deficit in its own sector of the grants economy out of the consolidated funds raised by taxation and borrowing. This, indeed, is common practice.[23]

Summary

This chapter does no more than introduce the theme of the monetary role of the state. It concentrates particularly on those aspects which distinguish the state from other corporations. The interaction of the state with all other classes of transactors, of which the banking system is the most important to it, is dealt with in other chapters. The question which this chapter in the end fails to answer is, what is essential in the state's role in any monetary system? There is no one answer. As chapter 7 suggests, the state's involvement in any monetary system is hierarchical. This role is defined by its taxing power rather than by such control it may have over the supply of money.[24] It may be that money is established by the state enforcing its use for payment of taxes, at the same time making it available for this purpose by spending it on the goods and services which it needs.[25] This is the basis of the state theory of money, which, even if correct, still assigns a prior role to taxation, that is the use of the state's *coercive* powers for the purposes of redistribution. And if, logically, the emergence of money can be derived from the initiative of the state in imposing its use for the purposes of taxation, this still does not prove that this is necessarily the original, rather than a derivative, use.[26]

10
The development of commercial banking

Exchange banking

A bank is an institution with three possible functions, which, in historical order, may be called conversion, deposit and giro. The origins of the first of these, conversion, are to be found in the profession of money-changer, which developed very soon after the separate Greek city states each began to issue their own silver coins (Bogaert, 1966, p. 136).[1] Its basis in any city was the sale and purchase of foreign coin, with payment in the local currency, and a margin between the prices paid which gave the money-changer his profit. The table, or *trapedza,* at which the money-changer carried on his trade provided the word which is still that for 'bank' in modern Greek. When, at the dawn of the Renaissance, Italian money-changers began to carry on their business in the same way, the Latin equivalent, *bancum,* was used and eventually became current usage for a 'bank' in almost every part of the world—except Greece (ibid., p. 144). As chapter 15 below will show, this form of foreign exchange was—except in the ancient world—of relatively minor importance: it did however provide the basis for depost banking, so its historical importance can hardly be underrated.

The rise of deposit banking

The stock in trade of the money-changer was money, the most immediately valuable, because the most liquid, of all the assets known to the local economies in which he operated. The money-changer had then, by force of circumstance, to have a safe deposit for his own stock of foreign coin, so it is not surprising that others who wished to keep their money safe entrusted it to him. The money-changer who accepted such deposits became a banker by keeping no more than a reserve of money to meet the claims of the depositors, investing the balance of the sums deposited in loans and trading ventures (Bogaert, 1966, pp. 33f.).[2] This meant, of course, that specie deposited with a banker and recorded in his books automatically lost any identification with the depositor, being merged into the generality of the bank's reserves.

The reserves are the basis of deposit banking. There is no hard and fast rule about the proportion of his assets which a banker must keep ready to meet the claims of his depositors, and a long history of bank failures, from ancient China (Maspéro *et al.,* 1967, p. 296) to modern Europe,[3] shows how easy it is for a bank to let its so-called liquidity ratio fall to too low a level.[4] At the same time, there is no essential need for deposit banking to develop out of money-changing. Any businessman with sufficient accumulated reserves may set up as a banker, by accepting deposits and making loans, as was common practice in the early days of the industrial revolution in England.[5] The origins of deposit-banking are however, still to be found in money-changing.[6] The decisive importance of fractional reserve banking, as it is described in the previous paragraph, is to be found in the way in which it allows the money supply to be increased on the basis of written—or *scriptural*—

records. An algebraic analysis, adapted from Friedman (1969a, pp. 7f.), shows how this happens. One starts with a class of depositors *[x],* a class of borrowers *[y]* and a class of bankers *[B],* adopting the notation used on p. 71 above. The banking operations start with x_1 making an original deposit of a sum M with B_1, who, in common with all other members of *[B],* maintains a liquidity ratio, $r(<1)$. The series of operations is then

x_1 deposits M with B_1
B_1 lends $M(1-r)$ to y_1 and adds $M \cdot r$ to his reserves
y_1 pays $M(1-r)$ to x_2

x_2 deposits $M(1-r)$ with B_2
B_2 lends $M(1-r)^2$ to y_2 and adds $M \cdot r(1-r)$ to his reserves
y_2 pays $M(1-r)^2$ to x_3
…
x_i deposits $M(1-r)^{i-1}$ with B_i
B_i lends $M(1-r)^i$ to y_i and adds $M \cdot r(1-r)^{i-1}$ to his reserves
yi pays $M(1-r)^i$ to x_{i+1}

x_1's original deposit of M has then financed the payment of
$M \cdot (1-r)$ from y_1 to x_2
$M \cdot (1-r)^2$ from y_2 to x_3….
…
$M \cdot (1-r)^i$ from y_i to x_i+1….
…

which, summed to infinity, produces aggregate payments of
$M \cdot (1-r)/r$.
…

At the same time,
x_1 can call on B_1 for his original deposit M
x_2 can call on B_2 for his original deposit $M \cdot (1-r)$
…
x_i can call on B_i for his original deposit $M \cdot (1-r)^{i-1}$
…

so that, summing to infinity, the total claims of the class *[x]* (depositors) on class *[B]* (bankers) add up to *M/r,* while
B_1 has added the sum of $M \cdot r$ to his reserves
B_2 has added the sum of $M \cdot r(1-r)$ to his reserves
…
Bi has added the sum of $M \cdot r(1-r)^{i-1}$ to his reserves
…

so that, summing to infinity, the total reserves of the banking system *[B]* add up to *M*.

On this analysis, the sum originally deposited, *M,* is equal to the reserves of the banking system; and this, added to the aggregate of payments (which is equal to the indebtedness of *[y]* to *[B]*), is equal to the total deposits of *[x]*.

According to the principle, which is essential to deposit banking, that the depositors may withdraw their money at any time, the class *[x]* has an aggregate sum *M/r (>M)* at

its disposal, whereas the class *[B]* has only an amount *M* to meet its claims. It is no good assuming, if there is a run on the banking system, that the banks *[B]* can call in the loans made to *[y],* since this class, *ex hypothesi,* will have no non-bank money with which to repay its debts. In practice, of course, a certain amount of specie will always have been in circulation among transactors, including members of both *[x]* and *[y],* quite independently of the banking system. The solvency of any banking system is, in the last analysis, illusory, so that success depends entirely on confidence—which in the last resort is misplaced—on the part of the depositors *[x]* (Parsons, 1967, p. 335).[7] The basis for this confidence is threefold. First, it assumes on the part of any one depositor, x_i, the conviction that the class of depositors *[x]* will exercise a certain level of restraint in its demands for withdrawals on the bankers *[B]*. Second, it assumes that the class of borrowers *[y]* will not, beyond a certain minimum level, default on its debts when they become due. Third, it assumes that if a given banker, B_i, fails—essentially because, in the case of B_i, the first two assumptions have proved false—then his liabilities will in some way be taken over by the class of bankers *[B]*.[8]

In practice, a system has an economic basis in commercial capitalism which is essential if it is to remain viable. When trade declines, then banking declines with it, so that there are a number of instances in history of the virtual disappearance of established banking systems, such as that of the Roman empire, which revive only when trade once more begins to flourish (Bogaert, 1966, pp. 167f.). But if the individual bank is prone to failure, the institutional basis of banking is extremely durable, and one finds, for example, 'an intimate relation between medieval banking and banking practice in classical antiquity' (Usher, 1943, p. 9).

The services which banking offers to any mixed economy are quite simply indispensable. The secret of its success lies in using the temporary surplus of one sector to make good the temporary deficit of another. The class of depositors *[x]* and the class of borrowers *[y]* have no fixed membership: they are the two components of a general class of bank clients, whose members shift to and fro from one side to the other according to the season. An elementary model of an agricultural community, whose income comes from the sale of grain, after the annual harvest, to dealers in the towns, will illustrate the point. At the beginning of the annual cycle, the farmers, having been paid for the harvest, are depositors with the local banks, while the dealers—being committed to buying up the whole harvest—are borrowers. In the course of the year the dealers sell their stock of grain at progressively higher prices, so that at any certain stage they cease to be borrowers, and become depositors with their bankers. At the same time the farmers, having spent all the proceeds of the harvest, must begin to borrow money to tide them over to the beginning of the following cycle. The alternative, which—because of high carrying costs—is much more expensive, is to maintain a large stock of specie, which will move from one side to the other according to the season.[9] Where specie is in short supply, and banking insufficiently developed, an agricultural community may even be forced to retreat from a money to a natural economy (Slicher van Bath, 1963, p. 111).[10]

The commercial basis of banking is to be found in the interest charged to borrowers. The average rate is always higher than that of the interest, if any, which is paid to depositors, and it is the margin between the two which provides the banker his profits. In normal banking practice, multiple rates apply to both borrowers and depositors. The rates payable by the

former depend on such factors as their legal status,[11] the amount borrowed, the possibility of default (Keynes, 1936, p. 145) and the term of the loan. Similar factors govern the interest payable to depositors, although in this case money on current account, which may be withdrawn on demand, often earns no interest.[12]

This simplified picture of banking can be presented in the form of an elementary balance sheet and profit and loss account (table 7).

TABLE 7

Balance Sheet[13]

Dr	Cr
	Reserves
Owed to depositors	Due from borrowers

Profit and loss account[14]

Dr	Cr
Interest paid to depositors	Interest paid by borrowers
Bad debts written off	Profits

Bills of exchange

Nothing has been said, so far, about the transfer between accounts, or the instruments used, in the course of banking business, for transferring money from one place to another, often over a prescribed term. The subject is introduced in the general terms of scriptural money on p. 6, but without any reference to the part played by banks. But before going on to the giro-function of banking, and its consequences for the supply of money, one must look first at the instruments developed in the early Renaissance to balance the supply of money in one banking centre, say Italy, with that in another, say Flanders (de Roover, 1953, p. 12), without incurring the heavy costs of transporting—and then converting[15]—specie. This is historically important for three reasons. The first is that the form of instrument most generally adopted, the *bill of exchange,*[16] provided a means of circumventing the restrictions on usury (p. 74 above). The second is the development of double entry bookkeeping (de Roover, 1974, p. 122), the basis of all modern accounting. The third is that the basis was formed for a money market, in which dealings in money or, better, monetary instruments took place according to the commercial principles already established in the international trade in commodities.

The bill of exchange originated as an instrument for the payment of money owing as a result of a commercial operation (de Roover, 1953, p. 62).[17] It involved two payments, the advance of money in one place, and its repayment, at a later date, in another. Four transactors were involved, the payer and the payee for the advance payment, and the payer and payee for the repayment (ibid., p. 43). The exchange element arose out of the fact that the two payments were in different currencies, so that the rate of exchange provided for in the instrument determined whether, on repayment, a profit or loss would be made by the original supplier of funds. The instrument was executed by the first payee (or *taker*); drawn on the second payer (or *acceptor*); sold to the first payer (or *deliverer)* for the sum in local

currency stated on it; remitted by the *first payer* to the *second payee* (or *beneficiary*) in the place of *repayment,* who presented it to the *second payer* for acceptance (which meant his acknowledging it with his signature) and ultimately, when the term expired, for payment (de Roover, 1966, pp. 109f.) at the rate of exchange stated on it.[18]

The operation can be expressed in algebraic terms, using an adaptation of the notation introduced on p. 144. In the place, P_1, of the advance payment, y_1 draws the bill on x_2 (the acceptor), and sells it to x_1 (the deliverer) for the sum M_1, in the local currency, in which it is drawn. x_1 remits the bill to y_2 (the beneficiary), in P_2, who presents it first, for acceptance, to x_2, and then, on maturity, for payment in the currency of P_2, at the rate of exchange r', stated upon it. It follows that the sum received, $M_2=r'\cdot M_1$. If, then, $r'>r$ (the current *market* rate of exchange), y_2, by converting (generally notionally) back into the currency stated on the face of the bill, realizes a sum of money, $(r'/r)M_1$, and a (notional) profit, $(r'/r)M_1-M_1$, or M_1 $(r'/r-1)$. This is important, since x_1 is generally a correspondent on y_2, as, indeed, x_2 is of y_1, which explains the whole commercial basis of the transaction. Essentially $y_1(=x_2)$ has borrowed a sum of money, M, from $x_1(=y_2)$, which is repaid at a rate of interest equal to $r'/r-1$ over the term of the bill.[19] In practice, the credit transaction would often come back to where it started, with y_2 changing places with x_1 and buying a bill from x_2 (who, at the same time has exchanged roles with y_1) for the sum, M_2, stated on it, and presenting it for payment to y_1 in P_1 at the *rate of exchange stated upon it*.[20]

The bill of exchange was therefore more than a means of transferring money in long-distance trade: it provided credit in a way which circumvented the usury laws described in chapter 4. Its bookkeeping consequences were equally significant, particularly since they are still effective today, whereas the ecclesiastical prohibition of usury has long been lifted (de Roover, 1953, pp. 123f.). Those dealing in bills of exchange kept two sorts of accounts, *Nostro* and *Vostro* (de Roover, 1974, p. 150):

> Nostro accounts, as opposed to Vostro accounts, were accounts in foreign currency. They usually had two adjoining columns on both the debit and the credit sides: one for the foreign, and the other for the local, currency. Whenever a Nostro account balanced in foreign currency, but not in local currency, the difference represented either a profit or loss on exchange dealings. To be sure, interest was concealed in the rate of exchange, but it was mixed with other speculative elements. Its presence, however, favoured the lender to the detriment of the borrower with the result that the bankers who lent money by buying foreign bills gained on most exchange dealings. To determine these profits or losses, the bankers used the convenient device of Nostro and Vostro accounts, Nostro accounts when they were actively speculating and Vostro accounts when they were passive and carrying on the orders of their foreign correspondents.

This can be illustrated in the terms of the analysis contained in the previous paragraph. x_1, in remitting the bill to y_2, debits y_2's Nostro account with M_1 (for the local currency) and M_2 (for the foreign currency). If, then, y_2 carries out a return transaction, in the same sum of M_2, his Nostro account with x_1 is credited with this amount, closing it, therefore, in terms of y_2's own currency. At the same time the other column (in x_1's currency) would be credited with a sum M_1, representing the conversion of M_2 into x_1's currency at the rate specified on the return bill. Provided that the rates of exchange stated upon both bills were higher than the current market rate, $M_1<M_1'$, and x_1's Nostro account for y_2 would show a profit, $M_1'-M_1$ (de Roover, 1966, p. 131).[21]

The third reason (stated on p. 148) for the historical importance of the bill of exchange required two developments which did not become at all general until the seventeenth century (de Roover, 1953, pp. 99, 139). The first is the endorsement of the bill of exchange whereby the beneficiary (y_2 in the preceding examples) can assign his rights against the acceptor, thus enabling the bill to be traded, or negotiated, at a fluctuating rate, in a free market. The second development was that of inland bills, involving no element of foreign exchange, with *all* payments being made in terms of a single specified currency. Such bills were at first legal only in England, where the usury regulations of the Roman Church no longer applied (ibid., p. 139). As a result of these two developments, bills of exchange became an effective form of near-money, at least so long as any holder could be assured that the acceptor was financially sound. At the present time the London market in bills is confined to those accepted by a small number of banks[22] whose resources are known to be sufficient for them to meet the liabilities which they assume in this way.

Giro-banking

The way in which an accepting bank deals with the payment of bills of exchange drawn upon it is one step towards establishing the giro function of banking,[23] although this function came to be fully established only at a much later stage. Essentially, this adds up to no more than keeping the records for a system of scriptural money. The basic requirements of such a system are to be found on p. 6. Although in theory such a system could exist independently of deposit banking, the two are historically closely tied to each other. The books kept by a deposit banker to record deposits and withdrawals provide the essential basis for transfer between accounts in all the four cases presented on p. 94. The various possible means for making such transfers are given on p. 78. At the first stage of development, the system's potential is restricted by the need for both the payer and the payee to have accounts with the same banker. This restriction can be overcome either by bankers keeping accounts with each other, a practice which was essential to the negotiation of bills of exchange, or by the bankers at one level keeping accounts with a banker at a higher level. With the development of country banking in England in the eighteenth century, the banks outside London all had accounts with one of the London banks, which acted as agent for all but local business, including the handling of bills of exchange. At this stage the London banks maintained their own clearing-houses, where balances were generally settled by the transfer of banknotes (Clapham, 1970, vol. i, p. 222), but in 1854 this practice 'was abandoned in favour of cheques drawn on bankers' accounts at the Bank [of England]' (ibid., vol. ii, p. 251). This is the origin of the London clearing banks.

In the course of time, the multifarious local private banks were absorbed into one or other of the so-called London clearing banks, which at the end of the day had branches in every corner of the country. Three factors explain this process. The first is that the London banks were joint stock corporations (see p. 101 above),[24] with all the attendant advantages of unrestricted potential for growth and a durable legal identity; whereas the country banks were at best partnerships, with the need—particularly inconvenient for any monetary institution—to be reconstituted on any change of membership. The second factor (which follows on the first) is that the London clearing banks were much better able to maintain the basis of confidence in the terms stated on p. 146. The third factor—which

explains the designation given to them—is that the London *clearing* banks, by means of transfers between the current accounts which they alone of all banking institutions maintain at the Bank of England, give effect to orders for payment between their respective clients (Radcliffe, 1959, para. 346).[25]

At the present time giro-banking in England is largely the prerogative of the six[26] remaining London clearing banks and the National Giro bank.[27] Other types of banking relate on the one hand to traditional activities of the City of London, which include the discounting and accepting of bills of exchange (see p. 150), the organization of corporate finance, dealings in foreign exchange (see chapter 15), and on the other hand to the taking of deposits, and the making of loans[28]—activities characteristic of a wide range of institutions (Newlyn, 1971, pp. 14f.), such as building societies in the United Kingdom and savings and loan associations in the United States, generally engaged in what is now called secondary banking.

The position is not substantially different in Western Europe, although there are important variations in the balance of transactions between different parts of the banking sector. State giro-banking has, for example, a much longer history[29] and occupies a more important position than in the United Kingdom. In certain countries, such as France and Italy, a large part of the clearing bank sector is nationalized,[30] and there are certain specialist banks, such as the publicly owned Crédit Agricole, which have no precise British parallel. In the United States giro-banking has been restrained by law from advancing beyond the stage which the United Kingdom reached in the middle of the nineteenth century. A very large number of relatively small independent local banks still provide the normal services of deposit and giro-banking for the great majority of the population; and central banking, in the form of the Federal Reserve System, is a development only of this century.[31] The fact that a large number of local banks never joined the Federal Reserve System—preferring to keep their reserves with other 'member' banks—is a distinctive feature of banking in the United States. It is significant that the non-members' share of ordinary banking business is increasing at the present time, largely because the 'Fed's' reserve requirements are felt to be too burdensome (Melton, 1977, p. 1). At the other end of the banking spectrum, Wall Street is more than equal to the City of London in the range and scale of services provided.

The more or less uniform structure of banking characteristic of modern Western economies represents the last and most successful stage in the development of a viable banking system, which now operates over the whole world. Before the seventeenth century no comprehensive system was ever built which survived the test of time.[32] The oldest bank still operating, the Monte di Paschi di Siena, was founded only in 1472. The banks which preceded it, such as those of the Piccolomini, the Tolomei and the Salimbeni (Bowsky, 1970, p. 6), well known in their day, all failed in the end.

The sociology of commercial banking

The theme of 'The social structure of credit', to which a section is devoted in chapter 4, is equally relevant to commercial banking, which, to function effectively, depends to an even greater degree upon establishing the necessary social distance between the institutions engaged in it and their clients. The point is likely to be lost at the present time, simply

because the bureaucratic organization of the corporations engaged in commercial banking inhibits the sort of social contacts which would otherwise threaten their financial integrity. Indeed, where the personal relationship between banker and client is allowed to override the bureaucratic norms, the result—which is often regarded as corrupt—may threaten the whole banking system. It is not surprising, therefore, that at the level of High Street banking head office policy is often directed to preventing such relationships arising.[33] At the top level of international transactions, involving millions of pounds, dollars or D-marks, personal relationships between individual functionaries are the basis for a large part of the business, and this is where the worm may enter in.[34] It is a tribute, therefore, to the strength of the bureaucratic system that it has been able to withstand so successfully the opportunities for corruption which it provides.

The corporate bureaucracy is, however, a quite recent institutional form.[35] In its beginnings commercial banking had to rely upon more elementary forms of social differentiation. There is ample historical evidence to support this conclusion. In the ancient world, the earliest banking activities, combining the making of loans with the acceptance of deposits, were associated with temples, with their own personnel, both in Assyria and Greece (Bogaert, 1966, pp. 37, 130). When later, in Greece, money-changers became bankers, few of them were citizens, and in many cases they were freed slaves (ibid., p. 156). The element of paradox to be found in the control of a key economic institution by a class deprived of normal civic rights persists through the history of banking until quite modern times. The point has, however, a quite simple political explanation. The greatest demand on banks for loans has consistently been made by the state.[36] The interest of the state requires that the economic power of its bankers be balanced by political factors under its own control. This was a particularly important matter at a time when limited capacity for coinage combined with poorly developed fiscal systems led the state to being chronically short of money. It was in such circumstances, for example, that the Caliph of Baghdad, as early as the tenth century, had to rely on the aid of the Jewish bankers (Fischel, 1933, p. 579). So also, when banking was established in northern Europe at the dawn of the Renaissance, the business was almost exclusively in the hands of the Italians. So much did they contribute to the prosperity of Bruges (after Paris the most important financial centre in northern Europe in the fourteenth century) that their political disabilities were more than compensated for by the special privileges granted by the Count of Flanders (de Roover, 1948, p. 14). And in the same century, in which for more than sixty years the Papacy was established in Avignon, it would have been quite unable to maintain its administration of the Church, were it not for the services rendered to it by Italian bankers, and these not only in the field of finance (Renouard, 1941, p. 606). Not one of the popes at Avignon had any illusions about the effective power of his bankers, however tenuous their express political rights may have been.

What was essential to the development of banking was an international network maintained by a specific community represented in every part of the known world. Until the end of the eleventh century only the Jews could play this role,[37] and they did so with equal success under both Christianity and Islam (Crump, 1979, p. 4). They were helped here by an interpretation of the scriptural prohibition of usury in a sense which allowed money to be lent at interest to non-Jews (Goitein, 1967, p. 267). At the same time, the fact that the Jews were strangers in every community in which they found

themselves was almost bound to involve them in transactions with the dominant group which were mediated by money. The reason for this has been shortly stated by Simmel (1978, p. 224):

> The stranger as a person is predominantly interested in money for the same reason that makes money so valuable to the socially deprived: namely, because it provides chances for him that are open to fully entitled persons or to the indigenous people by specific concrete channels and by personal relationships.

After the first crusade (in 1094) the fortunes of the Jews declined, as Christianity, with Venice in the vanguard, began a long period of ascendancy over Islam (Simmel, 1978, p. 72). In the wake of the Christian advance, the merchants of the Italian city-states—and most notably Florence—suppressed the commercial and financial network of the Jews, to supplant it with one of their own, at the same time developing the bill of exchange so as to avoid the Church's prohibition of usury.[38] The great trading fairs of Champagne provided a base for the new banking community to establish its own system of commercial law, to which all who dealt with it were obliged to adhere (Laurent, 1932, pp. 709f.).

At the time of the Renaissance the only international community beside that of the Italian merchant bankers was that of the Church: it is not surprising that the two complemented each other during the critical Avignon period. The position is rather different at the present day, when the international banking community is represented even in lands from which the Church is excluded. One need only read the banks' advertisements in the financial press to see how much importance is attached to the international network which they maintain. If recruitment to positions in it is now in principle bureaucratic, old banking families—with the Jews readmitted to the fold—persist to a surprising degree. Nor has the importance of an autonomous international jurisdiction been forgotten. If it can hardly be said that the Cayman Islands —at several stages' remove—have replaced the towns of the Champagne fairs as its centre, the principle remains essentially the same.

The great transformation in the sociology of commercial banking is not so much at international but at local level. The High Street branch bank is to be found only in the modern age. It not only represents banking at its most bureaucratic, but also establishes a significant dividing line between that class of society which maintains an account, and that which does not. On the continent of Europe this line is becoming blurred, if only because of the success of state giros—owing largely to the difficulty in making certain categories of payment in cash.[39] If in England the line does no more than reflect class divisions already long established in society, it may yet happen that the development of yet more streamlined systems of money transmission will play, in the end, an important part in effacing it.[40]

11
Central banking: illusion and reality

Two developments, both originating in the seventeenth century, provide the basis for the unprecedented success of the banking system which then began to take shape. One is the consolidation of the indebtedness of the state, which is described in chapter 9. The other is the foundation, in the seventeenth century, of the Bank of England, the first of the central banks.

There is, at the present time, a good deal of misunderstanding about central banking: the confusion which exists on the subject is dangerous, particularly for its consequences in the Third World, where almost every country regards an autonomous central bank as an essential ingredient in its own political and economic independence. The distinctive forms of modern central banking are, in fact, quite recent (Clapham, 1970, vol. ii, p. 421) and may be largely attributed to the development of scriptural money as the basis of all monetary systems, both national and international.

The Bank of England was founded in 1694 (Clapham, 1970, vol. i, pp. 16f.), and its statutes were largely based on those of the Amsterdamsche Wisselbank, founded in 1609 (van der Wee, 1977, p. 337).[1] The Bank of England—in this section, referred to simply as the Bank—did not become a central bank, in any definitive modern sense, until the nineteenth century: indeed, the term itself was not current until the century was well advanced.[2] Since, however, the Bank was consistently the forerunner in the development of the diverse functions now associated with central banking, one must accept that at least 'the early history of central banking…is almost entirely the history of central banking in England' (Sayers, 1967, p. 32). It is therefore legitimate to describe these functions as they were developed in English central banking, so long as it is recognized that the way in which they operate varies considerably from one central banking system to another.

Since the Bank Charter Act of 1844 the Bank has been divided into two departments, one for *issuing* and one for *banking* (Clapham, 1970, vol. ii, p. 183). Both functions are now regarded as essential to central banking, although most central banks do not find it necessary to follow the English practice of accounting for them separately.[3] The right to issue banknotes, which was made explicit in a new charter of 1707 (van der Wee, 1977, p. 385), was essential if the Bank was to maintain its working capital, since, from the beginning, 'all its paid up capital had been lent to the government' (Clapham, 1970, vol. i, p. 25)—which, indeed, was what Parliament had intended when it passed the Act of 1694 enabling the Bank to be founded. The issue of notes by the London goldsmith bankers had already been established earlier in the century (van der Wee, 1977, p. 351), and they, in turn, were doing no more than adapt an institution established by the cash-keepers of Amsterdam and Antwerp (ibid., p. 336).[4] The Bank never had any exclusive right to issue notes, although following the rise of the new joint-stock banks (which *never* had this right)[5] after the Act of 1844, it gradually obtained a complete monopoly of the note issue

in England (Clapham, 1970, vol. ii, pp. 250, 418). The Nederlandsche Bank, in contrast, has enjoyed this monopoly since its foundation in 1814, and this is almost certainly true of the great majority of central banks.[6] In Scotland, however, the joint-stock banks still issue their own notes, but this is hardly more than a public relations operation which is only acceptable because the entire issue is fully backed by cash at the Bank of England.

The right to issue banknotes has completely changed in character now that no monetary system is based on gold or any other precious metal. So long as the reserves of any banking system consisted of coin or bullion, a banknote represented a promise by the banker to pay its equivalent in specie on demand. It was an instrument by which the banker was indebted to the holder for the time being for the amount stated on it, just as he was indebted to those of his clients whose accounts stood in credit. In the one case the credit could be used as a means of payment by handing over the note; in the other, by an appropriate giro-transfer in the books of the bank. There was in principle, therefore, no more objection to a banker issuing notes than there was to his providing giro-banking facilities for his clients. No one was bound to accept in payment of any debt owed either a note issued by any one banker or a cheque drawn upon him: one could insist, in either case, on payment in specie.[7] The Bank of England was in fact forced to suspend the convertibility of its notes for the first time in 1797 (Clapham, 1970, vol. i, p. 272), and did not resume payment until 1821, more than twenty years later (ibid., vol. ii, p. 73). The fact that the circulation of notes was maintained during this period (during which the Bank assiduously built up its reserves of gold) may well be judged to be a portent of times still far in the future. The banknote is now everywhere legal tender,[8] and is a substantial part of the ultimate money of any modern economy,[9] even though, according to modern practice, the 'function in issuing notes is simply the passive one of ensuring that sufficient notes are available for the practical convenience of the public' (Radcliffe, 1959, para. 348).[10] Although this means, in practice, that the issue of notes by a central bank is subsidiary to its other banking business (however that may be organized), the power to issue notes is generally[11] restricted only by the central bank's self-discipline (as is in fact its power to create money by any other means), and this is not always easy to maintain, particularly in view of the political and economic forces acting upon it.

The position is the more acute, seeing that ownership of central banks is now everywhere exclusively in the hands of the state.[12] The point is easily illustrated by considering the position of the Issuing Department of the Bank of England at the end of 1978 (*Bank of England Quarterly Bulletin,* 1979, vol. 19, no. 1, table 1). The notes in circulation on 13 December 1978 added up to £9,122 million. The liability which this represented was matched by the Bank's holding of some £8,085 million in government securities. This means that much the greater part of the proceeds of the note issue is lent by the Bank to the government, but since the government, in turn, owns the Bank, it has in fact been able to cover nearly £10,000 million of its expenditure by means of an interest-free loan from the public.[13] On the face of it, the incentive to print more money is almost irresistible, and indeed any number of governments have failed to resist it.[14]

In practice, the liability represented by the note issue of any central bank is balanced, in part, on the assets side by substantial holdings of gold and interests in foreign currencies. How this is achieved is not immediately apparent from a study of the balance sheets of the central banks. In the United Kingdom gold and foreign currencies are held in a special account, known as the Exchange Equalization Account, which is controlled by the Treasury

and managed, needless to say, by the Bank of England. The purchase of the gold and foreign exchange is financed by the sale of Treasury bills (see chapter 4 above) supplied to the Account by the government (Crump, 1963, p. 183), which then end up, to a substantial extent, as part of the assets of the Bank of England and the rest of the banking system. The idea behind the management of the account is that the reserve position of the Bank of England is to some degree insulated from the effects of fluctuations in exchange rates, and in recent years in the price of gold. At the present time the official reserves of gold[15] and foreign currencies far exceed in value the total assets of the Bank of England.[16] Seeing the veil which separates these reserves from the banking system, it is difficult to say what part of them may be regarded, indirectly, as part of its reserves, including those of the Bank of England. The position is clearer in a country like the Netherlands, where the balance sheet assets of the central bank include a very substantial holding of gold.[17] In this case however the central bank's interest in foreign currencies takes the form of foreign government securities, consisting, in practice, largely of United States Treasury bills. Holdings of the currencies themselves are to be found with the commercial banks, where they are very substantial.[18]

The reserves of the central bank

The question of reserves is not one whose relevance is confined to the backing of a country's note issue: this is, after all, only a part of the money supply for which the central bank is responsible. The point is that the ultimate reserves of a banking system, no matter the extent to which they are held by the central bank, can consist, at the present time, only of foreign currencies of gold.[19] In the case of foreign currencies, the question arises as to which are suitable to be held as a part, at least, of the reserves of any national banking system. In recent years, the only currency recognized everywhere as playing this role has been the American dollar,[20] which explains, incidentally, the preference of the Nederlandse Bank for holding United States Treasury bills. The role of the dollar as an international reserve currency depends not only on the importance of the American economy in international trade but also on the fact that, until 1971, it was freely convertible into gold. Until 1971, therefore, reserves held in dollars represented, if indirectly, a gold-backing for any national currency, even to the point of enabling, where necessary, international payments to be made in gold.[21] The abandonment of convertibility did not mean that the American dollar ceased to be an international reserve currency, although this was thought desirable by many, especially in the United States. Indeed, in the years since 1971 the Euro-dollar (which is no more than an American dollar in a bank account kept outside the United States) has become the major currency in international finance, as will be further explained in chapter 16. At the same time, almost every banking system continues to hold gold—generally as an asset of the central bank—even though it is nowhere the stuff out of which any money is made.[22] The price, in fact, continues to rise, as if to demonstrate that no system of scriptural money—such as that based on any banking system—can be viable unless, somehow, it is backed by something other than paper.

The central reserves of any modern banking system—whether in the form of gold or foreign exchange—are calculated to deceive the ordinary transactor. At the present time the Bank of England's promise to pay one pound on demand to the holder of any one of its £1 notes can be honoured only by offering an identical note in satisfaction. By a sort of process

of reduction one identifies, in this way, the 'ultimate' money (Bichot, 1978, p. 42) as some form of obligation of the central bank, which can be discharged only in terms of an identical obligation. In the result, as Keynes points out, 'money is a bottomless sink for purchasing power, when the demand for it increases, since there is no value for it at which demand is diverted' (1936, p. 231). The ordinary British transactor with an account at the local High Street branch of one of the London clearing banks will achieve nothing by pointing out that the Bank of England, by virtue of its management of the Exchange Equalization Account, could satisfy the claims of his bank upon it in gold, which in turn could be handed over to him: the Bank of England is no longer under any legal obligation to pay the holders of its current accounts, or of its banknotes, in gold, and will not do so. It hoards the gold under its control to maintain the illusion that it could do so, thereby satisfying itself, if no one else, that its reserves consist of something more than paper.[23] Paradoxically, the High Street bank will supply its clients with gold krugerrands, in whatever quantities they may demand, at a profit both to itself and to the South African government.[24] But this has little to do with the reserves of the central bank, or of any other part of the banking system. In selling krugerrands, D-marks, Japanese yen—or for that matter Honduran *lempiras* if it has any in stock—the High Street bank is merely reverting to type, that is to being a money-changer, which is where banking started in the first place.

The banking operations of the central bank

Whatever its special position in relation to the national note issue or the ultimate reserves of the banking system, a central bank is still a bank, whose balance sheet and profit and loss account can be presented in the form given on p. 147.[25] If it differs from other banks it is because of the identity of its clients and the transactions which it carries out on their behalf. The central bank is always the bankers' banker and the government's banker. As the bankers' banker it is at the top of the clearing pyramid, so that any giro-transactions involving two separate clearing banks will pass through its accounts, in the manner explained on p. 151. The Bank of England insists that the accounts of the clearing banks be kept always in credit, which gives it a measure of direct control over the reserves of the banking system as a whole (Clapham, 1970, vol. ii, p. 213). This in turn ties up with the role of the Bank as a lender of last resort (Sayers, 1967, p. 112). There is, however, nothing essential in the practice of the Bank of England: there is no reason why the banking system as a whole should not generally be overdrawn at the central bank (which is the normal position in the Netherlands, for instance), although in this case the central bank will have to use other measures for controlling the money supply.[26]

At one level, the central bank, as the government's banker, is concerned only with the management of an account[27] according to normal banking practice (Clapham, 1970, vol. ii, p. 132). The sums of money passing through the account are, however, so large,[28] and the legal status of the government as a client so special, that the character of almost any central bank is largely determined by its relationship with the government. It will, for one thing, almost certainly be entrusted with the management of the national debt, in all its forms,[29] of which it may itself hold a substantial part.[30] Other banks, it is true, may manage their clients' investment portfolios,[31] but the scale of the central bank's operations on behalf of the government make it a quite special case. In particular, the central bank's dealings in

the government's debt, largely in the internal market, or in its foreign monetary assets, largely in the international market, are a key element in controlling the money supply and maintaining exchange rates.[32]

There is no reason why a central bank should not have ordinary clients' accounts. At the beginning of the nineteenth century, the Bank of England, confronted with the poor state of English local banking, pursued a policy of opening provincial branches (Clapham, 1970, vol. ii., pp. 122f.). As Sayers (1967, p. 116) points out,

> The central bank can be a bank for the general public, it can be the government's banker, and it can be the bankers' bank …the evidence warns us to be cautious in developing the ordinary banking business of the central bank, rather than to say that there should be no such business.

With the growth of joint-stock banking the Bank of England ceased to be interested in maintaining its branches, and now no more than a handful of private accounts survive. In Mexico the central bank engages in branch business in competition with the main commercial banks (Nassef, 1972, Appendix 1)—an example followed in any number of other countries. In Tanzania, where normal commercial banking is largely concentrated in the hands of the National Bank of Commerce (Caselli, 1975, pp. 203f.), which is itself a nationalized concern, the normal clearing function of the central bank is no longer important. This is in line with the Arusha declaration, which proclaimed the socialist policies of the new state in terms which find an echo throughout a great part of the Third World.[33] The so-called planned economies of the socialist bloc, which are discussed in chapter 14, go even further and restrict normal banking services to state institutions. At this point the whole character of the banking system, together with the role of the central bank within it, are fundamentally changed. It becomes only too clear that, in considering the banking services provided by central banks, 'we are doomed to disappointment if we look for rules applicable to all times and all places' (Sayers, 1967, p. 7), as is true generally of any aspect of central banking.[34]

The control of the monetary system

A central bank is more than a bank: it could be shorn of any, if not all, of its banking functions, and it could still remain an institution entrusted with the direction and control of a monetary system (Sayers, 1967, p. 1). Two questions then arise: the first is, how is this control exercised? and the second, what powers must be conferred upon the central bank to make it effective? As to the first question, the central bank, assisted where necessary by the rest of the banking system, may exercise its control either directly or indirectly. In the former case, the second question is immediately relevant, since direct control almost certainly requires that the central bank be given legal powers to intervene at different points throughout the whole monetary system. In the planned economy of a socialist state these powers are so wide-ranging that they define the whole mode of operation of the central bank, as chapter 14 will make clear. In a capitalist economy these powers will certainly be more restricted. In the Netherlands, where direct control is regarded as the major instrument of enforcing the central bank's internal monetary policy, the Credit Supervision Act of 1952[35] gives the Nederlandse Bank the power to prescribe the level of cash reserves, limits to the amount of credit granted to different classes of borrowers, interest rates and many other matters in a

widely defined sector of the national monetary system.[36] The control is positively exercised, so as to ensure that the monetary system acts in accordance with the central bank's policy on such critical matters as the quantity of money in circulation, and the level of interest rates.

No central bank could operate at the present time without some measure of direct control. The familiar Regulation Q, which imposes a limit on the rate of interest payable on American bank deposits, or the requirement for interest-free cash reserves with the Federal Deposit System, are examples from the United States. In the United Kingdom, the Banking Act of 1979 restricts the carrying on of a deposit-taking business to institutions recognized and licensed by the Bank of England.[37] The legal powers of the Bank of England or the Federal Reserve System are not, however, their main means of controlling the monetary system. For both of them, as for other central banks, indirect control is the preferred mode of operation. The simplest means of exercising such control is by buying and selling monetary assets, which, according to the needs of the case, may be either internal—generally taking the form of Treasury bills and bonds—or external, being money, or monetary assets, in foreign currency.

Taking first the former case, and illustrating it by the practice of the Bank of England, if the Bank sells Treasury bills,[38] it will reduce the amount of money in circulation, and if it buys Treasury bills, it will increase this amount. (This becomes immediately obvious if one imagines payment being made, in either case, in banknotes.) If the sale takes place on the open market (which is normal practice in both the United Kingdom and the United States) it will, if the Bank is the seller, tend to lower the market price, and thereby (for the reasons given in the last section of chapter 4) raise the effective rate of interest; whereas if it is the buyer, the sale will have the opposite effect. This follows from the familiar market principle that an increase in supply tends to lower prices, where an increase in demand tends to raise them. Sales of monetary assets by a central bank have a particularly pronounced effect, not so much because of the substantial scale of such operations, but because of their cumulative effect on the cash reserves of the rest of the banking system. Thus any new money which the Bank of England transfers to the clearing banks (following, say, purchases of Treasury bills on the open market) enables bank advances to be increased by two or three times this sum. A converse argument shows the negative effect on advances, and therefore the amount of money in circulation, of sales of monetary assets by central bank. The important point to note with regard to these operations is that market factors determine a direct link between interest rates and the money supply. It may be somewhat excessive to maintain, 'as one of the eternal verities' (Sayers, 1967, p. 107), that 'the authorities can choose interest rates or the supply of money, but cannot choose both independently of each other',[39] but even where the central bank operates by means of direct control it cannot escape from the interdependence between these two factors.

The crunch really comes when the central bank deals in foreign currency assets. In this case—at least, if its own currency is freely convertible—the banking system, led by the central bank, will be forced into the market, as buyer or seller according to circumstances, if its own foreign exchange policies are to be effective. In this case—as chapter 16 explains—direct control is confined to intervention by such international agencies as the International Monetary Fund, whose powers, generally, are far more restricted than those which any central bank has for regulating the internal monetary system.[40]

Conclusion and summary

One is still left asking what is the essential achievement of central banking, now that it is established in almost every separate monetary jurisdiction. If, as the analysis in the preceding sections suggests, its most important function at the present time is the co-ordination of the money supply and maintenance of the uniformity of money, so as to establish a single sphere of payment, the result, as Chick has noted (1978, p. 40), is that 'national currencies have very rigid boundaries.'[41] By maintaining these boundaries, by government restrictions on convertibility, 'the price matrix of the domestic economy can be to a considerable extent isolated from prices obtaining elsewhere, thus affecting patterns of consumption and the allocation of resources semi-independently of relative prices in the money sphere of the outside world' (ibid., p. 49). This phenomenon occurs so frequently that no example need be given of it. It reflects much of the reality of the modern world of central banking, and it is for professional economists to argue how far the policies which give rise to it are justified.

The illusion is that the central bank is still a bank, in the sense that it has reserves with which it will meet the claims of its depositors. The gold and foreign exchange held are not available for this purpose. The illusion is not one of form, but of substance, as a comparative analysis of the Bank of England's balance sheets for, say, 1914 and 1978 would make clear.[42] In 1914 any transaction in which the Bank might be involved could be transformed into a transaction in gold, at any stage, and almost without restriction. If in practice this transformation seldom took place,[43] it was because transactors were fully confident that it could always do so. Now, it may be that only three countries—the United Kingdom, the United States and the Netherlands—ever achieved this degree of perfection, but any number of others could take full advantage of it, simply by maintaining the convertibility of their own currencies at fixed rates of exchange.[44]

The point is both simple and fundamental. So long as money consists of specie the value of whose metallic content is equal to its nominal value, its supply will be determined by the costs—in terms of itself—of its own factors of production.[45] The money stock will remain stable so long as the nominal value of specie is established at a point at which production is maintained—according to normal economic principles of marginality—at a level sufficient to make good losses. If it is desired to allow for the gradual increase in the money-stock, the nominal value of specie should be established at a somewhat higher level. If the consequences of this policy are inflationary (by reason of increasing the factor, *M,* in Fisher's equation)[46] then production will be slowed down as costs increase, to the point at which a stable money-stock is established at a higher level, with the inflation thereby being brought to an end. In the general case, therefore, any inflationary tendency is self-correcting.[47] What is more, the benefit of this factor extends to any extension of the money-stock, such as results from fractional reserve banking, so long as a fixed ratio is maintained between the old and the new money (Hicks, 1977, p. 60). And central banking, in the form which it developed in the nineteenth century (and maintained well into the twentieth), was no more than the top of the pyramid established by the fractional reserve banking system. But the basis of the pyramid was gold, which in monetary terms was in principle[48] substitutable for any other part of it, and so it remained—at least in one not-insub-stantial corner—until the convertibility of the dollar into gold was suspended in August 1971.[49]

If the central bank has divested itself of its reserves, what then is the purpose of the authorities'[50] vast holdings of gold and foreign exchange? The answer is that they are

necessary, if for no other purpose than to support the country's own currency in international transactions.[51] The point (which is dealt with in greater detail in chapter 16) is simple enough. If transactors outside the domestic sphere of payment are to have any confidence in a given currency, they must be assured of its convertibility into other currencies, if not gold. A failure to meet the demands of such transactors is equivalent to a domestic bank's failure to satisfy the claims of its depositors.

The suspension of the convertibility of the dollar was the last step in reducing the world's monetary system, and every component part of it, to a basis of scriptural money. In August 1971 the process had been all but complete for nearly half a century: that month saw no more than the last nail being hammered into the coffin.

The critical problem in modern banking is to ensure that in 'this bottomless sink of purchasing power' some sort of restraint is exercised. A monetary conservative finds this restraint in the fact that all money has a price, determined by the prevailing rate of interest. As chapter 5 makes clear, the supply of scriptural money is tied to the aggregate indebtedness which the bookkeepers—who are co-extensive with the banking system—are prepared to allow. The two factors work against each other. Although the policy of a central bank is generally counter-cyclical, that is, to make money cheap (in terms of interest rates) when investment looks like slowing down and unemployment threatens to increase, and dear once the economy picks up, the 'difficulty of early diagnosis coupled with ordinary human weakness thus gives to central banking an inflationary bias, undermining the value of the monetary unit' (Hicks, 1977, p. 3). At the same time, the ordinary banker, with whom the central bank is constantly in touch, knows that, the more he allows accounts to be overdrawn, the more money he earns. The fact that the government is much the largest borrower adds to the pressure on the money supply, at the same time making attempts by the central bank to impose monetary discipline appear unconvincing. The position is exacerbated wherever a government enterprise, which in principle should earn a profit or cover its costs out of taxation, incurs a deficit; this, in the long run, will almost certainly be financed by adding to the money supply, with the interest then becoming payable being either a further charge on tax revenue, or the cause of an increased deficit. It is no wonder that the control of public expenditure is a major political issue. It is no longer easy to draw the line between the state, with its own characteristic monetary operations, primarily financed out of taxation, and the banking system, particularly where the bank has become an instrument of government policy.

The international monetary scene, and particularly that part of it dominated by the Euromarkets described in chapter 16, provides one example of what can happen to the supply of money where there is no central bank to impose its discipline. It was not for nothing that Keynes, in 1941, in putting forward 'an ideal scheme which would preserve the advantages of an international means of payment universally acceptable, whilst avoiding those features of the old system which did the damage', envisaged the establishment of something like an international central bank (van Dormael, 1978, p. 34). For whatever the defects of a central bank regime, one does well to remember Hilaire Belloc's advice to children, *à propos* the case of Henry King:

> And always keep a hold of Nurse
> For fearing of finding something worse.[52]

12
The pure-money complex and its transformations

Definition and structure

The transactions characteristic of the pure-money complex are distinguished by the fact that they are performed purely in terms of time and money. Taking the most general case of two transactors, A and B, one finds that they are tied to each other by two series of payments, the first consisting of sums, $p_1, p_2, \ldots, p_m$ paid by A to B at times $t_1, t_2, \ldots, t_m$, and the second of sums, $p_1, p_2, \ldots, p'_n$ paid by B to A at times, $t'_1, t'_2, \ldots, t'_n$. A number of familiar types of transaction fall within the terms of this definition, according to how the different members of the series $[p_i]$, $[t_i]$, $[P'_i]$ and $[t'_i]$ are determined. To take the simplest possible case, with each series having only one term, and so that $p<p'$ and $t<t'$ (which means that t occurs earlier than t'), the transaction then consists of a loan of the sum, p, by A to B, at time t, repaid in the sum, p', at time, t', to give a rate of interest equal to $(p'-p)/(t'-t)$. In the more general case, a loan, p, for a fixed term, T, at a prescribed rate of interest, r, payable at n prescribed intervals, h, (so that $h=T/n$), can be expressed in the following form:

$[p_i]$ has only one term, p;
$[t_i]$ has only one term, t_o.
$[p'_i]$ has n terms, so that $p'_i=r\cdot p$ (i=1..n−1)
and $p'_n=r\cdot p+p$ (that is, the last interest payment plus repayment of principle);
$[t'i]$ has n terms, so that $t_i-t_{i-1}=h$(i=1…n).

By way of contrast, a life assurance policy, with a sum assured, p', and periodical premiums, p, payable at prescribed intervals, h, takes this form:

$[p_i]$ has an indefinite number of terms, such that $p_i=p$ for all i;
$[t_i]$ has an indefinite number of terms, such that $t_i-t_{i-1}=h$ for all i;
$[p'i]$ has only one term, p';[1]
$[t'i]$ has only one term, t', an unknown quantity to be determined by the death of the life assured, which event will also close the series t_i.

These three examples, combined with the definition of the pure-money complex, lead immediately to a number of important conclusions. One is that pure-money transactions must have a quite explicit institutional basis. That is, they take place ‘within a regularized pattern’ (see p. 9 above) according to prescribed forms. The usual basis, in any modern monetary system, for any of three examples given above is a printed document with blank spaces to be filled in with the purely numerical factors. This means, in practice, that the different types of transaction are limited,[2] while the volume of transactions within each type is high. Banking, which is pre-eminently a pure-money institution, shows this very clearly.

The restricted institutional range of the pure-money complex, combined with the need to balance out different transactions, leads almost inevitably to the consolidation of transactors—at least on one side of the line—into large corporate units. On this basis, the complex can be divided up into a number of sectors—banking, insurance, and so on—and if in theory each sector could operate independently of the others, there is in practice a high level of interdependence. If for example insurance, at one level, can be seen to consist of a number of payments *in,* in the form of premiums, and a number of payments *out,* in the form of policy moneys, there is in practice always a balance of funds in the hands of the insurer available for further deployment within the pure-money complex. In banking the time-lag between receiving and paying out money provides the basis for lending out the money deposited, which is of course a characteristic pure-money transaction.

The important point—implicit in the previous paragraphs—is that there are essentially two classes of transactors, a class, *[I],* of individuals, and a class, *[C],* of members of the complex. On this basis the pure-money complex maintains two systems, the first—the external system—being constituted out of those transactions in which, in terms of the first paragraph of this section, A belongs to *[I],* and B to *[C],* and the second—the internal system—out of those transactions in which both A and B belong to *[C]*. There is no reason why both A and B should not both belong to *[I],*[3] but in this case the transactions between them are excluded from the definition of the pure-money complex. At the same time, it must not be assumed that all members of *[I],* as *legal* persons, are actually individuals: they may be corporations, in which case some proprietary interest in them—in the form of stock, for instance—may be held as an asset within the pure-money complex. Nor are all members of *[C]* necessarily corporations: those which are not are, however, confronted with considerable problems in regard to maintaining their scale of operations[4] and providing for their own succession.[5]

If it was above assumed that a positive balance of funds was always maintained by each member of *[C],* this assumption is justified in practice by the need to maintain a continuous flow of payments out, *[p'],* so as to meet the commitments entered into with *[I]*. If, for any member of *[C],* this assumption is false, then that member is insolvent,[6] and its status as a member is in jeopardy. There is, however, a qualification to this rule, which is of decisive importance: it applies only in so far as the class *[C]* is restricted to the private sector of the economy. It is to be noted that the definition of the pure-money complex is equally apt to comprehend a series of payments $[p_i]$ made to the state (which chapter 7 recognized as a corporation)—generally in the form of taxation or other forms of compulsory contribution—or a series, $[p'_i]$ made by the state in the general form of welfare benefits. It follows—once this qualification is accepted—that the pure-money complex has both a private and a public sector.

The ostensible purpose of the pure-money complex, according to the terms in which it is described above, is the redistribution, on the basis of prescribed forms, of money between different members of *[I]*. This would establish its main function as that of a financial intermediary, between—roughly speaking—those members of *[I]* with surplus funds at any given time and those then short of funds. Although this function is essential, and may largely explain the historical development of the pure-money complex—as part of the dialectical process described at the end of chapter 7—classic economic theory[7] is almost certainly mistaken in assuming that the complex is no more than ancillary to the circulation

of money as a means of exchange. Where the mistake lies, and what then is the true nature of the pure-money complex, are questions whose answers require further investigation.

The internal and the external systems

In the terms of chapter 8, the pure-money complex is a bounded system, constituted out of a limited range of pure-money institutions, among which money circulates on a very substantial scale, both in the form of capital and income. This internal system repeats itself, on a smaller scale, within every sector of the pure-money complex: one finds not only insurance, but re-insurance; not only the industrial corporation, but the holding company, and more generally the investment trust; the banking hierarchy has already been described in chapter 10. In the interstices of every sub-system one finds specialized intermediaries—stockbrokers, insurance brokers, underwriters, discount houses and so on—for the pure-money complex maintains its own markets in a very wide range of the assets held within it. The London discount market and the Stock Exchange are no more than two examples, and although such markets may be indirectly accessible to outsiders, a large part of the business done is still generated internally by the excess funds in one part of the complex seeking a home in another.

The degree of involution in the internal system is difficult to measure: there are endless different paths for the cirulation of money *within* the pure-money complex. Interlocking holdings of corporate stock can create a ring of corporations such that each member of the ring holds stock in all the others, so that up to a certain level dividends circulate endlessly round it. In spite of legal restrictions, such as those that prohibit a subsidiary holding stock in its parent corporation, it is perfectly possible to create a ring of corporations, such that the dividends of every corporation participating never escape from it.[8]

The result, in any case, is that vast flows of money can simply be 'netted out' within the pure-money complex. It makes no difference whether the flows are of income, as in the case of inter-corporate dividends, or of capital, as in the case of loans made between the different banks participating in the Eurocurrency market. The process of netting out could be pursued through a number of stages. At the first stage, closed circuits within any one sector, and consisting of only one type of payment, could be left out of account. This would, for instance, eliminate a number of inter-corporate dividends or inter-bank loans. At following stages, the restrictions to one type of payment, or to one sector, say banking or insurance, would be progressively removed. The process would come to an end only when all internal payments had, so far as possible, been balanced out against each other. It is as if such payments—regardless of their character—were cleared at the end of the day with a central bank, following the process described on p. 151. One would then find that the changes in the cash positions of the individual institutions comprised by the pure-money complex were extremely small in relation to the aggregate of the payments netted out.

In the previous paragraph the internal system of the pure-money complex is submitted to a process of reduction by means of the progressive consolidation of all its members. But if the money flows within the internal system do no more than constitute the essential mechanical basis of the pure-money complex, it is the external system, maintaining the two-way flow of money across its boundaries, which provides its *raison d'être* for the individual members of any modern society.

Such an individual will expect to deal separately with each class of members of the complex: his life assurance policy is entirely distinct from the hire-purchase contract on his car,[9] even though the two will certainly be linked to each other—somehow—by the internal system. The difficulty is that, according to the normal internal functioning of the pure-money complex, no direct identification between payments in and payments out is possible, even in the case of a single transaction, such as is represented by one individual life assurance policy. The fact is that money paid to any member of the complex is immediately available for a number of different payments, any one of which may be the first step in a series of internal transactions, in a process which will be continued until such a point is reached that, although money is then paid out, and in some way represents earlier payments in, all identity with them—in any sort of purely monetary terms—is lost. The first in a series of payments sets up a contract,[10] and it is this, and not the money subject to the payments comprehended in it, which preserves its identity. The links between different members of *[C],* either with other members or with members of *[I],* are established, therefore, not so much by the payments which are made between them, but by the contract according to which such payments are made. If the members of both *[C]* and *[I]* were represented by points on a graph, and the contracts by lines joining the points to each other, then the pure-money complex would be demarcated by a boundary line which would exclude all endpoints: these in turn would represent the individuals, *[I],* whose interests the pure-money complex exists to serve.[11]

At every stage during the currency of a contract in which the pure-money complex is involved, it represents a liability, quantifiable as a result of a mathematical process (an example of which is given in the last section of chapter 4), and relating not only to the numerical terms of the contract itself, but also to those of other contracts in the same basic form. An important element in the process of quantification is whether the contract is absolute (as it is for most loans) or contingent (as it is, almost by definition, for any case of insurance). Where the liability can be directly enforced, as for example by surrendering a policy of life assurance, the contract represents a type of near-money. In the case of a current account at a bank, where the client has the right to withdraw the whole, or any part, of the money credited to his account, coupled with the means to transfer this right to any other account-holder (see p. 151), the contract is itself included in the definition of M_1, and represents the *ultimate* money in any modern economy (see p. 161 above). In other cases the contract may be incapable of being liquidated in this way: this is largely true of accident insurance, whose value to the insured is entirely contingent on an insurable or, better, *insured* loss occurring.

It remains to see how the internal and the external systems can be distinguished in terms of the contracts entered into. The whole question is dominated by considerations of scale. The members of *[C]* are few, and within each class not very diverse, so that the range of internal transactions is limited and the sums involved large, particularly near the centre of the complex. One can be certain that there was not very much variety in the £620 million in government stock taken up by British insurance companies in the quarter ended in March 1979. On the other hand, the external transactions are numerous, highly diverse, and almost exclusively concerned with relatively small sums. The money invested by British insurance companies represents the surplus of premium income over claims arising out of millions of different policies, in hundreds of different forms—which do

no more than reflect the enormous diversity in the different members of *[I]* (in spite of repeated attempts by the bureaucracy of the pure-money complex to reduce them to some kind of uniformity).

The public and the private sectors

The presentation of the pure-money complex as essentially a compound of institutions of the private sector of the economy is to a great extent misleading. The complex extends into the public sector, whose institutions carry considerable weight in directing its operations. This follows, in the first place, from the fact that the redistribution of money, as provided for by the private sector of the complex, is insufficient to meet the needs of a modern population. The point is well illustrated by welfare payments—of every conceivable kind—provided by the state. Although many such benefits are insurable, and are in fact paid for, at least in part, out of contributions, they extend to a very wide class of beneficiaries, who, through force of circumstance, were never in a position to insure themselves, adequately, with the private sector.[12] The state's ability to pay these benefits follows directly from its taxing and borrowing powers described in chapter 9. In particular, it is characteristic of the public sector as a whole (including, therefore, all nationalized undertakings),[13] that it operates with a chronic deficit. Since the private sector of the pure-money complex—at least according to the rules of any capitalist economy—must maintain a surplus in capital account, it is in a position to take up, in one form or another, a great part of the indebtedness of the public sector, simply as a part of its investment portfolio. The public sector is itself, at the same time, a substantial investor in the pure-money complex, as witness the pension funds of the British nationalized industries (*The Economist,* 4 November 1978, pp. 109f.).[14]

Controls operated by the state, largely in the form of taxation, are critical in determining the way business is done by the pure-money complex. The funds maintained for the payment of retirement annuities well illustrate this point, in a number of different aspects: the income of the fund itself is tax-free; the contributions are tax-deductible; the payments out, in the form of annuities, do not attract the tax surcharge on investment income; and, indeed, certain possible investments of the fund itself, such as in home mortgages, may earn interest which is tax-deductible for the person paying it. In this case such annuities, in their current form, came into existence only by virtue of the exemptions introduced into the tax code: as soon as the necessary legislation was passed insurance companies began offering contracts drawn up in accordance with its provisions.

The controls exercised by the central bank, and described in chapter 10, are equally critical in influencing the course taken by the pure-money complex. Because of its essential mathematical basis, it is immediately responsive to changes in interest rates, or the imposition of credit ceilings, to mention two of the most important such controls. In deciding on a policy relating to the use of these controls, the difficulty lies not so much in predicting the possible consequences within the pure-money complex (which can be done quite accurately by econometric methods), but in predicting the reaction of those who deal with the complex as outsiders.

The sovereign power of the state, which it does not hesitate to exercise in regard to the pure-money complex, would seem, at first sight, to undermine the contractual basis

of the transactions entered into. The difference between transactions of the public sector and those of the private sector is more apparent than real. Classical jurisprudence attaches considerable importance to *freedom* of contract (Paton, 1951, pp. 356f.), which, in the terms of chapter 7, means that contracts are conceived of in terms of balanced reciprocity. This approach, however central it may be in abstract legal theory, is misleading in the present context. The contract characteristic of any dealings with the pure-money complex is a *contrat d'adhésion* offered by a member of *[C]* in a prescribed form on a 'take it or leave it basis' to the individual member of *[I]*. In form, if not in substance, this is a case of negative reciprocity. In the very large number of cases in which the individual is compelled, by force of circumstance, to take the contract,[15] the position is not substantially different from that in which the state imposes its own forms—without any formal option—on individual members of the population.[16] It is more useful, therefore, to conceive of the external system of the complex in terms not of a multiplicity of separate contracts made with individuals, but of a system with an underlying structure, established explicitly on the basis of prescribed forms, with little scope for modification, save for variations in the numerical factors.[17] The legal basis is then legislative[18] rather than consensual.[19]

Function and transformation

The pure-money complex relates directly to the themes of chapters 5 and 7. It provides the means for the supply and redistribution of money. It has an almost unlimited capacity for attracting surplus funds, which are then made available to satisfy any local demands for money. Given that money is a circulating medium, its supply at any one point in the system can be assured by the process of redistribution. In the terms of Fisher's equation (p. 83 above), the pure-money complex ensures the efficient use of the existing money-stock, by maintaining the velocity of circulation, V, at a level substantially higher than that which would prevail in any system where money was used only as a means of exchange. At the same time, because banking is the institution at the heart of the pure-money complex, the size of the money stock will itself vary in response to the volume of different types of transactions, both within the complex and across its boundaries.[20]

Since there is no inherent form of self-regulation within the pure-money complex, its stability depends upon its being continuously subject to some form of positive control. This is true of every part of it and not only of the banking sector.[21] In practice, the framework in which policy must be made is determined by the way in which the controls are set by the central bank on one side and the state—by means of its taxing and borrowing powers—on the other. These controls are, once again, purely numerical, and operate, in terms of rates of interest,[22] minimum reserves, rates of taxation—in all its forms (including national insurance contributions)—and the level of borrowing by the public sector.[23] In the modern state they include all the regulations imposed by government agencies to control special sectors, such as life insurance or the stock market.[24]

Subject to these overriding controls, as well as to commitments already entered into, the institutions of the pure-money complex do retain some degree of freedom as to the terms on which they may continue to carry on in business. The advertisements for life assurance and pensions funds are proof enough of this. It is doubtful, however, as to how far either the purely monetary controls or the different policies adopted by the institutions are effective

in directing the flow of funds, whether internally or across the boundaries, of the complex. A given institution will no doubt try to maintain, over the long term, a prescribed balance between the different outlets for the funds at its disposal; and matters of policy may modify this from time to time. On the other side, an individual may choose between the various contracts offered on the basis of marginal differences in the numerical factors, such as the interest paid on deposits; but essentially the pure-money complex has its own momentum, and its transformations are best described in terms of long-term trends.

Historically, the growth of the pure-money complex to its present unprecedented size is a part of the dialectical process described at the end of chapter 7. Classic economic theory,[25] according to which the pure-money complex is no more than ancillary to the circulation of money as a medium of exchange, is almost certainly mistaken. The pure-money complex is to be found even at the elementary level of a society such as the 'Are'are (described in chapter 2), in which the medium of exchange function hardly exists. The truth of this point will become clear once it is seen that the ancestors constituted the class *[C]* established in the preceding analysis. So also, in Mount Hagen society—on the mainland of New Guinea—although pigs had to be produced for export to maintain the supply of shells, the circulation of shells among the big men—which was essential for establishing their prestige—clearly constituted a pure-money complex (Strathern, 1979, p. 533). In both these cases the pure-money complex provides the *raison d'être* of the whole monetary system, and there is no reason to think them exceptional.[26] The evidence, therefore, from the level of the traditional society to that of the modern industrial state, leads one to doubt the correctness of the classic theory. The correct conclusion, at every level, is that the exchange complex is essentially subordinate to the pure-money complex.

The confusion is once more about the origins of money. Plainly, if money originated as a commodity which could be exchanged for all other commodities in a sphere of exchange, as Clower suggests (p. 89 above), then, to begin with there must have been an exchange complex without any pure-money complex. Even a period, such as the dark ages, in which the exchange complex would appear to have been dominant, transactions characteristic of an elementary pure-money complex, such as gift and tribute, were equally important (Grierson, 1959, p. 126). The critical transformation in the pure-money complex, which appears to make it such a characteristic institution of the modern state, was that which established it on a basis of contract, even though this basis is itself being transformed at the present time.

What in a modern society is established by prescription is in an archaic society established by tradition. The difference between the two is a matter of politics or authority.[27] The modern state has the power—or at least purports to have the power—to change its prescriptive structures, including that of its pure-money complex. The traditional society, in which the state is weak or non-existent, makes no claim to this power.[28]

The *function* of the pure-money complex is however so fundamental in any monetary system that it will survive any structural change. What it does is to maintain the momentum in the circulation of money, much as a fly-wheel is essential to maintaining the power of a steam engine in running a factory. The system may be susceptible to hypertrophy, which is the result of having an excess of power: this may be the position in many modern economies. The consequences in the form of inflation and excessive expenditure by the public sector are only too well known.[29]

History also provides examples of cases where too little power is supplied to the system, although they are difficult to identify. Such cases are characterized not by a buoyant exchange economy, but by a decline in money-based exchange. For a pure-money complex is essential for maintaining liquidity at the level which such exchange requires. A study of any period of pronounced economic advance will reveal the prior development and expansion of the institutions of the pure-money complex. In England the new monetary institutions which began to be established at the end of the seventeenth century (see p. 120 above) provided the essential financial basis of the industrial revolution of the eighteenth century; and as industry itself developed, it developed its own institutions for extending the range of the pure-money complex.[30] Paradoxically, the use of money as a means of exchange for goods and services is not of itself sufficient to maintain a viable monetary system. And if this proposition involves rejecting the means of exchange as a primary function of money—at least in any evolutionary scheme—it remains true none the less.

13
Capital and the corporate state

The firm and the rentier

Capitalism is the money game based *par excellence* on exchange. Its main strategy is the accumulation of money on the basis of exchange circuits for which $r_{ij} \cdot r_{jik} \ldots r_{mi} > 1$, adapting the terminology of p. 55. At the most elementary level, such accumulation does not necessarily have any monetary basis, as the cases cited on p. 59 make clear. Its essential starting point is a measurable quantity of a given commodity, representing a capital asset, which at the end of a circuit of successive exchanges is converted into a greater quantity of the same commodity. The surplus which then arises, divided by the time it takes to complete the circuit, is the measure of the return on the original capital. The capitalist, pure and simple, being concerned only with exchange, is dependent on others to produce the commodities he deals in. If the 'firm' is defined as the institutional basis of capitalism, then it is the 'household' upon which the capitalist depends to keep him in business. The essential distinction between the two is that the exchange circuits of the household are never completed, so that the household never realizes a capital surplus. It does not follow that the firm is more prosperous than the average household with which it deals: the question is one of economic organization, concerned with the creation and distribution of wealth.

The point can be illustrated more specifically by considering the example of the Siassi given on p. 58. Suppose that the exchange circuit from the Siassi Islands to Umboi, and on to Sio-Gitua, and then back to the Siassi Islands, produces a constant increment in pigs for a fixed unit of time; that is, it has a fixed return on capital. A Siassi firm, beginning with two pigs, would then return with, say, ten pigs at the end of a month's voyage. Assuming, then, that the Siassi firm has no household production of its own, it will have eight pigs available for exchange into consumer goods[1] over the period of the following voyage, leaving two over as the starting point for the following exchange circuit. There is no essential reason why a net monthly increment of eight pigs should make the Siassi firm richer than all of any of the households with which it deals. What is true is that the firm has a potential for accumulation on a scale which the household can never achieve.

But before discussing this point, which is critical to the development of capitalism (at the same time providing the basic argument of its critics), one must consider the problem of primitive accumulation, without which no capitalist venture can ever get started. A Siassi firm, to *start* in business, must find ten pigs somewhere, for the 'arising of capital' (Mandel, 1978, p. 45) depends on external factors. The primitive accumulation of capital, in kind, may follow, as Dez (1970, p. 195) suggests, from the natural increase in herds, but the empirical evidence for this is hardly conclusive. Where money is the starting point,

the problem is much simpler, for there will be no money without a money game; and it is then the accumulation of money at a level higher than that necessary to continue playing whatever game it is which identifies those who can start playing the new game called 'capitalism'.[2] The only essential condition is that the money has a medium of exchange function.[3]

The firm, in the form in which it first appears in the archaic capitalism of traditional societies, is primarily concerned to earn a return on capital sufficient to maintain a level of consumption comparable to that of the average household. The exchange circuit is designed neither to yield a surplus above this level, nor to incur a deficit below it. At the same time there is—in the capitalist system as such—no essential relationship between the average return on capital and the average level of consumption. It follows, therefore, that where such a relationship does occur—as it does in the conditions of archaic capitalism—other factors must be present to maintain it. Control over two such factors is generally sufficient to achieve this result. Of these, the first is the terms on which the firm carries out its exchanges—in a monetary economy the price of the goods sold—and the second, the number of firms in relation to the number of households.[4]

Stability is also maintained by allowing firms to be converted into households, and vice versa—a type of transformation familiar enough in peasant economies, and which is well illustrated by the Basseri shepherds of southern Iran. The Basseri are a nomadic tribe who raise money (Huntington, 1972, p. 476):

> through the sale of wool, clarified butter, and lambskins. To maintain their capital stock, the Basseri must refrain from selling some lambskins in order to replace dead animals (obsolescent capital). The production process also yields lamb's meat, butter-milk, and curds, which are consumed by the household. In addition, many of the Basseris' consumption needs during the investment process are supplied by the village traders through the exchange relationships mentioned above.

The chances of the individual Basseri shepherds are unequal, and yet the keeping of sheep is a viable economic activity only within quite narrow limits. A shepherd who is too successful and accumulates too much capital in the form of sheep will convert it into land, and become a sedentary landlord (Barth, 1964, pp. 105f.). The unsuccessful shepherd, whose capital in sheep falls below a certain critical threshold, will be reduced, sooner or later, to the state of a peasant-farmer and tenant—a process often accelerated by borrowing money to meet immediate consumption needs (ibid., p. 108).

The case of the Basseri is significant, for it represents a stage at which the archaic capitalist economy is no longer perfectly self-regulating around a break-even point, but depends for its survival on the support of a class system. At more advanced stages the cases of deficit and surplus define the character of the capitalist economy.

Accumulation and investment

The point has now been reached when the analysis must precede on a specifically monetary basis. If in theory capitalism could develop indefinitely purely on the basis of market exchange, extended, where necessary, to include all economic factors, including labour, then in practice the introduction of money—which may first occur at a relatively late

stage[5]—transforms its whole basis. For the contract of sale, which is the essence of money-exchange (Marx, 1973, p. 200),

> makes it possible…to buy without selling (stockpiling of commodities) or to sell without buying (accumulation of money). It makes speculation possible. It turns exchange into a special business; i.e. it founds the *merchant estate*. This separation of the two elements has made possible a mass of transactions in between the definitive exchange of commodities, and it enables a mass of persons to exploit this divorce.

The accumulation of money depends upon an 'unearned increment' over and above the surplus necessary for the firm, or rather its proprietors, to maintain a given level of individual consumption. The existence of this 'unearned increment', which leads Sahlins (1972, p. 195) to see the type of exchange engaged in by the firm as an instance of negative reciprocity, is essential to any Marxist theory of capitalism. On any analysis it is significant, for two reasons. First, it makes possible the distribution of unearned profits among a class of householders, known as rentiers. Second, it provides the basis for further investment. Both reasons are illustrated by the Italian *mezzadria*. This institution, whereby land was bought as an investment, to be farmed by tenant share-croppers, with the owner's share providing for the consumption needs of his own family, first began to appear at the dawn of the Renaissance (Procacci, 1973, p. 26) and survives even to the present day.[6] It was the means of investing the unearned increment of commercial capitalism, so as to yield an unearned income for the proprietors of the firm. It was, moreover, an asset which could readily be separated from the firm's working capital; and over the course of time succession, inheritance and outright purchase have divorced almost all *mezzadrie* from the firms which founded them. In their present form they are an institution for converting the labour of the tenants into a money income for the proprietors, a classic transformation based on the conversion of accumulated money into fixed capital, the development of which requires further analysis.

The basis of the commercial capitalism of the Italian city-state was not land, but long-distance trade, which may be seen—generally—as 'the beginning of economic development' (Simmel, 1978, p. 225). At the earliest stage the capitalist invested his money in a single voyage by means of a contract of *accomendatio,* whereby, in exchange for the finance provided (which would pay for the costs of the ship and its crew), he was entitled in a share of the profits (Hall, 1935, p. 77). It was not long, however, before 'semi-permanent, unlimited partnerships' began to grow up 'among merchants and bankers' (Lopez, 1956, p. 230), and as the Italian term *compagnia* suggests, these represent an early form of incorporation. Although one is faced once again with the problem of the initial accumulation of capital, it is at this stage more important to note that the investment was not only in commodities, that is *circulating* capital, but also in fixed assets, such as the ships in which the commodities were carried. This development is important for establishing labour as the essential contribution of the household to the capitalist economy. Labour was needed not only to provide the ships with crews (who may well have been slaves), but also to man the shipyards in which the ships were built and repaired. Although this makes possible the classic Marxist analysis of surplus value in terms of 'unpaid labour appropriated by the capitalist class' (Mandel, 1978, p. 598), it is the introduction of the idea of *fixed* capital which changes the whole analysis in monetary terms.

Fixed capital represents not only the assets which are essential to earn the capitalist his profits, but also—as the example of the *mezzadria* shows—the investment which assures the rentier his rent. At this stage the rentier has in fact a choice; for, instead of investing in a business venture, he may invest in a loan—in the simplest case, by depositing his money at interest with a banker. This means, in practice, that the investor must pay (in the form of interest forgone) for the opportunity of investing his capital assets in business. Keynes's (1936, p. 141) analysis of the 'marginal efficiency of capital', which depends on its prospective yield compared with that of a purely monetary asset (ibid., p. 135), is no more than another way of expressing the opportunity costs of such investment, although, as he is careful to note, 'If human nature felt no temptation to take a chance, no satisfaction (profit apart) in constructing a factory, a railway, a mine or a farm, there might not be much investment merely as a result of cold calculation' (ibid., p. 150).

The position was further transformed by the growth of the joint-stock corporation (p. 101) in the course of the nineteenth century. The stock held by a member is then, in terms of its nominal value, a rateable share in the net capital of the corporation. As such, it establishes the rentier as a stockholder. Its basis is surplus profit, distributed in the form of dividends, and that, theoretically, at a rate sufficient to justify the opportunity costs of the investment.

Paper capitalism

The convenience of stock—essentially a paper asset—as a vehicle for capital investment had a number of important consequences, such as those already mentioned on p. 102. In monetary terms, the institution of stock allows for the creation of an extensive market in capital assets, which is carried on by the stock exchanges which are now to be found in many different parts of the world. The consequences of this development are well summarized by Keynes (1936, pp. 150–1):

> Decisions to invest in private business of the old-fashioned type were, however, decisions largely irrevocable, not only for the community as a whole, but also for the individual. With the separation between ownership and management which prevails to-day and with the development of organized investment markets, a new factor of great importance has entered in, which sometimes facilitates investment but sometimes adds greatly to the instability of the system. In the absence of security markets, there is no object in frequently attempting to revalue an investment to which we are committed. But the Stock Exchange revalues many investments every day and the revaluations give a frequent opportunity to the individual (though not to the community as a whole) to revise his commitments. It is as though a farmer, having tapped his barometer after breakfast, could decide to remove his capital from the farming business between 10 and 11 in the morning and reconsider whether he should return to it later in the week. But the daily revaluations of the Stock Exchange, though they are primarily made to facilitate transfers of old investments between one individual and another, inevitably exert a decisive influence on the rate of current investment. For there is no sense in building up a new enterprise at a cost greater than that at which a similar existing enterprise can be purchased; whilst there is an inducement to spend on a new project what may seem an extravagant sum, if it can be floated off on the Stock Exchange at an immediate profit. Thus certain classes of investment are governed by the average

> expectation of those who deal on the Stock Exchange as revealed in the price of shares, rather than by the genuine expectations of the professional entrepreneur.

There are a number of comments to be made on this passage. The separation of ownership and management introduces a new class of households, those of bureaucrats (Dahrendorf, 1959, p. 45), between those of labourers and rentiers, which, notwithstanding the widespread holding of stock by the adult population (ibid., p. 42), largely displaces the latter. This process of displacement has been accelerated by the enormous demand, from within the pure-money complex, for paper assets, as 'Organizations have replaced individuals in the system of wealth and property' (Bazelon, 1959, p. 290).

State capitalism

The result is not so much that a bureaucracy has grown up parallel to that of the state, but that the classic private enterprise firm is beginning to lose its distinctive identity as an institution of the modern, late capitalist economy. A wide range of enterprises in the fields of communication, public utilities, natural resources, transport and heavy industry[7] are divided, in different proportions in different countries, between the public and private sectors of the economy. In capitalist terms, the key to the division is often whether a given class of enterprise earns a surplus or incurs a deficit. In this respect there is a pronounced difference in approach and practice between the nineteenth and the twentieth centuries. The nineteenth century was content to let the bankruptcy laws take their toll, so that the firm which failed to return a profit, having once passed the point where its assets were no longer sufficient to meet its liabilities, was condemned to be wound-up and in the end dissolved. The firm threatened with bankruptcy could well be rescued by its successful competitors (as the whole history of banking in the nineteenth century illustrates), and in many parts of the economy this process led to the domination of a limited number of large firms. (This development, characteristic of monopoly capitalism, was in any case inevitable, given the vast scale of investment in fixed capital required by the industrial revolution.)

But consolidation helps little where a whole sector, such as public transport, runs at a loss. In such a case of chronic deficit the only solution is public ownership. This may mean that the indebtedness of the sector concerned, say transport, is represented by marketable securities, which then, as likely as not, will be held as assets within the pure money complex. In theory, and often enough in practice also, as the deficit builds up year by year, it can continuously be unloaded on the market in this way—particularly in view of the insatiable appetite for paper assets within the pure-money complex. Often enough, losses within the public sector tend to be written off at the cost of the taxpayer: this, indirectly, will lead the exchequer to extend its own borrowing, so the result in the end will be much the same.

The public sector will also be involved in the capital of the private sector, if only through pension funds, which are an integral part of the pure-money complex. (In the terms of chapter 8, there is a quite definite boundary between a firm and its pension funds, which are managed quite independently of each other, and with quite different ends in view.) This factor represents a significant transformation of the class of rentiers. In the nineteenth

century the firm was conceived of in terms of a number of individual proprietors, some of whom—as 'captains of industry'—would be directly concerned in its management, while others, as 'rentiers', would enjoy its profits as sleeping partners.[8] If the firm was incorporated, its directors would as like as not be its most substantial stockholders, while the remainder, if not members of the same families, would be individual members of the same social class. At the present time, with pension and insurance funds swallowing up a steadily increasing proportion of the capital assets on the market,[9] it is the beneficiaries of these funds who must be classed as the new rentiers.

The end of the road

There is a new social and economic order to be analysed in monetary terms. Measured by volume, the greater part of all payments are made within a complex of corporations, divided between the public and private sectors of the economy, and including the state itself. The exchange economy of this corporate complex is an involuted system, largely concerned in the supply of capital goods, raw materials and armaments,[10] in which the population at large has no direct interest. The money circulating within the corporate complex is comprised not only of the prices paid for these commodities (together with ancillary services, which may be classed as 'factor payments'), but also of payments made, on income account, in the form of inter-corporate dividends, interest on loans, insurance premiums, contributions to pension funds and—last but not least—taxation,[11] and on capital account, for purchases of paper assets in the form of stock, etc., the granting and repayment of loans and the satisfaction of insurance claims.

These non-factor payments constitute, by volume, much the greater part of all the transactions which take place within the pure-money complex. They are, at the same time, not in any way confined within the political boundaries of the state, for the exchange economy which they maintain has its basis in international trade. The internal system of the corporate complex is, at the national level, no more than a component of an integrated world system, and its effective autonomy, in real as well as in monetary terms, becomes every day more restricted. As chapter 16 will confirm, the present period is one 'in which the clearing of international payments and the creation of international liquidity are shifting away from the national authorities and the International Monetary Fund to the Eurobanks' (Chick, 1978, p. 35).

The political boundaries of the state are much more significant when it comes to the interest of the population at large in the transactions of the corporate complex. Nationality is inherently more significant for the individual than for the corporation, but the individual is concerned only with the transactions which take place *across* the boundaries of the corporate complex. On the exchange side the population of the modern state is concerned to acquire consumer goods (including consumer durables) by purchase, either directly or, in the case of dependants, indirectly, through heads of households, but only a part of it, broadly consisting of the employed and self-employed,[12] provides anything in return. In terms of the supply of goods and services to individual consumers, it is the function of the corporate complex to convert the contribution of the employed and self-employed in the form of labour into goods and services to be enjoyed by the whole population. And if, in certain special cases, the benefits of this process of conversion are furnished in kind, in the

form of education, health, the basic communications infrastructure and so on, money is still generally retained as the essential means for effecting it. The individual, according to his status (as determined by the canons laid down by the corporate complex of the modern state), will receive wages, salary or professional fees, unemployment pay or sickness benefits, various family allowances, a pension, dividends on stock, interest on loans or rent from property (which constitute the traditional rentier's income), and will pay, directly or indirectly, the price of the goods and services provided for him, insurance premiums and contributions to state welfare schemes, taxes, interest and instalments due on mortgage and hire-purchase loans, rent and other periodical charges on property—leaving, possibly, a margin of savings to be invested in one or other of the institutional forms developed within the pure-money complex.

Even in the present stage of late capitalism, one must consider whether, and to what extent, the population at large maintains its own sector of the economy, operating independently of the corporate complex. Now it is true that there are a number of trades, professions, occupations and employments not directly tied to it. Small shopkeepers, doctors and lawyers, farmers and those whom they employ all belong to this category. But the retailer will rent his premises from the local council and finance his stock in trade through the secondary banking system; the doctor's fees will largely be paid out of some form of insurance, whether public or private;[13] the lawyer's clients, particularly in terms of volume, will come largely from the corporate complex, and even where they do not they will, if individuals, as often as not enjoy the benefit of a public legal aid scheme; the farmer, at least within the EEC, will enjoy all the benefits of government support for agricultural produce as provided for by the Mansholt Plan,[14] and they will all be subject to the outgoings mentioned at the end of the previous paragraph.

At the same time, occupations characteristic of this sector, such as domestic service, have become much less important in the course of the present century. In some cases, such as that of agriculture within the EEC, the structure of early capitalism, based on a multiplicity of small firms competing with each other, is preserved, but in such a way that the monetary factors appropriate to such a structure no longer control its business operations. If the present structure reflects a conservative political policy designed to maintain the social organization of agriculture, based on the unit of ownership and management characteristic of earlier phases in the development of capitalism, the benefits accruing to the more successful large-scale farmers are disproportionately large, while the small farmers are gradually being squeezed out: indeed, the Mansholt Plan makes express provision for compensation to be paid to them.[15] Ironically, where the independent sector really flourishes is in maintaining an informal, 'outlaw', economy, characterized by tax evasion,[16] and largely free of the ties to the corporate complex analysed in the previous paragraph. Even more ironically, where such an economy really takes off—as is the case with the American mafia[17]—it develops its own pure-money complex and organizes its own state system. Protection money is, after all, no more than a form of taxation.

The above analysis pays little attention to the classic elements in the theory of the firm, such as open market competition, the growth of monopolies and so on, simply because a discussion of the theory (which can be found in almost any elementary economic textbook) is not part of the present phenomenological approach to money and monetary institutions. The point now reached in the development of capitalism is shown up by the contrast between

the position at the end of the nineteenth century, when 'a particular business operated in a particular industry in which it had the technical know-how and the market connections required', and that at the present time, where (Robinson, 1971, pp. 102–3)

> the large corporation can jump from one industry to another, employing its own experts or buying up a smaller concern already established there. The modern development of conglomerates provides clear evidence that it is financial power, rather than technical economies of scale, that permits firms to continue to grow when they are already large…. The command of finance by the great firms gives them freedom to follow their own devices, manipulating not only the market economy but also national and international policy.

In monetary terms, the transition is characterized by an unprecedented increase not only in state participation, but also in state interference, in the form of determining the numerical factors (e.g. interest rates) on the basis of specific economic policies, instead of allowing them to be automatically self-regulating in response to market factors. The Marxist critique of late capitalism, which sees this process as an ultimately hopeless attempt at survival on the part of the bourgeois state (Mandel, 1978, p. 486), must be judged as largely tendentious, once it is realized that the economy of the socialist state, although in principle completely regulated in precisely the same terms, cannot function without the support of an informal private sector of the type described on p. 132.

At the same time, it must be conceded that capitalist enterprise to an increasing degree finds its best prospects in providing services—such as casinos[18]—which are marginal, parasitical and carry high social costs, while it is no longer within its power to provide essential services, such as passenger transport in a large metropolis.[19] It is simply a matter of monetary arithmetic. Capitalism, on its own terms, can function only on the basis of a minimum return (determined by such numerical factors as the rate of interest) on the money invested, and if this is more than the public will pay, it will fail. But the failure is apparent rather than real, for what the public will not pay to, say, travel by metro, it is prepared to see paid out of public funds, raised in the form of taxation. There is, however, one important difference: where only individuals can ride the metro, it is largely corporations which pay the taxes. It is only when there are none left with the power to do so, that one can sound the death-knell of capitalism.

If the corporate state, in the present phase of late capitalism, allows the pure-money complex and the exchange complex (which are largely comprised out of the same institutions) to be managed in the interests of the class of individual holders of substantial accumulated wealth—which is extremely doubtful—the economic power of this class (which is measurable in monetary terms) is as nothing compared to the political power of the class of bureaucrats who manage any socialist state. What is more, the economic privileges of this latter class are often at least as valuable as the expense account living enjoyed by the capitalist businessman.

Equating the pure-money complex and the exchange complex, regarded as a single conglomerate, with the centralized economic structure of the socialist state, one finds, in fact, remarkable parallels between them, particularly in relation to the employment of labour, from the level of the poorest wage-earner to that of the officials who control the system. On both sides there is a clearly demarcated hierarchy,[20] in which rank may be determined in purely monetary terms, based on the amount of wages or salary paid, and

which, at the same time, embraces a very substantial part of the employed population. If in principle certain occupations, such as agriculture, the distributive trades and the learned professions, still, under capitalism, operate outside the central complex, the difference between the two systems—on any objective judgment—is increasingly becoming one of degree rather than kind. The difference is one of approach. The high level of direct taxation in the capitalist state presupposes a certain autonomy, on the part of the individual, as to the way in which he constitutes his income. At the same time, he has access to institutions such as the stock exchange and the property market, which would be denied to him in any socialist state. In the money-game the individual is recognized as a player who, to some degree at least, can choose his own strategies. Even if his opponent has all the power of the corporate state (which extends to changing the rules at any stage in the game), the individual retains some freedom of action. Here the close historical connection between taxation and representation in the political process is significant, for the vote represents the individual's interest in the state corporation. The question, of course, is how far such democratic representation can be extended to the different entities comprised within it.[21] In this direction at least the capitalist state has considerable scope for further development, however imponderable its consequences may be.

14
The socialist states

The central corporate complex

The most pronounced monetary characteristic of a socialist economy is a clearly demarcated boundary enclosing the pure-money complex and the exchange complex, which are extended so as to include all the financial, commercial and industrial activities such as are normally—in a capitalist economy—carried on by profit-making enterprises, to yield the *surplus value* essential to Marxist analysis.

In institutional terms, the boundary separates the socialist state into two different sectors, which may be distinguished from each other by two sets of criteria. The first is that corporations are to be found on one side, and individuals—to whom any possible proprietary interest in the corporations is denied—on the other. The second criterion is that on the one side money circulates essentially by means of accounting entries, ultimately controlled by the state banking system, according to a 'credit plan' (Lavigne, 1978, p. 33), while on the other it circulates as specie, taking the form of notes and coin issued by the state bank, according to a 'cash plan'.

The first criterion means that the pure-money complex is a completely enclosed system, subject to central management and control, in which the operation of market factors, such as in a capitalist economy lead to variations in the rates of interest, is deliberately excluded. The same is true of other factors which determine the provision of funds in a capitalist economy, such as the prospective earnings of the borrower, or the security offered. The division of the corporate sector into different units, which is obviously essential for economic planning, can have, in a completely circular system, no basis in proprietary rights in paper assets. The balance sheet is an accounting document, which in no sense reflects outside investment in debt or equity capital. What the balance sheet discloses is an 'allocation of resources…determined by *[a]* central plan and not through *[a]* price system' (Garvy, 1972, p. 275). If the assets include money, it is not necessarily at the free disposal of the unit concerned, and where credit is granted, it 'is determined almost automatically by the production and distribution goals set in real terms' (ibid., p. 280).

In practice, the Soviet central bank makes a distinction between two kinds of accounts held by economic organizations. *Payment accounts,* to be used at the discretion of the account holder, are restricted to certain units specifically endowed with financial autonomy. *Current accounts* may be used only subject to the budgeting control of the state bank (Lavigne, 1978, p. 37). It is not surprising, then, that Lenin saw the state bank as 'becoming the backbone of the socialist state's administrative apparatus' (Garvy, 1972, p. 283): its policy is determined by a 'credit plan' (ibid., pp. 295–300), which in turn is based on precedent 'output plans' (ibid., p. 275). This follows from the fact that 'the national monetary plans—on which the activities of the state bank and all other banks are based—are the counterparts of economic plans articulated in physical magnitudes' (ibid., p. 293).

The subordinate role of money is also tied up with its signal or audit function (Garvy, 1972, pp. 279, 285). Monetary transfers within the state banking system take place in response to certain types of information, largely concerned with the current stage in the implementation of an output plan, while at the same time the states of the different accounts involved in the plan monitor its performance. A certain level of information, characterized by price control, is basic to the whole system, which therefore functions best in precisely the areas where monetary transactions are pre-determined within the corporate sector. There is thus no room for monetary policy as such (ibid., p. 289)—for this would be allowing the tail to wag the dog—but, more than this, the banking system automatically validates the mistakes of the real economy (ibid., p. 292); although in this latter case, where 'real resources' represented by accounts in credit are not available to finance a deficit of an enterprise which has failed to execute the plan, the state bank must resort to 'apparent resources' in the form of new credit creation (Lavigne, 1978, p. 38). This means that *new* money is supplied according to the case (iii) of chapter 5. But this process, although perfectly normal in a capitalist system, is unacceptable in a socialist system, where 'normally the State Bank can create nothing in a situation of sound management of the monetary circuit. When it "creates" monetary instruments, instead of confining itself to their "redistribution" it is exceeding its competences and for that very reason is disturbing the proper working of the economy' (ibid., p. 38).

Money and the individual

The consequences of the second criterion cited on p. 196 are equally significant. If all transactions outside the state corporate sector take place in the form of specie, then the quantity in circulation will be determined by the net flow across its boundaries. In principle, money flows out in the form of wages and flows in in the form of payment for goods and services. If there were no informal sector, or any other possibility for the private investment of money, the two flows should balance each other out. In practice there is a constant net loss, which is to some extent recovered in the form of savings, at interest, in the state savings banks. Except for a very small number of current accounts held by a limited number of specially privileged individuals, these deposits represent the only form of bank account in the Soviet Union open to the general population. In the accounts of the state bank the money owed to the depositors is set off against the notes withdrawn from circulation as a result of such saving.

If, once again, one would expect to find no increase in the quantity of money circulating outside the state sector, the case appears to have been quite otherwise: between 1967 and 1973, for instance, this increased at a substantially higher rate than the corporate balances within the state sector (Lavigne, 1978, p. 39). If this increase is not hoarded, then the obvious alternative is that it is invested—with uncertain legality—in the informal private sector, which in fact flourishes in the socialist states.

Paradoxically, the socialist state is deprived of the means of control which, at least for the time being, are still available in the present state of late capitalism. The deprivation is the more severe in that so many services, such as housing, education, public transport and facilities for leisure, are heavily subsidized—even according to the somewhat perverse criteria of the socialist economy. The underlying sentiment is curiously medieval. The

socialist economy has its own ideas of the just price, and in the Soviet Union as much as in medieval Europe one finds 'a precise regulation of the rates of exchange' determined according to an objectivity which 'is mechanical and external, based upon reasons and forces that lie outside the particular exchange transaction' (Simmel, 1978, p. 98). At the same time, the way in which funds are transferred within the corporate sector makes any prohibition of usury largely otiose.

At the end of the day, monetary control must depend almost exclusively on the regulation of the prices and wages—without the advantage of the independent control of market factors—so that certain consumer goods become inordinately expensive. The role of taxation is restricted, if only because, with the state as one party to all taxable transactions, the effect of any tax is almost automatically netted out. If the state is the source of all income, and income can consist only of salary and wages, then any sort of deduction amounts to no more than a reduction in salary or wages, and there is no point in calling it taxation. In the circumstances of the modern industrial economy this deprives the state of the whole redistributive potential of taxation coupled with public welfare. Paradoxically, the interest earned from the savings bank, being exempt from any aggregation with other income, becomes worth more to a high-income earner than it would in a capitalist economy, in which incomes are subject to progressive taxation.

In the circumstances of the socialist economy, the informal private sector is potentially able to yield very high profits, and the regulations imposed upon it make it clear that this is well appreciated by the state. At one level—roughly speaking, that of local markets, where a large number of individuals sell relatively small quantities of home produce—normal market factors no doubt restrict profits; but at another level—that of highly professional black-market operations—very substantial profits are made. It is significant how ineffective the penalties of the criminal law are in suppressing this sector of the economy.[1]

Oddly enough, the one remedy open to the state in reducing the activities, and therefore the untoward profits, of the informal economy is no more than the familiar medieval expedient of mutation. Thus, on 1 January 1961 a new rouble, worth some three times as much, was substituted for the old. The monetary re-alignment of the Soviet economy favoured the corporate as against the individual sector—which, indeed, was the whole point of the operation. In fact, since the operations of the state bank, combined with the national budget, are directed to the realization of the plans made for different sectors of the economy, *ad hoc* variations in numerical factors are an inevitable part of the state's financial operations.

At every level the state bank system produces its credit plan, designed to regulate the supply of money to the state corporate sector, and a cash plan, regulating the supply of money to the individual private sector—a system to be found in China (Hsiao, 1971, p. 12) as well as in the Soviet Union. In China, however, with the overwhelming majority of the population engaged in agriculture, where production is largely organized on the basis of teams consisting of some fifteen to thirty households operating within the official communes, remuneration, in the first instance, takes the form of work-points, which are converted into cash after the harvest (*The Economist,* 31 December 1977, p. 16). These work-points are in fact money in the form of a unit of account, convertible into cash at a fluctuating rate, in a way which would have been familiar enough in late medieval Europe (Bowsky, 1970, p. 70). The rate is determined by the price paid by the state for the grain

produced by the team. This is determined according to a somewhat involved procedure. In the first place the team must sell a quota, determined on the basis of a percentage of an earlier year's production at a fixed, and relatively low, price. It may then retain, for its own use, an amount sufficient for its members' own consumption, including an allowance for seed. The balance is then sold to the state at a variable price, considerably above that of the quota.

This procedure illustrates once again the regressive character of the state's price policy. To see why this is so one must take, as a hypothesis, a price, determined after every harvest according to open market principles, which will provide every team with an income in direct proportion to the amount of grain produced. This income will then be taxed—hypothetically—so as to produce the actual net amounts paid by the state for the grain supplied to it. On this basis, the rate of tax is higher for the lower slices of income, which doubly penalizes declining productivity and doubly rewards increasing productivity. Even the most conservative government in a modern industrial economy would hardly dare to use fiscal means to establish so palpable a system of incentives for the most efficient producers. The paradox is simply explained: the monetary system of the socialist state allows all fiscal measures to be netted out, so that—if necessary—they disappear without trace. The analysis based upon such measures in a free economy cannot do without them, since in this case they would provide the only means whereby the state could establish this particular system of incentives.

It appears also that it is sometimes possible for the individual member of a team to sell his work-points—at a discount—before the harvest (Hsiao, 1971, p. 62). This is equivalent to lending him money at interest, even though in principle the commune has no right to use its money in this way. This is another case of the socialist state being unable to suppress the institutions of the open-market economy.

The approach to money, characteristic of the centrally planned economies of the socialist states, with its sharp differentiation between the corporate state and the individual private sectors, generates a number of paradoxes at the boundary between the two. In the latter sector the demand for money, as in any market economy, is born, at least in part, out of the 'uneven distribution of information' (Brunner and Meltzer, 1971, p. 786). Yet in principle the supply of commodities to this sector is one function of the corporate sector, which is subject to the whole complex of state planning; here, money, with its essentially subordinate role, records rather than distributes information. So the undifferentiated uncertainty which would otherwise exist in the private sector is reconciled to the complete certainty—ideally at least—of that part of the state planning concerned with the supply of consumer goods.

One is entitled to ask of a socialist economy why it cannot be content with a pure rationing system, for 'logically, a centrally planned economy could allocate all factors of production and finished goods in terms of physical quantities…', in which case 'the market mechanism and the use of money as a medium of exchange would become redundant'. In theory this would require only a small extension to the state planning mechanism, at the same time increasing its certainty—if not its efficiency—although it may be that 'because of the complexity of a national economy …complete reliance on physical planning is not practicable' (Hsiao, 1971, p. 9). Or is money fed into the private sector so as to enable a free market to operate within it according to normal capitalist principles (which, of course, is precisely what happens in every socialist economy)?

Structure and ideology

A complete understanding of the socialist monetary systems requires an appreciation of the fundamental problems which they are intended to solve, which in turn can be related to Marx's own ideas, and their development in later Marxist theory, about money. Granted the dysfunctional elements in these systems, the question is whether they are the result of failing to apply some essential principle of Marxist theory, or whether the empirical basis of the theory is itself false.

Although this question could be the starting point for almost unlimited discussion (which is not essential to the phenomenological approach of the present study), it is significant how Marx was obsessed not only with the idea of money as specie, and as a means of exchange, being almost contemptuous of the contribution of any form of credit money (Marx, 1978, p. 554), but also with the idea that the exchange role must derive from the relative values of commodities (de Brunhoff, 1973, p. 28), thus establishing the primacy of the function of money as a standard of value. The rationale of this approach, which modern Marxist theory still appears to adopt (Bessaignet, 1970), its consequences, and one, at least, of the objections to it, are briefly given on p. 63. Marx (1978, p. 195) in assigning a subordinate role to credit, which appears to represent to him no more than a late stage in the development of capitalist production, fails not only to understand its essential role in all modern monetary systems from about the thirteenth century onwards (which in his day was perhaps not as clear as it is now), but also to appreciate that the enduring binary relationship between debtor and creditor (p. 65 above) constitutes a basic element in social and economic organization at almost every stage of development (Douglas, 1967, p. 135)—even at the level of pre-literate societies. In practice, the institutional organization of the monetary systems of the modern socialist states is based on scriptural money as the *ultimate* money, as much as it is in any modern capitalist economy (Lavigne, 1978, p. 41).

The key to understanding any socialist monetary system is that it is essentially *hierarchical,* which in turn imposes upon money itself certain restrictions which are not to be found in a capitalist system. Douglas's (1967) study of 'primitive rationing', which equates certain imperfect moneys with coupons, is remarkably apt in the present context (p. 129):

> What makes the situation more like rationing than like money is not the use to which the coupons are put but the conditions by which their acquisition is controlled. The essence of money is to be transferable. It circulates, but coupons when spent return to an issuing point and their acquisition is continually under survey and control.

What Douglas says in regard to 'restricted, ranked spheres of exchange' (1967, p. 138)—illustrated by cases such as that of the Tiv (p. 124 above)—applies also to the monetary organization of China's rural economy, with its conversions between work-points and cash and, at a higher level, between cash and credit.

If socialist monetary systems have an implicit medieval ethic, their model basis is to be found even further back in history. The following passage, describing a state system based on a one-to-one conversion between two units, silver and barley, makes the point (Lambert, 1963, p. 84):

> the State maintains its accounts in barley, which have no reality save for being inscribed upon a tablet; in fact, it is what is written that has value, it is the written recognition, conferring a

> right, which alone is important…there is sort of documentary barley which is used in the state sector. Individuals, in contrast, carry out their transactions in silver …all of which leads to the following corollary: a document relating to barley belongs to the state sector; a document expressed in terms of silver, whether wholly or in part, to the individual sector.

This passage describes the monetary system of Ur at the time of the third dynasty, more than 4,000 years ago.[2]

At the end of chapter 12 it is suggested that the difference between capitalist and socialist systems, at their present stage of development, is one of degree rather than kind. The paradoxical elements are, however, more pronounced under socialism, if only because the state's approach to policy is ideological rather than pragmatic. In practice, an efficient modern monetary system must be composed of both horizontal (or egalitarian) and vertical (or hierarchical) elements, with proper recognition both of the need for central control and of the indeterminate element (p. 106 above) in any system of distribution based on money. One can no more run an efficient system disregarding these factors, than Canute—as King of England—could turn back the tide.

15
The Third World: scale, inversion and discontinuity

The analysis of the modern industrial state, whether capitalist or socialist, presented in the preceding two chapters leads to the conclusion that the power of the monetary system comes from the centre, and is born out of the interaction of the state treasury and the central bank, which in their turn react, directly or indirectly, to transactions carried out in any part of the system. The fact that the system is itself divided into two sectors, separated by the boundary of the pure-money complex, does not mean that the external sector is in any real sense autonomous. It is to some degree independent, so that the system of distribution of money within it is indeterminate. In the last analysis, however, the monetary system of an industrial economy has a boundary which corresponds to its political frontiers.[1]

In the Third World the position is quite different. It does not follow that the nation 'is the correct unit of analysis at all. If fiscal and monetary systems are very tenuous, geographic or racial or religious barriers may seal off parts of the nation into virtually self-contained sub-economies' (Seers, 1963, p. 85).[2]

The study of monetary systems in the Third World must be approached from two sides, the modern and the traditional, on the basis of a division of the economy on the same basis. Starting from the modern economy, seen as established at the centre, and the traditional economy, or better economies, on the periphery, one must conceive of a historical process whereby the frontier[3] of the modern economy advances towards the periphery, and in the course of this process encroaches upon established traditional economies—which function on a quite different basis—so as to establish a considerable area in which distinctive monetary institutions flourish as a result of the interaction between the two.

The modern sector

The approach from the modern side must start with an examination of the monetary centre of the nations in the Third World. This will consist of a state treasury with the taxation and borrowing powers, and the commitments to public expenditure, described in chapter 9, and a central bank to control the supply of money and manage the state's indebtedness, but with both institutions operating at a more or less elementary level, according to the scale and structure of the modern sector of the local economy.

The system is derivative rather than original. It has no local historical base (Balogh, 1974, p. 55). Its development must be studied, therefore, in the context of European colonial history. The initial approach of the metropolitan government was to extend its own sphere of payment to include the new colonies. The Spaniards, who established a royal mint in Mexico in 1536, took the first step in establishing a local base for the money used in the

new world, and although at first the coins struck were the same as those current in Spain, these were supplemented, in the course of time, by a variety of coins 'of irregular shape and varying weights' (MacLeod, 1973, p. 280), which gained a wide local circulation, in spite of their uncertain origins. The British, in contrast, did almost nothing to help the North American colonies alleviate their chronic shortage of money. The colonists, left to their own resources, first took over the wampum, or shell money used by the Indians, then established a local monetary system based on tobacco, and finally, starting in 1690, began to issue their own notes (Galbraith, 1975, pp. 47f.).

In the course of time two alternative lines of development became apparent. One, characteristic of North America and, later, of other countries of the new world, such as Australia, whose populations are now substantially of European origin, was for an autonomous and advanced monetary system to evolve, essentially in response to the financial needs of a modern industrial economy. The analysis of such monetary systems, presented in chapter 13, applies as much to the new world as it does to the old. The countries whose monetary systems have evolved along this line do not, therefore, fall within the scope of the present chapter.

The alternative line of development finds its most characteristic historical expression in the monetary systems which the European colonial powers established in Africa in the course of the last one hundred-odd years. It was in British India, however, that it attained its most advanced form, and experience gained from the development of the Indian currency system in the nineteenth century (described in Keynes, 1971) no doubt proved useful to those concerned in setting up monetary systems in other parts of the empire.[4] The other European colonial powers—Belgium, France, Germany, Italy, Portugal and Spain—imposed their own ideas about the monetary systems appropriate to their African colonies, which, in the case of Italy and Spain, meant introducing their own national currencies (Bortolani, 1975, p. 48). The monetary systems set up were, however, in every case closely tied to the metropolitan system, and in the colonial era there was no question of local autonomy being established by means of a central bank (ibid., ch. 1).[5] The precise nature of the tie established between the colonial and the metropolitan monetary systems depended largely on the institutional patterns developed, historically, within the latter. The British, adapting the model established in India, established throughout the empire a number of 'currency boards', each of which acted as an 'automatic money changer, guaranteeing the continuous convertibility of [the local currency] into sterling and *vice versa*' (Caselli, 1975, p. 31). Coin and notes were issued in the denominations of the local currency on a basis comparable to that ruling in the United Kingdom. The currency board was, in all other respects, equally passive. It could take no initiative in the only 'market' in which it dealt, which was constituted exclusively out of exchanges between the local and the metropolitan currency, because the rates in both directions were fixed. It was not allowed to attract any form of banking business, and the investments permitted for its surplus funds were confined to a narrow range of fixed-interest government securities. One is left to wonder why it was worthwhile setting up a currency board in the first place, unless it was to satisfy local pride by giving the colony concerned its own currency.[6] But then, the currency board probably did have a useful function in monitoring the performance of the local economy, which would be reflected in the level both of demand for coin and notes and of the conversions, in either direction, between the local and the metropolitan currencies.

The era of the currency boards has almost passed.[7] Former colonies, in almost every part of the world, have established their own central banks, and their own independent currencies. They have, therefore, the same monetary autonomy as the former Spanish colonies in Latin America achieved after they became independent in the nineteenth century. It is worth asking, in the light of the Latin American experience, whether this is a development favourable to the local economies. One may now take it for granted that (Sayers, 1967, p. 108)

> the politicians of countries without central banks are inclined to insist that their countries ought to have such institutions, and that their absence leaves their countries unreasonably subject to foreign influence. This conflict of view is a quite recent development: in the nineteenth century the leading central bankers of the world favoured the establishment of more central banks[8] in order to protect the value of money from the short-sighted behaviour of politicians. In the nineteen-fifties, by contrast, the bankers fear that the politicians would use the central banks to the detriment of monetary stability, while the politicians suspect that without a central bank a country's interest may be sacrificed to the interests of foreign bankers…at the bottom of this reversal of position there is a change in the relation between central banks and governments.

The misgivings of both the bankers and the politicians have proved to be largely justified. If recent experience is anything to go by, a central bank in the Third World not only fails to solve many of the critical problems of a development economy, but also gives rise to new problems which under the old regime hardly existed. A foreign bank can operate almost as efficiently on the basis of a new local currency, and the need to do so does not necessarily affect the way it carries on its business. It will, within reason, submit to the reserve requirements of the central bank, and even accept some form of exchange control; but as soon as the terms become too stringent, it can always reduce the volume of business done—almost certainly at the cost of local economic development—being content to earn its profits in other countries where it is given a freer hand. The Third World—as the demands made upon the International Monetary Fund and the World Bank make clear—is a sellers' market for bankers, and beggars can't be choosers. At the same time, local politicians are only too easily tempted to abuse the control which they can exercise over the central bank as a state concern. There can be few directors of state banks in the Third World with the standing and independence of the governor of the Bank of England.[9] The power of the central bank to increase the money supply so as to favour particular sectors of the local economy is one which is easily turned to political ends, even though the price has to be paid—sooner rather than later—in terms of soaring inflation and successive devaluations.

Not only is the model for the state treasury and the central bank imported, but the strength of these institutions will depend as much on the foreign support which they receive as on the inherent soundness of the national economy. In the African nations of the British Commonwealth, sterling is still, generally, the reserve basis of the banking system (Sayers, 1967, p. 83), and the American dollar has the same role throughout Latin America (Huelin, 1974). The expansion of the pure-money complex from its base at the centre 'has been dominated by the distortion of costs and prices in favour of primary exports and the import of manufacturers' (Balogh, 1974, p. 55). At least in the early stages of economic development, this is likely to mean that the financial services of the pure-money complex are concentrated on the needs of an enclave economy, maintained by local subsidiaries or

branches of foreign corporations. Such names as the Bank of London and South America disclose the true position, and even though the local interests of foreign banks have been expropriated in some states, such as Mexico, all the currencies on the mainland of Latin America are still 'firmly pegged (some with crawling pegs) to the dollar', and the continent has yet to 'evolve its own regional monetary systems' (Huelin, 1974, p. 315).

The result of imposing a monetary system defined in these terms on a country in the Third World is to define, in relation to certain specific areas, a modern sector of the economy whose development tends to be favoured at the cost of the traditional sector, which represents the rest of the country. The relationship between the two sectors is one of *internal colonialism* (Pozas and Pozas, 1971, pp. 104–7). In monetary terms, the traditional sector is characterized by the fact that few of the centralized monetary institutions—which together constitute the pure-money complex—extend their operations across its boundaries. Thus the different functions of money which provide the *raison d'être* of these institutions are simply not available for a substantial part of the national population.

The diverse functions of the pure-money complex need not necessarily cease to be available at a clearly demarcated boundary: it is more a question of a sort of penumbra around the centralized monetary system, in which its proper functions become distorted and atrophied. In any case, there is a very pronounced discontinuity between any local economy outside the penumbra and the national economy, of which it is, in principle, a component. The existence of this discontinuity is a result of the way in which the national monetary system has been built up from the centre, on the basis of an alien model.

In an exceptionally strong development economy, such as that of Mexico, the economic life of a substantial part of the population is subject to the same sort of control, exercised by means of a parallel institutional structure, as that which functions in any modern Western economy. The monetary system of the modern sector is a distortion, as well as an adaptation, of the Western model. Although progressive increases in direct taxation have reduced the share of the national income accruing to the richest sector (Furtado, 1970, p. 63), this has not led to any effective redistribution of income in favour of the poorest one-third of the population (Ross, 1971, table 21). The greatest proportional gains have accrued in roughly the middle one-third of the population, which represents a more than threefold increase over thirty years of that part of the labour force engaged in industry and services (Griffiths, 1972, appendix, table 2), thereby falling within the penumbra of the pure-money complex.

In Mexico, as in almost any other Third World economy, the government and the central bank have to carry a disproportionate part of the burden of any new investment (Nassef, 1972, chapter III, section II) outside the enclave economy maintained by foreign interests. If, in a strong national economy such as that of Mexico, the central bank is able to mobilize the resources of the banking system (for example by establishing reserve requirements at a far higher level than would be acceptable in a modern industrial economy) to finance economic development, this solution still requires some sort of real economic surplus available for investment.[10] Specialized development banks, such as those which finance agricultural development in Mexico (ibid., p. 197), are no more than part of the machinery for distributing government funds to this sector: they are forced to accept credit risks (particularly in regard to the security offered for loans) which lead to default on a scale which no commercial bank could tolerate.

The narrowness of the tax base circumscribes the structure of welfare. In Mexico in 1967 some 28 per cent of those employed in industry and the services were insured, in comparison with barely 4 per cent of those employed in agriculture. This latter class was not insured at all before 1954, and it was only in 1963 that the insured total reached 1 per cent of those employed (Ross, 1971, table 23; Griffiths, 1972, appendix, table 2). Such facts as these provide the basis for identifying the penumbra. The institutions which it comprises are dense at the centre and hardly represented at all on the periphery. The central government is generally slow to establish terminals of these institutions in the poorest and most isolated rural areas, where even the simple monetary facilities which a post-office provides are likely to be absent.[11]

Inelasticity of transaction costs is the main factor inhibiting the extension of the penumbra of the pure-money complex. In peripheral areas low income levels combined with small local populations are unable to maintain in circulation a volume of money sufficient to cover the transaction costs of any branch institution of the national pure-money complex. Whole populations go largely untaxed because the costs of collection exceed the revenue which could be raised. No branch of the national banking system is available for the deposit of small savings, the transfer of money or the provision of short-term finance. In some instances alternative provision is made,[12] but for the most part the local populations must look after their own needs for monetary services.

In the process of extending the pure-money complex two thresholds are encountered. The first is defined by the point at which transactions characteristic of the complex become unprofitable, essentially for being too small in scale in relation to inelastic transaction costs. The institutional structure is generally extended far beyond this first threshold, partly so as to direct certain transactions—such as are involved in small-savings accounts—towards the centre, and partly because the state economy, at popular level, is, almost as a matter of principle, taken to be an integrated whole.[13]

If the costs incurred in the first steps in this process are small, they become disproportionately large as it proceeds to points far beyond the first threshold. The second threshold is then defined by the point at which the centre can no longer be expected to carry the burden of these costs. In a modern industrial economy this point is never reached, so that the entire monetary system of the state falls within the penumbra of the pure-money complex. In the Third World the second threshold is palpable, so that beyond it one finds a peripheral area, defined as much in social or economic as in geographical terms, which lies quite outside the penumbra. In the Mexican state of Chiapas, the old capital city of San Cristóbal, with branches of three different banks, including the Banco de México, an agency of the agricultural development bank, a post office and a considerable local bureaucracy, is clearly on the inside. But the Indian communities in the immediate hinterland, where none of these institutions is represented, is just as clearly on the outside. This does not mean that the Mexican peso does not circulate in this peripheral region, but rather that the supply depends on exchange transactions across its boundaries. This 'self-contained sub-economy' must therefore maintain a positive balance of payments in its external trade with the national economy: if it does this it will then have the reserves in 'foreign' currency necessary for maintaining its own autonomous monetary system, in much the same way as Mexico's central bank has established its own reserves in US dollars. The achievement of such monetary autonomy is problematic, to say the least, so that in most

cases the monetary institutions of the periphery which depend on the national currency are extremely rudimentary.

The traditional sector

The position is quite different where such institutions depend on an indigenous currency. This, the classic case of primitive money, provides the starting point for an analysis of peripheral monetary systems at the stage at which they first come into contact with a state system.

Primitive moneys exist in such endless variety, and the institutions which they support show so many possible degrees of complexity, that it is next to impossible to speak of them in general terms. Even the distinction made by Douglas (1967, p. 135), which assigns to primitive currencies 'a generalized social function' and to modern currencies 'a specialized economic function', must be qualified in the face of counter-examples on both sides of the line. Codere's (1968) attempt to establish a scale of complexity for primitive moneys is useful for illustrating their great variety; but to start with ceremonial goods, such as the Kula valuables used in the elaborate round of exchanges maintained by a number of island populations off the north-east coast of New Guinea,[14] which have neither any generalized denomination nor any quantitative property, makes the definition of money too wide, while to confine the analysis to *money-exchange* systems makes it too narrow. Comprehensive studies, such as that of Einzig (1966a), of primitive money, however useful they may be as an encyclopedia of special cases, provide hardly any basis for systematic analysis. Individual cases, such as those of the 'Are'are, the Tiv or the Kapauku—already mentioned—are useful for illustrating particular points, so long as it is realized that no one comprehensive system can be built up out of such instances.

In the present context, it is what happens when primitive monetary and exchange systems come into contact with a modern system that is important. In some cases, such as that of the Mambwe of northern Zambia, a local economy based on an elaborate system of barter was already so well suited to the use of money—purely on the basis of its utility and efficiency—that when a modern money was first introduced by a colonial power the local population was only too eager to work for wages, so as to have the use of this money in its own economy[15] (Watson, 1958, ch. 3). In other cases, of which the lakeside Tonga of Malawi provide a good example, a modern money, brought in from outside, is used to maintain a traditional institution, such as the payment of bridewealth (van Velsen, 1964, ch. IV). But this is not always possible: the elaborate system of differentiated spheres of exchange developed by the Tiv was hardly able to survive the introduction of a modern market system based on a modern money (Bohannan and Bohannan, 1968, p. 250), while the Lele of the Kasai in Zaire were only able to maintain a system of ceremonial exchange, which largely confined the allocation of women, as wives, to the senior members of the tribe, and which was based on the use of locally produced raffia cloths, by making conversion of these cloths into the national currency—which was earned as wages by the junior members—almost impossible (Douglas, 1963, p. 63).

The case of Mount Hagen society (in New Guinea) falls somewhere between the openness of the Mambwe and the lakeside Tonga and the defensiveness of the Lele. Here the development of an exchange economy, based on the export of cash-crops, has meant that

cash has largely been substituted for shells in the round of ceremonial exchanges (Strathern, 1979, pp. 536f.). The bigmen have been able to maintain their position by seeing to it that pigs (produced by domestic labour traditionally under their control) continue to be essential to ceremonial exchange, for 'if cash alone were used, this might give the opportunity for a new set of entrepreneurs to take over entirely' from them. Sometimes the problem of adaptation hardly arises: the 'Are'are have no difficulty in maintaining their indigenous monetary system for the purposes for which it is designed (described in chapter 2), while at the same time adopting the use of the money introduced by the colonial administration for external trade. Even where an indigenous population, by force of circumstance, has had to adopt a national money for all monetary transactions, both internal and external, it may still be able to impose, internally, a system of distribution which ensures that traditional institutions are maintained. The Zinacantan monetary system, described in chapter 2, provides an example of this.

The way in which a peripheral population adapts to a national monetary system is often a local political issue. The conflict which arises is between those, such as the young men of the Lele, whose power would increase as a result of converting the monetary base of the tribe to the use of the national money (which would enable them to find the wives who are now denied to them), and the established gerontocracy, whose power (expressed in their control over the allocation of women) can be maintained only by ensuring that such a conversion does not take place. In Zanacantan, where the Mexican peso has long been in use, the holders, past and present, of the more important religious offices also form a conservative hierarchy interested in maintaining the local financial system. In this case, an indigenous capitalist class, based on the transport of goods and passengers by lorry—a type of business made possible by the extension of the national road system in the past thirty years—is equally interested in subverting the system.[16]

The problem of integration

The integration of a peripheral economy into the national monetary system is effected, in the first place, by the exchange of the surplus of local subsistence production for a limited range of consumer goods. The characteristic institution of this exchange is the market, and the means by which it is carried out, sale. The market is an outpost of the national economy, and although in principle the reciprocal transactions which take place in it should be balanced, according to the analysis of chapter 6, there is a very strong bias towards *negative reciprocity,* expressed in the low prices paid for the commodities supplied by the periphery and the high prices paid for the commodities acquired by it. This process of exchange is the characteristic metamorphosis of commodities, accomplished through changes of the form:

> commodity-money-commodity (Marx, 1976, p. 200)

which provides the starting point for Marx's whole analysis of the formation of capital (Marx, 1978, chapter 1). The subsistence economy exposed to this process of exchange is comprised of *peasants* (Wolf, 1966, pp. 9–10), who are, essentially, subsistence farmers

> subject to asymmetrical power relations which [make] a permanent charge on [their] production. Such a charge, paid out as the result of some superior claim to [their] labor on the land, we call rent, regardless of whether that rent is paid in labor, in produce or in money.

> Where someone exercises an effective superior power or domain, over a cultivator, the cultivator must produce a fund or rent. *It is this production of a fund of rent which critically distinguishes the peasant from the primitive cultivator.*

This definition fits in well with the present analysis, since it allows for the maintenance of indigenous monetary systems, but it does not necessarily require that the tie to the superior domain will, directly or indirectly, involve the peasant in the national monetary system. Rent, in the form of labour or produce, is sufficient to establish a tributary system, with no monetary basis, such as that of the traditional Ankole kingdom, where the dominant Bahima population, who were pastoralists, 'lived upon their cattle and forced their serfs [the agricultural Bairu] to give them as much beer, millet, and labour as possible without destroying their source of supply' (Oberg, 1940, p. 126). It is useful, therefore, to go one step further in defining peasants, and accept Belshaw's (1965, p. 54) argument 'that most formerly primitive societies have been transformed into peasant societies through the introduction of money and markets', with the additional qualification that this process must start from outside.

Continuing the analysis in purely monetary terms, the rent factor may be established by the price structure, with its basis of negative reciprocity, of the local market: this is the general case for the Indian communities of Chiapas, such as Zinacantan, whose economic subordination is expressed primarily in terms of the relatively low prices paid for maize (which is the basis of the local subsistence agriculture)[17] and the relatively high prices charged for store goods.[18] The rent factor may also be represented by a true rent, which the peasants must pay—often to an absentee landlord—for the land which they use for agriculture.[19] At the present time interest due, as a result of a chronic state of indebtedness, is possibly the most common form which the rent factor takes in the Third World (Myrdal, 1977, p. 199). If such indebtedness arises, in the first place, as a result of the market generating too high a level of consumption, it is often maintained so as to provide the creditor—or his assignee—with the opportunity to foreclose on the land,[20] or the person,[21] of the debtor, *which are not otherwise in the market*.[22] This process[23] is often important in enabling large-scale capital enterprises, concerned in the production of raw materials, to be built up. In the nineteenth century in the Mexican state of Morelos, the two types of foreclosure were sometimes combined, so as first to deprive the peasants of their land, and then to reduce them to debt slavery, by recruiting them as labour on the new sugar plantations—which were established on the land lost to them—at a wage too low for them ever to discharge the balance of their indebtedness (Womack, 1968, pp. 46f.). This procedure, which reduces the peasantry to a dispossessed rural proletariat, reverses the proper relationship between debt and the security given for it; for instead of the security guaranteeing the repayment of the debt, the debt guarantees the forfeiture of the security.

If the process of exchange adopted by the peasant in the peripheral market takes the form

> commodity-money-community (see p. 215),[24]

then that adopted by the market traders must take the form

> money-commodity-money (Marx, 1978, chapter 1 and see p. 185 above),

so as to multiply the original investment in money according to normal capitalist principles. As stated in chapter 13, the average market trader does no better than break even. Such profit as he makes is no more than sufficient for his overheads and his own household

expenditure. The firm therefore remains small, so that the number of firms tends to be large in relation to the aggregate turnover of the market. Such proliferation of petty traders, and also of middlemen, is characteristic of the Third World (Myrdal, 1977, p. 74)—of which the bazaar economies of the market towns in South-East Asia provide one, highly involuted, example—and 'as agriculture for the peasant, so petty commerce provides for the trader the permanent backdrop against which almost all his activities occur' (Geertz, 1963, p. 30).

A more recent development is what may be called 'peasant capitalism', under which the peasant household is transformed into a firm producing a cash-crop. The first step in this direction is an agricultural cycle based upon the production of a subsistence crop reserved exclusively for household consumption, supplemented by a cash-crop intended only for sale on the open market. The Páez Indians of Colombia, who produce coffee for the world market but in quantities too small to meet its bulk requirements (Ortiz, 1973, p. 220), began to take this first step about thirty years ago. The Indian population of Panajachel in Guatemala, whose agriculture is based on the year-round production of onions for the national market—to which they sell directly—and who have been described as 'penny capitalists' (Tax, 1953), have taken a further step in this direction.

It is, however, at the point at which a local population purchases land, on the basis of either borrowed money or savings, as an investment to be used for the production of a cash-crop that a full-blown indigenous capitalism is established. The classic instance of this is provided by the migrant Akwapim cocoa-farmers of Ghana, who first began to buy land to plant cocoa nearly a hundred years ago, and whose descendants still ensure that Ghana is one of the world's major producers (Hill, 1970, chapter 2).[25] At this point the indigenous capitalists may benefit from the institutions of the national pure-money complex, in the form of loans from agricultural development banks—generally set up by the state—or hire-purchase loans for such capital goods as lorries[26] or agricultural machinery. In many parts of the world this development occurs on the basis of the direct transformation of a primitive agricultural economy, without there being any intermediate phase of a peasant economy tied only by the rent factor—and that only somewhat tenuously—to the national pure-money complex. The Akwapim cocoa-farmers and the Tolai of the South Pacific (who produce copra from their own coconut plantations) are among the many populations from Africa and Oceania who have become successful capitalists, without any previous history of peasant agriculture.

The organization of the national pure-money complex, and the policies which it adopts for favouring small-scale investment, are often decisive in determining the scope for the development of capital enterprise on the periphery. The problem may be stated quite shortly. Once the point is reached where the question of finance provided by the centre becomes a practical proposition, one may take it for granted that the enterprise to be set up will—even in its own area—be faced with competition by existing concerns, enjoying all the advantages of economies of scale and an established market. Such competition, which may be confined within the national frontiers as a result of import tariffs,[27] may, none the less, be decisive in restricting the scope for new marginal enterprise.[28]

Where a peripheral area is free from such competition, it will generally be because geophysical factors make it uniquely suitable for the production of some raw material for which there is a sufficiently high level of demand in the national, if not in the world,

market. It is not for nothing that nowhere in the world is there land more suitable for cocoa-planting than that already exploited, on the basis of capital enterprise, by the Akwapim farmers.

More significant, in purely monetary terms, are the areas—open to enterprise—which are demarcated in terms not of geophysics or the demands of the world market, but of the legal provisions governing taxation. An example, not relating to the Third World, has already been given on p. 130. Such areas of the alternative economy are probably even more characteristic of the Third World, although there has been little systematic study of them. In Chamula, another of the Indian communities in Chiapas (see p. 216), local bootleggers buy sugarcane from small-scale producers who live far outside the area, which they use to make rum to be sold not only within their own community, but also throughout the whole Indian highlands. This elementary example of industrial capitalism, based—according to the best canons of the British industrial revolution—on an imported raw material (Deane, 1965, p. 64) and a market substantially larger than that of the producers' own community, is possible only in the circumstances of the present day because the national excise tax on alcohol is unenforceable throughout the whole area (Crump, 1976, p. 184). On any other basis the local product would not begin to be competitive.

Once having established an enclave within which this industry can flourish, the Chamulas, in support of it, have created a financial system which is surprisingly reminiscent of British local banking in the industrial revolution. Lord Liverpool's comment (1825)—'Any petty trademan, any grocer or cheesemonger, however destitute of property, might set up a bank in any place' (cited in Pressnell, 1956, p. 12)—is equally apt to apply to Chamula in the twentieth century, where the most successful local entrepreneur, who owns the fleet of lorries which brings the sugarcane to the highlands, at the same time provides the finance necessary to sustain the whole industry. The autochthonous banking system, which is elementary in so far as it has deposit but no giro-functions, is remarkable only for having come into existence in the first place. Otherwise it has nothing to teach us about banking as an institution. The only question is how far this example is followed elsewhere in the Third World.[29] The rotating credit association, briefly described on p. 131, is probably a more common means of building up small lump sums, on a basis of mutual cooperation within an enclosed community. Otherwise the local money-lender is ubiquitous (Myrdal, 1977, p. 199), but he tends to be an outsider in the community which he serves. As Leach (1968, p. 131) has pointed out:

> The reason is plain. The village banker-trader-shopkeeper conducts a highly profitable, but very risky, business in which competition is severe. Individual villagers do not deal exclusively with any single trader. Each man places his custom where he can obtain the best credit terms. The temptation for the trader to give credit beyond the limit of economic good sense is therefore very great. Consequently whenever a member of the local…group tries his hand at 'shopkeeping' he finds himself at a grave disadvantage compared with his 'outside' competitors; his relatives are glad enough to give him business, but only in return for special concessions. They exert constant pressure to give terms of credit which must ultimately lead to bankruptcy.

The alternative case, of an autochthonous credit system, is therefore likely to be relatively uncommon, and where it does occur—as in the case of indigenous banking in India—it will almost certainly depend upon a hierarchical social structure. Where such a structure

is no part of the traditional social structure, the new credit system will establish it, as in Chamula—a point which is immediately clear if a comparison is made with the neighbouring community, Zinacantan. Such a credit system can in practice remain viable only by continuing to serve the traditional sector of the national economy. This has not proved easy for the indigenous bankers in India, who, faced with the competition of the commercial banks, are always left with the poorest class of business, in a social milieu in which hoarding (often in the form of jewels and ornaments) is a long established means of maintaining a store of wealth (Jain, 1929, p. 186).[30] If the indigenous banking system in India, which grew up over a period of several hundred years, finds it difficult to survive in the face of the advance of the economic frontier of the modern state, the prospects for any comparable system elsewhere must be much less promising.

The monetary institutions of the Third World exist in almost endless variety. Some, such as the ceremonial exchange maintained by the 'Are'are, are fundamentally alien to the modern world. Others, such as gambling, which occurs at the most elementary levels, such as that of the Hadza of Tanzania—primitive hunters and gatherers, who play a gambling game with bark disks, for stakes consisting of metal-headed arrows (Woodburn, 1968, p. 53)—are ubiquitous at almost every stage of development.[31] In the last analysis, it is not so much the monetary institutions of the Third World which differ from those of the modern world, but the scale on which they function and the way in which they are used to build up a pure-money complex.

The problem of scale

The question of scale is critical, particularly for the very poorest countries. Confining the analysis to the 125 countries with a population of more than a million, one starts off by noting that the gross national product of the United States is nearly 20,000 times as great as that of Bhutan;[32] and even if these two countries represent the extreme points on the scale, the former must none the less be representative of one type of monetary complex, and the latter of another.

The point is quite simple. The monetary complex of the United States can be substantially reduced in scale, and shorn of various marginal institutions, and yet still retain its essential character as one example of the type to be found in any modern industrial economy. This process may be pursued so as to include a country such as Portugal, which, if at best a somewhat marginal modern industrial economy, has none the less a recognizably modern monetary system, but it can hardly go any further. And if the gross national product of the United States is nearly 100 times that of Portugal, the latter is still more than 200 times that of Bhutan. The process is naturally far more complex, and many other factors —demographic, economic, political, educational—are relevant to it, but in monetary terms it is the inelasticity of transaction costs which is decisive.

The basic *monetary* transaction is payment. The preference for money, in any of its functions, or for one type of money as against another, is largely determined by the fact that carrying costs are so low that they can generally be neglected (Keynes, 1936, p. 233). The generalization is, however, true only if a certain minimum level of monetary activity is maintained. The point is susceptible to elementary mathematical analysis. The cost of paying a given sum, m, has two elements, e_1 and e_2: e_1 is constant, while e_2 is a function

$e_2(m)$ of m. For specie based on a single unit, such as the denarius of early medieval Europe, e_2 is a direct linear function, so that $e_2(m)=km$, and the cost of any payment is e_1+km. For any payment, the unit transaction cost is thus $(e_1+km)/m=e_1/m+k$, which leads to a cost elasticity approaching k for the larger payments. To maintain k below an acceptable level, say 1 per cent[33] all that is necessary is that the value of the single unit of specie—in economic terms its purchasing power—is maintained above a certain prescribed level. This may seem simple enough, but there have been cases in which the amount of specie 'that a man could carry was not valuable enough to pay his wages for carrying it' (Douglas, 1967, p. 143). In practice k can always be reduced for large transactions by changing the metallic base of specie, say by substituting gold for silver.

The position becomes considerably more complicated in the case either of specie based on units of different denominations (such as banknotes or almost all modern coinage systems) or of any kind of scriptural money. In this case e_2 is not a linear but a logarithmic function of m, so that $e_2(m)=k'\log m$, the cost of any payment is $e_1+k'\log m$, and the unit transaction cost, $(e_1+k'\log m)/m=e_1/m+(k'\log m)/m$. The result is critical in determining the threshold of acceptable transaction costs, since both elements, e_1/m and e_2/m $(=k'\log m/m)$, are capable of being reduced below any predetermined threshold, provided m is large enough. In practice, one would expect to find, in any modern economy, a comparative low figure, m_1, at which unit transaction costs became too high to be tolerable according to the canons established by the pure-money complex, and a much higher figure, m_2, representing the average amount of all payments. If, say, $m_2=1{,}000\times m_1$ (which is by no means unrealistic) in the United States, then in Portugal m_2 would certainly be greater than $10\times m_1$, and in practice much greater. Bhutan, on the other hand, would fall well beneath the critical threshold, and the costs of maintaining any sort of modern pure-money complex would become quite insupportable. Bhutan, in common with almost every other country of the Third World, almost certainly has some faint carbon-copy of a modern monetary system; but one may be sure that it is extremely rudimentary and, in terms of the *whole* national economy, probably unproductive. The monetary periphery in a country such as Bhutan begins at the gates of the capital city.[34]

But if all this is so, how is it then that the informal economy is so often able to maintain not one, but often many, alternative pure-money complexes, supported by social networks at local levels? Why can Chamula maintain its own internal financial system, when the costs of extending even the most elementary institutions of the national pure-money complex into its territory are prohibitive? The answer is to be found in pronounced discontinuities in almost all the numerical factors. The amount of the average loan is 500 pesos (about £12); the normal rate of interest is 10 to 20 per cent *per month;* the term is hardly ever longer than *six* months; and the money-lenders themselves are probably content with an income of 1,000 pesos (about £24) a month, which is probably about a quarter of the wage of the lowest paid bank clerk in the pure-money complex. These factors combine to allow for e_1 and e_2, the two elements in transaction costs, to be maintained—in relative terms—at a level which the national pure-money complex would never support.

The development of indigenous banking in India shows how difficult it is for such a system to evolve into a form capable of being integrated into the pure-money complex of the modern sector, even though certain minimal ties were established between the two (Jain, 1929, pp. 176, 187). In the more general case of a relatively advanced Third World

economy, one finds simply a higher degree of penetration of local economies by exogenous institutions of the pure-money complex, directed from the centre. A good illustration is provided by Malaya, whose gross national product is about the same fraction of that of the United States as it is a multiple of that of Bhutan. Where the Western traveller would no doubt find in Bhutan a sort of monetary wilderness, he would find in almost every corner of Malaya representative institutions of a modern pure-money complex. The periphery exists, however, in almost every country of the Third World, although in some—such as, notably, China—the evidence for its existence is hard to find. What reflects the different levels of prosperity achieved is how close to the centre the periphery is to be found. If, in a country such as Mexico, one finds a palpable terminal point of the pure-money complex in a remote provincial town like San Cristóbal, then, somewhere along the road to Chamula, which is less than 20 km away, one crosses none the less into an equally palpable periphery. And as the government constantly reminds its inhabitants, Chamula is still part of Mexico.

The result is a dual-system strikingly reminiscent of the credit and cash sectors of a socialist state described in chapter 14. The terms which define the right of access to the pure-money complex are different, but the structures are extraordinarily similar to each other. It is a good question whether capitalist systems, under which, at the worst, land is foreclosed, and its owners reduced to debt-slavery, and at the best class systems emerge in communities, such as Chamula, where they were previously unknown, can eventually achieve anything more than the centrally planned systems of the socialist states. Under capitalism, however, the frontiers of the national pure-money complex are being extended, and even if the advantages of this are somewhat problematical, this is still an essential step in the development of an integrated national economy.

16
Foreign exchanges and international finance

Foreign exchange is the most general form of conversion between two separate spheres of payment. Its basis is that the moneys[1] current in the two spheres are exchanged at a definite numerical rate, which, in the notation of chapter 3, may be expressed as r_{ij}, so that if m_i is the money of the sphere of payment S_i, and m_j, of S_j, then $m_i=r_{ij}\cdot m_j$. It then follows, by the same line of reasoning, that in terms of any arbitrary chosen unit (which may, but need not, be the denomination of one of the m_i), there is a series of numbers, $[V_i]$, such that $m_i=V_i\cdot\varepsilon$ and $r_{ij}=V_i/V_j$. If money-changing were to take place on the basis of fixed rates established in this way, the different spheres would effectively be consolidated.[2] In practice, the rates vary in response to market factors, while transactions must not only allow for a margin of profit to professional money-changers, but may be subject also to all manner of official restrictions—particularly in the modern age.

Money-changing in the ancient world

Money-changing in the ancient world was confined to 'manual' exchange, that is the exchange of coins. A professional moneychanger would hold a stock of foreign coins, and then, on the basis of his own domestic currency, deal separately in each denomination held. For every such denomination his profit would be determined by the margin between his buying and selling prices. In principle, in any S_i, competition in a free market should make these prices uniform for any foreign currency, m_j, among all dealers; but in the ancient world poor communications probably prevented this from happening. What is certain is that, for coins of any particular metallic base, the margin was confined between established 'specie points'. These represent the threshold at which it pays the holder of m_j in S_i, or of m_i in S_j, to sell the foreign coins held simply for their metallic content, rather than exchange them with a money-changer. This was no problem, since there was always a guaranteed market represented by those who made the local coinage.[3] Indeed, at least in late antiquity, money-changers were at one and the same time gold- and silver-smiths (Einzig, 1970, p. 62). When it came to the exchange of coins of different metals, then the rate would depend, in the first instance, on the relative values of the metallic base (ibid., pp. 29f.). The operation of the market on the basis of manual exchange put a premium on coins used extensively in international trade, which 'were accepted at rates well above their metallic value over prolonged periods' (ibid., p. 33). This process is particularly advantageous where it establishes the series $[V_i]$ in terms of one such coin, which would then play a role analogous to that of an international reserve currency at the present day. It is not for nothing that Lopez (1951) has called the golden bezant of Byzantium (which circulated for more than a thousand years) 'the dollar of the Middle Ages'.[4]

In the end, the disadvantages of manual exchange outweighed its advantages, so it is not surprising that by the end of the medieval period it had so declined in importance

that it was known as *'cambium minutum'* (Einzig, 1970, p. 63). The objections to it were manifold. The coinage current in almost every sphere of payment (including, in the end, that of Byzantium—Lopez, 1951, pp. 213f.) was subject to change and debasement, and its carrying costs were high (Einzig, 1970, p. 109). The market functioned most successfully, therefore, in an enclosed world such as that of ancient Greece, in which the circulation of the different coins was confined within a small geographical area. But as soon as trade began to extend beyond the confines of this world, there was nothing to prevent a critical loss of specie (ibid., p. 42), and it is hardly surprising that until almost the beginning of the modern era critical shortages in money stock impaired the usefulness of money, notwithstanding continuous attempts to control manual exchange (ibid., pp. 103f.) and prevent the export of precious metal (Slicher van Bath, 1963, p. 107). The problem was exacerbated by the absence of any real understanding of the balance of payments (Einzig, 1970, pp. 42, 95).[5] At the same time the Orient was an almost bottomless sink for gold (Lombard, 1974, pp. 41f.), which it used largely as treasure—as India has remained until the present day.[6]

The era of imaginary money

The period from Charlemagne to the French Revolution saw the establishment of a workable system of scriptural money to meet the needs of those engaged in long-distance trade. The system, which is briefly described in chapter 1, was critical to the development of foreign exchange. If, in its early days, it was rudimentary, the emergence of double-entry bookkeeping, combined with the use of the bill of exchange (described in chapter 10), established it as a system which successfully overcame all the drawbacks of manual exchange. In practice, it combined the money market and the foreign exchange market in one institution, based upon fictitious—or 'imaginary'—moneys of account which crossed without difficulty the boundaries between the spheres of payment based on specie. The great fairs of Champagne, held largely for the purpose of issuing bills of exchange payable there (Einzig, 1970, p. 69), established a commercial jurisdiction—the *'jus mercatorum'*[7]—which was paramount throughout Europe, largely because its sanction of commercial excommunication was one which no city, however powerful, dared incur (Laurent, 1932, pp. 709f.). The result was that, although manual exchange was subject to every form of official control, the control over bills was much less stringent (Einzig, 1970, p. 106). The jurisdiction of the fairs corresponded therefore to a number of spheres of payment, based on scriptural money, which bridged the gap between all the separate jurisdictions issuing their own specie. If, in practice, merchants were content not to cash in their credits with the bankers who issued the bills of exchange with which they were paid for their wares, this was no doubt because they preferred the stability of imaginary money (Einaudi, 1953, pp. 246, 252) to the uncertainties of specie. This was no more than a case of a near-money (ibid., pp. 235f.) being preferred to actual money.

Imaginary money automatically solved the problem of foreign exchange. Any commercial transaction crossing the boundary between two monetary jurisdictions almost inevitably depended upon the use of written instruments acceptable in either. A trader wishing to convert into specie the money to which such an instrument entitled him had no problem. In every jurisdiction rates of conversion were established by legal authority, although a better rate *in abusivo* could often be obtained on the open market (Einaudi, 1953, p. 248).

If the institution of imaginary money was so successful in solving the problems of foreign exchange, why is it then that legislators and economists, after 1789 (Einaudi, 1953, p. 246), scorned its use? It may be only because, as Einaudi (ibid., p. 260) suggests, 'when the instrument was misused, the drawbacks outweighed the advantages'. That it was misused, and frequently, cannot be doubted (ibid., p. 257), and because of such misuse—generally on the part of the state—the stability which it appeared to maintain was in fact illusory.

But why then should the moment of truth coincide with the French Revolution? The answer must be found in the economic history of post-reformation Europe. The regime of imaginary money was at its most successful in an earlier era, in which the main function of banking was to finance long-distance trade or, occasionally, the wars fought by princes. In this era the process of state formation had hardly begun. It was—at least in their early days[8]—quite acceptable that the *jus mercatorum* of the Champagne fairs fell outside the jurisdiction of the king of France. At the same time, the majority of bankers were Italians (de Roover, 1948, pp. 11f.), and Italy was divided between any number of independent city-states, with countless different moneys circulating.

With the seventeenth century the centre of gravity of the banking world moved to Amsterdam and London, the capital cities of two modern states which had come to dominate the world of commerce, in which the ecclesiastical jurisdiction of the Church of Rome—so important for the development of Italian banking—counted for nothing. With the coming of the industrial revolution in the eighteenth century, the demand for finance shifted from international trade to local industrial development. In England, and to a lesser extent in Holland, a new banking system emerged, with the structure of a pyramid, whose base consisted of countless county banks set up by local industrialists (Pressnell, 1956, pp. 13f.) and whose apex was the Bank of England. Although the process was not really complete until well into the nineteenth century, the regime of central banking (described in chapter 11) combined with the gold standard, and the establishment of the pound sterling as by far the most important international money (Einzig, 1970, p. 183), completely effaced the old system.[9] It is one of the ironies of history that the new system proved to be far less durable, so that now, at the end of the twentieth century, something like the old system—with the Eurocurrencies playing a role analogous to that of imaginary money—is being re-established (Einaudi, 1953, p. 261).

The era of the gold standard

This was the age of imperialism. The most bitter and the most expensive of the imperial wars—that between the United Kingdom and the Dutch republics in South Africa—was fought over the control of the world's most important source of gold. The spirit of the age, in terms of money, is perfectly captured by Keynes's study (1971) of Indian currency and finance, which first appeared in 1913. The world was dominated by the great powers, of which the greatest, the United Kingdom, had established a monetary system which was a model for all the others.[10]

Taking the period from 1879 (when the United States adopted the gold standard)[11] to 1914 (when the First World War led to its suspension by all the great powers engaged in it), one finds that the banking systems of Austria-Hungary, Belgium, Denmark, Egypt, France, Germany, Holland, Italy, Japan,[12] Sweden, the United Kingdom and the United States[13]—

led in all cases but that of the United States[14] by the central bank—were able to supply gold, whether in coin or bullion, for the purposes of foreign exchange, although only in Egypt were actual gold coins used internally as the principal medium of exchange (Keynes, 1971, p. 50). Except for Holland, the United Kingdom and the United States, where gold was freely available for all transactions, the basis of the system was the gold-exchange standard, which means that, whatever the internal restrictions on the use of gold, it was available for foreign remittances 'at a fixed maximum rate in terms of the local currency, the reserves necessary to provide these remittances being kept to a considerable extent abroad' (ibid., p. 22). On this basis the benefits of the gold standard were extended by the United Kingdom to India, and later to other parts of the empire, by France[15] to Indochina, by Holland to what is now Indonesia and by the United States to the Philippines, and to Mexico and Panama (ibid., p. 25). Only Latin America, with monetary regimes based on unstable paper currencies, seem to have been left out in the cold, but even there the expatriate banks, such as the Bank of London and South America, maintained an exchange position with the outside world.

Somewhat paradoxically, the system of foreign exchanges established in the era of the gold standard—at least as it operated among the countries listed at the beginning of the previous paragraph—was organized on a basis similar to that of money-changing in the ancient world, but with the substitution of scriptural money for specie, and of banks and other institutions of the pure-money complex (described in chapter 12) for the individual money-changers. Such dealers in foreign exchange, in any one of these countries, would hold stocks (substantially in the form of bank deposits[16]) in the currencies of some if not all of the others, and in the course of the day's trading they would buy and sell, according to the demands of their clients, with a margin between the prices bid and asked sufficient to earn them a profit, in a manner of dealing little different from that of any London stock-jobber or commodity dealer,[17] and strikingly reminiscent of that of their Athenian predecessors of more than two thousand years ago.

The critical factor in this course of dealing was that the margin, in any centre—such as the City of London, or Wall Street—was inevitably confined between the points at which it was cheaper to ship gold than to resort to a dealer. Taking the exchange rate of £1=$4.86 (which prevailed between 1879 and 1914, and precisely reflected the amount of gold contained in the sovereign and the gold dollar respectively), a transactor in London could always, in principle, make a payment in New York by buying gold in London and shipping it across the Atlantic. But the effective dollar rate obtained—after allowing for the costs of this operation in terms of transport, insurance and loss of interest—was inevitably at a lower level, say £1=$4.84. The reverse process—shipping gold across the Atlantic in the opposite direction—establishes an effective rate of £1=$4.89 (Crump, 1963, pp. 38f.).

Returning to the notation of chapter 3, although one would expect to see gold moving from S_j to S_i whenever r_{ij} falls to the lower gold-point, $\underline{r}_{ij}$, and from S_i to S_j whenever it rises to the higher gold point, $\bar{r}_{ij}$,[18] this case is somewhat exceptional, since it implies a balance of payments position which the normal operation of the market has failed to cope with.

The balance of payments

The above point, which is particularly important in its implications for the modern period, requires further elucidation. In the field of foreign exchange there will, in any sphere of payment, be two kinds of assets held; first, gold, in bullion or in coin; second, foreign

currency, in banknotes or bank deposits. On the other side of the line there will be liabilities represented by its own currency—in the same form—held outside the sphere of payment.

The aggregate balance sheet position of the sphere of payment will change, over any period of time, in response to payments made or received in any of these forms of money. Such payments, on current account, will follow automatically from the course of trade, both visible and invisible, whereas on capital account they will be the result of new investment, and of the making and repayment of loans, by both the public and private sector (Crockett, 1977, p. 40).[19]

In spite of the traditional role of gold as an international rather than a local currency, in what Keynes (1971, p. 21) called the 'second stage of monetary evolution', the nations came to hold '*some part* of the cash reserves of their banks…on deposit in the international money market' (ibid., p. 19).[20] Implicit in the whole organization of the market, as it is described in the previous section, is a course of dealing normally confined to this part of the international monetary reserves. This allowed the United Kingdom, for example, to hold relatively small reserves of gold, while at the same time the pound sterling, as the only universally recognized international reserve currency, was held in vast quantities abroad, and was used almost everywhere for the purposes of trade, even where neither party was British. The success of this regime depended upon maintaining confidence in it in much the same way (described in chapter 10) as is necessary for any system of deposit banking. What is more, it made it unnecessary for any substantial amounts of foreign exchange to be held in the United Kingdom (Einzig, 1970, p. 183).[21]

If the position of the United Kingdom was exceptional, it still needed, in common with every other monetary jurisdiction, to watch its balance of payments, so as to ensure that its reserve position, as an international banker, was not jeopardized. The point at issue is that the mounting deficit following from a persistent adverse balance of payments will sooner or later lead to an intolerable loss of foreign exchange—or, worse, gold—at the same time undermining confidence, at international level, in the domestic currency. The point becomes clearer if the trading and financial activities carried on from within this jurisdiction are seen as consolidated, and are then compared to the business operations of a typical merchant banker in one of the city-states of the Italian Renaissance. There was then always a limit beyond which a deficit on the trading side could not be made good by a surplus on the banking side: the two operations were essentially complementary to each other. None the less, the mercantilist view, that a deficit on a nation's trade was a grave disaster, particularly when it led to a loss of gold, was throughout the period of the gold standard believed by economic theorists to be 'absolutely groundless' (Keynes, 1936, p. 333), although Professor Friedman and his followers may well be classed as mercantilists in a new guise.

Whatever the theoretical significance of an adverse balance of payments, it is at least a signal—whether or not it involves a loss of gold—that the foreign exchange position requires attention. In the era of the gold standard official action began to be taken—generally by the central banks—to correct adverse trends in the balance of payments (Einzig, 1970, chapter 18), and in the modern era such intervention determines the whole course of foreign exchanges. In part this is because, with the abandonment of the gold standard, the scope of the market is no longer defined by the gold-points, so that some other expedient—which only the authorities can provide—is necessary to maintain any sort of stability.

The world market in foreign exchange

The world market, at its present stage of development, is most usefully described in two ways. The first is to describe it as an institution, in largely mechanical terms. The second is to present the ways in which the monetary authorities, in different countries, may intervene to protect the position of their own currency, according to different types of monetary policy.

The principals in the international foreign exchange market are a number of institutions of the pure-money complex, established mainly in the leading financial centres, but represented, in one form or another, throughout the world. The currencies transacted are much the same as in the era of the gold standard, and the course of dealing is in principle no different to what it was then. Barter, rather than sale and purchase, is the basis of the market's operations, as a visit to any one part of the market, such as the foreign exchange trading-floor of the Paris Bourse, immediately makes clear. There, exchange transactions may be carried out in all possible combinations of the currencies traded—with D-marks being exchanged for dollars, guilders for lire, and so on. On this basis, rates, r_{ij}, are established on the basis of all possible combinations of m_i and m_j—at least if the trading in all different components of the market (of which the Paris Bourse is no more than one example) is consolidated.

The r_{ij} prevailing at any given moment in time may be combined in any number of different products of the form, $r_{ij}{\cdot}r_{jk}....r_{si}$ introduced in chapter 3. Now if any such product is greater than one, any institution holding m_i may, by completing an exchange cycle through $m_j, ..., m_s$, multiply its original holding of m_i by a factor of $p_i>1$. The effect of this manner of dealing, which is known as 'arbitrage'—or, more precisely, 'space' arbitrage[22]—is not only to yield a profit to any institution that successfully engages in it, but also to cause a paper loss to at least one of the institutions involved as an exchange partner. The way to counteract such a loss is to reduce the exchange rate, say r_{jk}, at the appropriate stage in the cycle, so that the product $r_{ij}{\cdot}r_{jik}...r_{si}$ is restored to unity. The exchange of information between the different components of the market is so nearly perfect that this process of rectification is continuously being carried out. Its effectiveness can be judged by the fact that successful arbitrage cycles comprise very few transactions, and are generally completed in a matter of minutes. The process does however play an important part in determining the trend of exchange rates, simply because it reacts so quickly to the latest market information relating to the supply and demand for different currencies.

If, except over the very short term, arbitrage ensures that

$$r_{ij}{\cdot}r_{jk}...r_{si}=1 \text{ for any } i, j, ..., s$$

then—as already noted at the beginning of this chapter—following the line of reasoning in the third section of chapter 3, a standard, ε, can always be found so that

$$m_i=V_{i\varepsilon} \text{ for all } i$$

although, in this case the different V_i will fluctuate in response to market factors.[23] A natural, though not an essential, step is then to equate ε with some already established standard, and this almost always happens in practice. The most obvious choice for ε is then either gold or that currency, m_i, which is most readily convertible into gold. This explains the dominant role of sterling, and at a later stage the American dollar, in foreign exchange transactions. It is significant that the introduction of alternative forms for ε, such as the special drawing

rights of the International Monetary Fund or the ecu of the European Monetary Union took place only in the 1970s, when, with the dollar ceasing to be convertible, there was no national currency capable of maintaining even a vestigial form of gold exchange standard.[24]

In practice, the pound still plays an intermediary role in exchanges between, say, the guilder and the lira, so that opportunities for three-point arbitrage quite commonly occur.[25] At the same time, the scope of arbitrage, on the basis of differences in national interest rates, is increased by the fact that 'future' as well as 'spot' transactions take place on the market. 'Future' transactions provide for the exchange, at a predetermined rate, to take place at an agreed future time, which may, for instance, be a month, three months or six months ahead. Futures also meet the needs of the institutions' clients, when they have committed themselves to making payments—say, when goods ordered are delivered—at some future time. The operation of the market depends upon the relation between forward and spot rates. The former are usually quoted with reference to the latter (Crump, 1963, pp. 97f.):

> Thus three months' dollars might be quoted at 1 cent under spot. Then, if the spot rate was $2.05, the three months' rate would be $2.04…. When the forward rate [is] *below* the spot rate, forward dollars [are] said to be at a *premium*. The reason is that the lower the rate, the more it costs in sterling to buy a given amount of dollars. Conversely, when the forward rate [is] *above* the spot rate, forward dollars [are] said to be at a discount…,[26]

An institution (or for that matter any other transactor) committed to a forward position can always cover it by the reverse spot transaction. Taking the above example, an institution committed, say, to supplying $1 million at $2.04 in three months' time can always buy the same amount, spot, at $2.05. The cost, £487,804, of the spot transaction will then be less than that, £490,196, of the future transactions, so that a profit will be made of £2,392. At the same time the institution has held the sum of £487,804 in dollars, instead of in sterling, for a period of three months, and in practice the profit of £2,392 will have to be set off against the loss of interest due to the difference in the rates prevailing, for this class of institution, in London and New York.[27] This factor provides the basis for 'interest' arbitrage. Taking the above example, if the difference in three-month interest rates is less than the ratio of the margin of profit (£2,392) to the cost of the original spot transaction (£487,804), that is 0.49 per cent, the interest forgone will be less than the profit on the two exchange transactions, so that the institution will make a net profit. This is 'interest' arbitrage, and just as space arbitrage tends to harmonize parities, so interest arbitrage tends to link forward exchange rates to short-term interest rates in the different financial centres.[28]

The transactions engaged in by the principals dealing in the foreign exchange market face in two directions. In one direction the dealers operate by buying and selling foreign exchange in terms of their own domestic currency, at a margin around the middle market price established at the end of the previous day by the dealings in the international *exchange* market. If, for instance, the middle market price for dollar-sterling exchanges is established at £1=$2.05, then a London bank may, the following day, offer to buy pounds at the rate £1=$2.01 and to sell them at £1 =$2.09. In practice this margin will be uniform over the whole market (with some possible differentiation with regard to different classes of customers); whether it is wide or narrow will depend on the volume of transactions and the stability of the international middle market rate.[29]

The second direction is that described in the second paragraph on p. 233. In principle, the way this market moves should depend on the trend in the balances held at the end of every

day as a result of transactions facing in the first direction. That is, if the institutions find that they are becoming too long in dollars and too short in sterling, they should try to rectify the position by unloading dollars on the international market, which, by the operation of ordinary market principles, should lower the price of dollars in terms of sterling. According to conventional market theory, there should then always be a rate, say £1=$2.07, at which equilibrium is restored; the idea is that at this point some event, such as American exports beginning to attract new buyers, increases the demand for dollars sufficiently to reverse the trend established in the foreign exchange market.[30] In practice, two other factors are much more important in determining the way in which the market moves: the first is large-scale speculative exchange transactions, in the market, on the part of the principals admitted to it; the second is intervention, on an equally large scale, by national monetary authorities operating through their central banks. This Is, however, a recent development, to be associated in the first case with the emergence of the Eurocurrencies, and in the second with the regime of the International Monetary Fund.

Eurocurrencies

To deal with the first of these two cases, one must look at the supply of money other than in the form of a country's own currency. If, at first sight, this seems implausible, one need only look again at the way in which a money-changer becomes a deposit banker. There is nothing in the analysis presented at the beginning of chapter 10 which requires a money-changer in Germany, who deals in, say, D-marks and US dollars, to become a banker in D-marks rather than in dollars. And if, by banking in D-marks, he can add to the supply of D-marks, then, equally, by banking in dollars, he can add to the supply of dollars. The only difference is that there is then no central bank to impose the sort of monetary discipline which controls the supply of money within a national system. Eurocurrencies are no more than the money which banks create on the basis of monetary assets located outside the country in which they originate. Eurodollars are the most important, though by no means the only, example of such money. Created by banks outside the United States, they have the advantage of being subject neither to the reserve requirements, nor to the restrictions on the rate of interest[31] imposed by the Federal Reserve banking system.

The growth of the Eurocurrency market has been phenomenal (Crockett, 1977, p. 167):

> From its beginnings in the early 1960s [it] has grown to become the largest international market in funds in the world. Indeed, the total of deposits held in the market is, according to some measures,[32] greater than the money supply of any country other than the United States.

Although the Eurocurrency market could operate in the same way as any other banking system, it has a number of distinctive features. It has only a very restricted giro-function. The deposits accepted and the loans granted are extremely large, often of the order of £50 million and, to a much greater degree than with ordinary banking, tend to be matched with each other.[33] Loans tend to be syndicated, so that the funds are provided by a large number of different institutions. At the same time a high level of inter-bank lending ensures that funds are readily supplied to meet any demand.[34]

Among the borrowers in the Eurocurrency market are not only giant corporations—often multi-nationals, for which this form of finance is particularly useful—but also state institutions

throughout the world. In this latter case normal banking requirements as to security have been waived, and the normal assumptions made about a state being able to honour its own debts is regarded as sufficient guarantee of repayment.[35] It is extremely doubtful whether such assumptions are justified, particularly when it comes to the very high level of lending to countries in the Third World. After over-extending their lending to countries such as Zaire, the main providers of Eurofunds appear to have become more cautious.

At the same time, the enormous sums generated within the Eurocurrency market are available for speculation, and in the course of the 1960s the movement of such funds across the exchanges led to the near-collapse of the international monetary system set up at the Bretton Woods Conference in 1944 (Crockett, 1977, pp. 32f.). It may be that disequilibria in the balance of payments triggered such movements, but they soon developed their own momentum, and official measures were no more than partially successful in controlling them. The international monetary scene, or at least the unofficial part of it, is based not on one chosen unit, ε, but on several, each corresponding to one of the different Eurocurrencies, although the Eurodollar still remains much the most important of them.

The Bretton Woods period and its aftermath

The official side of the international monetary scene, represented by the International Monetary Fund—which was set up by the Bretton Woods Conference in 1944—may be seen now as the counterpart to the unofficial side, represented by the Eurocurrencies, although historically the regime established by the Fund was most successful in the period before the Eurocurrencies became important.

The Fund may usefully be conceived of as carrying out the functions of an international central bank, whose clients are the central banks of all the countries which are members of it. The Fund operates according to the Articles of Agreement adopted at Bretton Woods. Its policy—according to the articles (XX(4) and IV(5))—is to maintain an international regime of fixed exchange rates, thereby avoiding the 'competitive exchange depreciation'[36] of the pre-war period, after the general abandonment of the gold standard in the course of the great depression. The policy is made effective, first, by appropriate steps taken by the central banks whose currencies fall out of line, and, second, by means of help provided by the Fund itself, which has its own substantial reserves in the form of quotes subscribed by its members, partly in their own currencies and partly in gold (Art. I(3)).

A central bank can intervene to protect its own domestic foreign exchange position in three ways. First, it can deal, counter-cyclically, in the open market. If heavy net sales of its own currency depress its rate of exchange against other currencies, the central bank, with its own very substantial reserves in gold or foreign exchange, can reverse the trend by entering the market as a buyer. This strategy is more effective, needless to say, where other central banks operate in the same way, and even though this may go against their long-term interests, the practice is common enough—if only on the basis of mutual assistance and a common interest in maintaining fixed exchange rates. Here the Fund may also assist, by providing a part of the funds necessary for a central bank to support its own domestic currency.

The second type of intervention involves the increase of interest rates so as to attract short-term loans from abroad. The British Bank rate used to be the classic means of carrying out a policy of this kind (Keynes, 1971, p. 13), but the practice is now quite general.

Before proceeding to the third type of intervention, it is worth noting that neither of the first two expedients offers anything more than a short-term solution, which will be effective in the long run only if the adverse balance of payments is caused by essentially monetary factors, rather than by a secular deterioration in the terms of trade. If the trade balance is consistently negative, monetary expedients will not be sufficient to reverse the position unless they change the relative prices of imports and exports.

First, however, something must be said about the third line of defence; exchange control by the authorities. This may take any number of different forms. In an extreme case, such as that of the Comecon countries, the import or export of any currency, whether domestic or foreign, without official permission may be made illegal. Use of the domestic currency is then restricted to purely internal transactions, with all external transactions being carried out with foreign exchange by government institutions.[37] The Western world never went so far as this, although in the United Kingdom, for example, the Exchange Control Act of 1947 did give the authorities considerable powers to restrain private holdings of foreign exchange, the export of capital and the transfer of funds, whether in sterling or a foreign currency, between residents and non-residents.[38]

The fact that the General Agreement on Trade and Tariffs, whose origins can also be traced to Bretton Woods, imposes what is essentially a free trade regime on the parties to it largely rules out the use of restrictions on visible trade[39] for the purpose of counteracting an adverse balance of payments. In a regime of fixed exchange rates the GATT is an open door for the loss of foreign exchange by any country with a consistently poor balance of trade. In the end the only expedient with any chance of success is to change the terms of trade, by devaluing the currency. Even this step will be unsuccessful if the increase in demand for exports (which become more competitive in the international market) and the decrease in demand for imports (which become less competitive in the home market) fails to cover the amount of the devaluation.[40] All that there is then left to do is for the world's central banks and the IMF—possibly assisted by the Eurobankers—to provide new funds in almost unlimited quantities, with little hope of repayment. If this sounds like giving a blood transfusion to a man who is bleeding to death, any number of examples from the last ten years show that this is just the way things happen.[41]

The answer to the objection that devaluation offends against the IMF policy of fixed rates is quite simply that the Articles allow for it, subject to controls which become progressively more stringent, the greater its amount in terms of a percentage of the old rates of exchange (Art. IV(5)). In actual practice, during the twenty-five years of the Bretton Woods regime, changes in the parities of the major currencies were remarkably infrequent (Crockett, 1977, pp. 76f.). In this period, then, the limits within which rates could vary, without being brought back into line by one of the forms of official intervention described above, were, from the point of view of the principals engaged in the market, analogous to the old gold-points, in that they effectively defined the scope of their operations (Einzig, 1970, p. 294). The only difference was that the possibility of devaluation, however remote, allowed for speculative transactions which, in the old days of the gold standard, would have been unthinkable (Crump, 1963, p. 177). And in the end such speculation brought down the whole system.

It is far too early to say the last word about foreign exchanges in the aftermath of Bretton Woods. At the risk of a somewhat far-fetched comparison, if a regime of fixed rates such as that first established by the gold standard and later re-established—in a modified form—by

Bretton Woods has a structure analogous to that of the manual exchanges of antiquity, the regime established in the aftermath of the collapse of Bretton Woods at the end of the 1960s seems to have a pronounced tendency to return to the era of imaginary money. The oil-exporting countries are showing signs of dissatisfaction at being paid in rapidly depreciating dollars, and there is nothing to prevent them establishing a new fictitious money as the basis of payment,[42] although they may be content to adopt the special drawing right of the IMF or, more likely, the ecu of the European Monetary Union. Both are based on a basket of different currencies. The IMF established the SDR in the course of the 1970s to supplement gold as part of the reserves held with it by the international banking system.[43] The initiative for the ecu came from within the European Common Market, although not all member countries belong to the European Monetary Union.[44] It is significant that the ecu has already been adopted for at least one major international bond issue.[45] This is a straw in the wind: other such issues will certainly follow.

In a regime based on the generalized floating of all the leading currencies—such as was adopted in March 1973 and has ruled ever since—it is at first sight difficult to see what use can be made of intervention policies developed in the period of fixed exchange rates. As a matter of pure theory, if any rate, r_{ij}, is free to change solely in response to market forces, then any currency can be acquired, at a price, in exchange for any other. The central banks need neither hold any foreign currency, nor intervene in the market (Crockett, 1977, pp. 64, 144).[46] At the same time, an institution such as the IMF becomes otiose. This has not happened in the 1970s and after. Rather than allow rates to float freely, the policy adopted has been to intervene in the market, so as to control exchange rates (ibid., p. 88). In part this has been necessary so as to maintain a group of currencies within a prescribed band, such as the European Currency Snake, now taken over by the European Monetary Union. This is not, however, the whole story. More generally, the prosperity of a domestic economy is held to depend on appropriate rates of exchange for its own currency, which the expedients developed in the Bretton Woods period are still able to maintain.[47]

With a gold price approaching $1,000 per ounce, and near-intolerable rates of inflation in many of the leading international currencies, such as the dollar and the pound sterling, one is left wondering whether the point will shortly be reached when the gold standard will be re-established. Suppose that, at a price of, say, $1,000 an ounce—and at the level of the parities generally prevailing—the free minting of a $100 gold coin in the United States, a £50 gold coin in the United Kingdom or a 200 D-mark gold coin in Bundesrepublik,[48] with no restrictions on the international movement of coin or bullion, were to be introduced as official policy: would this not, at one and the same time, be sufficient to establish a stable regime of fixed exchange rates and provide the monetary means of controlling inflation? But would not then the D-mark, or, better, the yen, establish itself as the new international reserve currency, and as such be the basis for a new gold exchange standard—so that later, after a number of supervening world crises, the whole monetary cycle of the last hundred years would repeat itself? It was, after all, in 1879—just over a hundred years ago—that the United States, by establishing its own currency uniquely and irrevocably in terms of gold (Friedman and Schwartz, 1963, chapter 3), took a decisive step in setting up the cycle which may now be coming to an end.

17
Inflation

Inflation is generally[1] defined in terms of an increase in the factor, *P,* in Fisher's equation:

$$MV=PT$$

where *M, V, P* and *T* have the same meanings as those assigned to them at the beginning of chapter 5. Since, however, *P* cannot increase without a change occurring in at least one of the other factors, *M, V* or *T,* the study of inflation as a phenomenon must concern itself with the way in which such changes relate to an increase in *P*. In practice, the relation is generally established in terms of a correspondence between an increase in *P* (on the right-hand side of the equation) and an increase in *M*—the total stock of money—(on the left-hand side), although in theory *M* can always remain unchanged—simply by allowing for appropriate changes in *V* (the velocity of circulation), or *T* (the output of goods and services).[2] This approach, although it corresponds with such popular conceptions of inflation as 'too much money chasing too few goods', obviously takes for granted a number of potentially important factors. It is useful none the less as a starting point, since it allows inflation to be approached by taking as its cause either an increase in *M* or an increase in *P*. This is reasonable enough in terms of *V,* since, although an increase in *V* might theoretically be a cause of inflation, this is in practice unlikely: all the evidence[3] suggests that *V* is a stable factor—or at least homeostatic (in terms of chapter 2)—in any sphere of payment save in exceptional circumstances, such as hyperinflation. *T,* on the other hand, may well decrease, and by doing so cause *P* to increase, but the historical instances of inflation occurring in this way are remarkably few. The fact that the price of agricultural produce may increase following a poor harvest—a common enough occurrence in the course of history—appears hardly ever to have been the cause of an overall increase in the price level; an increase in population, leading to a secular increase in demand on the resources of the land, is much more likely to have this effect (Slicher van Bath, 1963, pp. 195f.), but even in such a case it seems unlikely to occur without a parallel increase in *M*.[4] For this reason, if no other, the behaviour of the factor, *T,* is discussed in relation to inflation caused by an increase in *M*.

The causes of inflation

It follows that there are two cases to consider:

(i) an increase in *P* caused by an increase in *M,* with possible subsidiary effects on *T* and *V;*
(ii) an increase in *P* with corresponding changes in either *M, T* or *V*.

Case (i) cannot occur unless those who control the supply of money have both the capacity and the will to increase it. So long as the basis of the money-stock is specie, the

lesson from history is that those who control it often have the will, but seldom the capacity, to increase it.[5] In the case of scriptural money, the capacity to increase it is always present; the will to do so depends on the policies followed by those in control of the system. These conclusions follow directly from chapters 5, 10 and 11.

There is little doubt that any substantial increase in the supply of the money-stuff, and thence of the stock of specie, leads to inflation: this is not only the lesson from sixteenth-century Spain, as taught by Keynes (1936, p. 337);[6] there are examples nearer to our own time (Hicks, 1977, p. 59). These occur not only at the level of a modern economy: traders who imported dogs' teeth into the Admiralty Islands, where they circulated as money, caused a tenfold inflation, which was checked—at a new level of prices—only when the authorities decreed the end of the importation (Herskovits, 1952, p. 256). In all cases, however, the increase in *M* was significant in monetary terms because it was a sudden rather than a gradual process, which was exceptional for its dependence upon a configuration of supply factors occurring only infrequently in the course of history. In the general case these factors maintain the stock of specie within fairly close limits in any sphere of payments, so that variations in its amount have no inflationary consequences. As chapter 11 makes clear, this is the whole rationale of a money-supply based upon a standard in one of the precious metals.

There are no such controls on the supply of a purely scriptural money: this is determined by the aggregate operations of the pure-money complex, which respond, in turn, to such controls as the monetary authorities are able to exercise—generally by means of the mechanisms incorporated into the central bank. In this case it is banking policy, rather than the supply of the money-stuff, which determines—if only indirectly—any change in *M* (Hicks, 1977, p. 61).

If, then, the increase in *M* is an instrument of policy, it follows that it is determined—in the long run, at least—by political factors. This conclusion is certainly justified by the events of the 1970s, whether at national level (as witness the success of the coal strike in 1974 in causing the fall of the Conservative Government in the United Kingdom) or at international level (as witness the success of the OPEC lands in making the world money supply respond to the price they chose to charge for crude oil).

What tends to be forgotten in the circumstances of the present day is that, up to a certain point at least, an increase in *M* may cause not so much an increase in *P* as an increase in *T*. The whole basis of the Keynesian theory discussed in chapter 1 is that this is precisely what will happen so long as unemployment remains above a certain minimum level. In the end an increase in *M* has always the potential to increase *P* (even at high levels of unemployment), and will almost certainly do so when the level is low. The extent, if any, to which *T* (measured in terms of improved productivity) will then also increase depends largely on such non-monetary factors as the efficiency of labour.

As for case (ii), an increase in *P* must lead to an increase in *M* or *V,* or to a decrease in *T*. These three possibilities, which may occur in any combination, will be considered in turn. As to the first, *M* may, and probably will, increase in response to an increase in *P,* so long as such an increase is not effectively counteracted by the authorities. This is little more than a question of the political factors already mentioned. If, however, the increase of M is blocked, then, conceivably, *V* may increase, although all the evidence is that it will not do so, save as a result of some institutional innovation—such as in recent years has been

represented by the growth of secondary banking. In practice, however, any such innovation amounts, effectively, to the creation of a new near-money, say M_k, and therefore constitutes an increase in *M*. A good deal of recent monetary policy has, significantly, been focused on the need to restrain this development.

If the further increase in *M,* according to the widest possible definition, is blocked (which is easier said than done), then an increase in *P* can only lead to a decrease in *T,* the level of transactions. This means that marginal production factors begin to price themselves out of the market, a process which does not have to go very far before the tendency of *P* to rise is itself checked.

The difficulty, in the modern era, is that the factors first subject to this process are the so-called 'essential services', which, as chapter 12 points out, tend to be maintained at any price. There is however a definite trend, at the present time, to allow such services to decline, as witness official policies, in the Western world, regarding public passenger transport. (This means, of course, that the services are no longer regarded as being quite so 'essential'.) But to the extent that the authorities cry 'chicken', such services are maintained by deficit financing, and once this expedient is accepted, the point of no return has already been passed. The deficit is simply financed by increasing *M* (which the official policy has already made inevitable), and price, quite simply, is no longer determined by market factors. It is therefore, idle to talk of something being priced out of the market.

On this analysis the second case, which is that of 'price-led' or 'cost-plus' inflation, always results, either directly or indirectly, in an increase in *M*. If this is so then inflation in either case (i) or case (ii) always involves increases in both *M* and *P,* and the issue then resolves itself into the following questions:

(i) which comes first, *M* or *P*? (this is the chicken or egg question);
(ii) which rises at the higher rate, *M* or *P*? (this relates inflation to productivity measured by *T*);
(iii) how are changes in *T* (following from the answer to (ii)) distributed among different sectors of the sphere of payment?

Questions (ii) and (iii), which are of interest in real economic terms, are concerned with the consequences of inflation and are considered in the following section. It is question (i)—concerned with identifying the causes of inflation—which is important in the present context. Although this question on the face of it relates to causes, one should ask whether causality is all that important. Assuming that the authorities have the power to control *M,* they will not allow *M* to increase unless the consequences which they expect are in line with their policy. This is true whether the initiative comes from them or the private sector.

An increase in effective demand, *MV,* must occur in every case. The question is how production reacts to this increased demand. At one extreme the increase in *MV* may lead directly to an increase in *T,* which is what happens when wages paid for new employment are spent on increased consumption. As chapter 1 shows, this is the Keynesian cure for unemployment, whose possible inflationary consequences—in terms of *P*—are no more than incidental. At the other extreme, an increase in *MV* may lead directly to an increase in *P,* even at the cost of decreased productivity, measured in terms of *T*. The closer one is to this extreme, the more inflation becomes a cyclical, sectoral process. The problem

is then to identify the sectors in which successive points in the cycle occur, and here the identification of the first point is particularly important.

What is it, then, that leads any sector to increase the prices of the goods or services which it supplies? An elementary answer is that one would expect this to happen whenever demand was sufficient for the entire output to be taken up at a higher price. This can happen in one sector without there being any general inflation, simply as a result of a change in the relative preferences on the part of consumers. In such a case higher prices in one sector are simply balanced out by lower prices in other sectors: the basic assumption—which is one of general equilibrium—is that an increased demand for apples will automatically reflect a decreased demand for, say, pears.[7] If, however, this case does not apply, so that an increased demand for the output of one sector does not correspond to a lower demand for that of another, then its only basis can be an increase in *MV,* which explains why this product is taken to be the measure of effective demand.[8] Since, in the short run, there are great impediments to changes in *V,* inflation in this case must imply an increase in the stock of money. This, which is no more than the first case considered above, is the familiar 'demand-*pull* inflation' (Flemming, 1976, p. 12).

In the initial stages of a demand-pull inflation one would naturally expect profit rates to increase faster than factor costs, equating therefore demand-pull and profit inflation. In practice, however, such evidence as there is suggests that this equation does not often represent the truth (Machlup, 1969, p. 163). The problem should be more generally stated: it is to identify which sectors are 'aggressive', in any inflationary situation, in claiming more than their fair share of the increased aggregate income of the sphere of payment which an increase in *M* makes possible. Profiteering means no more than that entrepreneurs are the aggressive sector.

This explains why 'cost-push', which is the alternative to 'demand-pull' inflation, is much easier to live with. In any sector to which it applies, it means that the prices of outputs have to be increased 'defensively', simply because of the increased cost of inputs—such as labour, or imported raw materials (Flemming, 1976, p. 12). Everything is blamed on the trade unions, or on the OPEC lands (particularly those whose religion is Islam). This latter case has the advantage of being able to show that the inflation is triggered off from outside the sphere of payment, allowing the authorities to adopt a convenient air of injured innocence.

In considering the causes of inflation one is confronted with a vicious circle. There are quite logical arguments to prove that neither 'cost-push' nor 'demand-pull' can be a cause of inflation (Machlup, 1969, pp. 151f.). Inflation is in fact a vicious circle, and 'demand-pull' and 'cost-push' are little more than two sides of the same coin. So also, once inflation is started, is it difficult to distinguish between cause and effect, a point to be borne in mind in the following section.

The consequences of inflation

The consequences of inflation are twofold: the redistribution of purchasing power and the revaluation of assets and liabilities. As to the first, each separate sector in the economic complex sees its money income increased at different stages in the inflationary cycle. For every such sector two factors are critical: the first is the amount of the increase accruing

to it; the second, the time at which it occurs. The significance of the first factor may be evaluated in terms of the share of the sector concerned in the aggregate flow of money—*MV* in Fisher's equation. The immediate result of an increase in the income accruing will be to increase this share, and although this must lead to a decrease in the share of other sectors, this need involve no loss in real terms so long as it corresponds to a rateable increase in productivity. That is, an increase in *MV* is not inflationary, so long as it leads only to an increase in *T,* with *P* remaining unchanged. If, however, this does not happen (which is the general case), the increase in *P* will then lead to a reduced share of other sectors in real terms: their cost of living will increase, without any corresponding increase in income. The cost-push effect then leads to demands for increased income by these other sectors.

It is at this point that the second factor, time, becomes critical. The point is simple enough. When any given sector is in a position to claim an increased share of the aggregate flow of money, it will wish to take into account not only the time during which it has enjoyed less than the share it had at the beginning of the inflationary cycle, but also the time which will elapse before it can put in another claim. And if it is to maintain parity with the sectors whose claims came before its own, it will have to establish its own claim—as a proportion of its previous income—at a higher level than any preceding claim.

An example will make this point clearer. Confining the analysis to the supply of labour, one may conceive of an inflationary round led off by the miners, followed by steelworkers, and then by transport workers, and so on. Now, if the steelworkers, confronted with the need to make good the cost-push effect of the increase in wages granted to the miners, were content to be restored to their previous position—measured in real terms of their share of the aggregate output—a much smaller proportionate increase in wages would be sufficient. The transport workers, in their turn, would be satisfied with an even smaller increase, and so on. Eventually, when the claims of the last sector were met, there would be—in theory—some cost-push effect on the miners' wages and a second round of inflation would start. In practice, one is dealing in this case with a rapidly convergent[9] series, whose terms, at a quite early stage, would become so small as to be negligible, and the inflationary process would have worked itself out.

If, on the other hand, each sector wishes to maintain parity with those preceding it, the series is divergent, and the result is the sort of inflationary spiral characteristic of the present time; the effect is accentuated when compensation is also claimed for the time element. This type of inflation, which is inherently unstable, can develop in three different ways, First, but quite exceptionally in practice, it may turn into *hyperinflation* (which is considered below). Second, it may lose its momentum and become *convergent,* at a point where those sectors which gained the most from it (at the cost of the remaining sectors) are content with the position reached, while the sectors which suffered the most[10] are powerless to reverse their declining fortunes; this is the most typical line of development. Third, the same result may follow not so much because pressure is reduced in this way, but because the economy, in real terms, is no longer able to support increased prices: this latter point is reached, according to classic Keynesian analysis, at a certain critical level of unemployment.

In every case, essentially the same factor operates to control the inflation. Effective demand, in the form of *MV,* is no longer maintained at a sufficiently high level, simply because, sooner or later, some limit is imposed on the increase in the stock of money,

M. In the case discussed in the last paragraph but one, this may never be necessary: the inflation, if left to itself, will play itself out. In practice, however, the necessary degree of convergence cannot be expected to occur spontaneously: some explicitly monetary measure is necessary to ensure it. Such a measure is inherently essential in the second case, discussed in the previous paragraph.

Inflation, defined in terms of an increase in the price level, automatically means the depreciation in the value of money, and of monetary assets (as defined in chapter 4). If prices go up, the purchasing power of money goes down, and it becomes simply less valuable in relation to the generality of non-monetary assets. In the case of monetary assets (which to a greater or lesser extent represent near-money) the position is not quite so simple. In the most elementary case—that of money lent out at interest—the effects of inflation can to some degree be compensated for by raising the rate of interest, so that the excess thereby created can be reinvested so as to increase the principal sum due (Goodhart, 1975, p. 216). This may be a realistic policy for a pension fund (especially where its income is tax-exempt), but other lenders will be constrained to treat the whole interest received as income, and resign themselves to seeing their principal depreciate in value in real terms. More generally, of the assets generated by the pure-money complex of any modern economy there are some, such as 'with-profits' life assurance policies, or the stock of insurance companies and banks, which may be expected to maintain their value in times of inflation, and others, such as fixed-interest securities, which, of their nature, are incapable of doing so.

The position is quite different when it comes to two classes of assets which are inherently non-monetary: human capital and land. As to the former, man is, at one and the same time,[11] the first producer, or creator, of all things measured in terms of money, including not only commodities but also such cultural goods as maintain the circulation of money in primitive tribes or such intangible interests as are dealt in by any modern pure-money complex, and he is also their ultimate consumer. As to the latter, land is the source of every material interest needed to support human life and culture. The connection between land and human life is fundamental not only in many mythical charters,[12] but in any number of economic systems, whose survivals can be traced almost to the present day.[13] The success of money—as an *economic* institution of the modern world—is largely derived from its capacity to reduce to some sort of order both land and the forces needed, in the form of human labour, to make it productive.[14] This success depends a great deal upon Keynes's (1936, p. 304) property of 'stickyness', which means that the value of some critical factor must—in terms of money—be confined within narrow limits. Although Keynes found 'stickyness' in the value of labour (effectively, the rent payable for human capital), it is no less a property of the rent payable for land. The worth of an individual, as a rentier, was originally measured in terms of a fixed income from land, as any reader of Jane Austen will appreciate.[15] The trouble is that monetary 'stickyness' is not an inherent attribute of the price of either human capital or land: on the contrary, since the normal processes of production are incapable of adding to the stock of either, they both have an inherent tendency to become scarce, so that, applying Fisher's equation to these two cases, one finds that T (representing the supply of human capital or land) has a definite upper limit, beyond which any increase in demand must lead to an increase in P. What is more, the scarcity may become more pronounced, by reason of either factor being withheld from the market, as any trade unionist[16] or property dealer appreciates.[17] In the case of land, once it is bought as a hedge against inflation it

becomes even more scarce, and its price increases disproportionately to the rate of inflation. This tendency is particularly pronounced in the Third World, where capital—which might otherwise be invested in productive enterprise—is tied up in expensive urban real estate. One does not have to look far, either, to discover the hoarding of human capital: labour, and particularly skilled labour, is often retained at a level higher than that of any demands which may be made of it.

The revaluation of liabilities as a result of inflation is only in part a converse phenomenon to the revaluation of assets. For although in economic systems based upon the tied tenure of land[18] or unfree labour[19] such liabilities may be established in *real* terms, in any modern economy they are almost exclusively monetary.[20] The arithmetical factors, such as the rate of interest, may change in response to inflation, but liabilities—particularly in the common form of debt—are undoubtedly the stickiest element in any monetary system. This is almost unavoidable, seeing that the commitment is established in terms of money.[21] This gives those who undertake them a vested interest in inflation, which is the more pronounced where specific non-monetary assets carry the burden.[22] For example, a 90 per cent mortgage, leaving a householder with a 10 per cent equity, need only be followed by an inflation in house prices of 10 per cent for the value of the equity to be doubled. At the same time, the mortgagee's asset, that is, the debt secured on the property, will depreciate in value, although he may be afforded some relief by virtue of a provision for higher interest rates.

In any modern economy the state is much the largest debtor, and as such is the source of a very substantial part of all outstanding monetary assets. Its liability for increased charges is to some extent met automatically by the increased yield from taxation, which—were it not for compensating increases in the critical thresholds—would be particularly pronounced in the case of direct taxation at progressively higher rates. The factors determining government policy in controlling and directing inflation are equivocal. In principle, the state will profit from inflation so long as its own indebtedness increases at a rate less than that of the increase in the supply of money, which explains, for instance, the attraction of mutation (discussed in chapters 3 and 5) to the governments of medieval Europe. In practice, political and economic factors determine the borrowing policies of almost any state—ancient or modern—although here a crucial distinction is to be found in the enormous extent to which any modern state acts as an agent for redistributing money.

The appropriation of state revenue to public welfare creates a whole new series of classes, in receipt of income from the state, upon which the impact of inflation is determined by the terms of their entry into the inflationary spiral. This factor is critical for political reasons. The burden of increased government expenditure, although ultimately borne by taxpayers, is unevenly distributed, and tends either to rest upon classes whose political influence is declining, such as the private owners of stock and fixed-interest securities, or to be concentrated on large corporations, which have no direct political rights at all. The distribution of income, as a function of government, is a concomitant, therefore, of political power shifting from those classes which carry the burden, to those which enjoy the benefits of the process. This latter class includes not only those who receive an income in the form of a state pension or welfare benefits (which now tend to be linked to inflation), but the increasing number of employees in government at all levels. The argument readily extends so as to include the whole public sector, which includes nationalized industries whose losses inevitably increase the pressure on the money supply.

The problem of inflation led by government expenditure is at its most acute in the Third World. In a poor country, subject to chronic unemployment, the government is particularly tempted to create jobs by expanding the bureaucracy, a process which is 'essentially inflationary, since incomes are paid for no corresponding increase in output' (Myrdal, 1977, p. 75).[23] The trend is accentuated by the inclination of any such bureaucracy, for the most part ill-paid, to look after its own monetary interests. At the same time, politics consists largely in favouring sectional interests, often by ensuring that the benefits of inflation are directed to certain privileged sectors at the expense of others. A change of power at the top achieves no more than a redirection of these benefits, without reducing their amount. Sectors which are marginal to the national economy, such as that of peasant cultivators, are almost always the losers in this process.

To summarize, the consequences of inflation can be analysed, according to normal accounting principles,[24] on the basis of the balance of assets held by and of income accruing to different sectors of the population involved. In some cases, such as that of the class whose only income consists of the interest paid on government stock, there is a predetermined relationship between them. In other cases, such as that of the class of miners who own their own homes, the relationship is somewhat tenuous; and it may even happen that the two variables pull in different directions. At international level, this point may be illustrated by the pricing policies of OPEC.[25] Given the inelastic demand for crude oil, the price—to judge from the experience of the 1970s—can be raised to almost any level. The enormous profits realized after the fourfold price increase in 1974 have inevitably been invested in capital assets outside the petroleum industry. Because of the limited opportunities for more profitable investment (in part caused by the increase in factor costs in industry led by that of oil itself), enormous sums have had to be invested in monetary assets, such as fixed-interest securities, which have no intrinsic defence against inflation. OPEC, in pushing up the price of oil, does so at the risk of reducing the value of its investment portfolio.[26]

Following from this system of classification, the consequences of inflation can be broadly stated as economic realignment at a number of different levels depending on the focus of the analysis. The factors governing inflation (particularly in regard to the distribution of its effects among different sectors) are sufficiently well understood for it to be recognized as a political, as much as an economic, phenomenon, particularly at the present time.[27] In the past, when specie was the basis of any monetary system, any sudden increase in its supply—such as would follow the discovery of new sources of precious metals—would have inflationary consequences, simply because of the inevitable increase in the factor, M, in Fisher's equation. At the present time, where ultimate money is scriptural, any increase in M is endogenous.[28] But even in a period such as the sixteenth century, when the production of the new silver mines in America enormously increased the world's money stock, it is the political consequences of the inflation which then followed that are really significant. The defeat of the Spanish armada in 1588 was, because of the context in which it occurred, an important event in monetary history. It is ironical that Spain, after the discovery of America had enabled it to mine silver on an unprecedented scale,[29] gained little enduring benefit and within a hundred years entered into a period of decline from which it never recovered, while at the same time the northern Netherlands, liberated from Spanish rule, entered into a 'golden century' of unprecedented prosperity. Inflation provides the key to this reversal of fortune. It is no coincidence that Spain, during

the sixteenth century, maintained a traditional monetary system whose emphasis on the accumulation of treasure history would eventually prove unsound; whereas the Dutch, in the seventeenth century—beginning with a foundation of the Amsterdamsche Wisselbank in 1609—built up a monetary system of a recognizably modern form.[30]

The control of inflation

The means of control are implicit in the foregoing discussion of the causes and consequences of inflation. Turning back to the principle stated by Keynes, 'we must have *some* factor, the value of which in terms of money is, if not fixed, at least sticky, to *give us any stability of values in a monetary system*' (1936, p. 304). The problem is to establish this factor. Historically, the most successful solution is to establish a fixed relationship between money and a given weight in a precious metal—which is almost invariably gold or silver. Such a standard then ensures that the quantity, *M,* in Fisher's equation is directly related to the supply of bullion. This supply may then be largely self-regulating, simply on the basis of the relationship between the costs of production and the existing reserves of ore. In the period from 1934 to 1971, when the United States Treasury would buy all the gold offered to it at some $35 per ounce, this price determined the level at which it was profitable for the mines (located for the most part in South Africa) to operate (Gregory, 1962, pp. 492f.)[31] in such a way that there was no practical possibility of an increase in supply having an inflationary effect.[32] The key factor is that the supply of gold is exogenous to the monetary system. The problem is that, once money is created by the banks, its 'supply…is determined by the market. It is provided…to the extent that the market requires, so it is *not* an exogenous variable'. The only solution (Hicks, 1977, p. 60) is to establish

> rules which maintain some form of attachment between the supply of money and an external base (in the Gold Standard period the supply of gold). If the rules were completely firm, the supply of bank money would then be a function of the supply of gold, and of that only—so that the supply of bank money, also, could be regarded as an exogenous variable.

In the absence of such rules 'it would have to be *banking policy,* rather than the supply of money, which one would have to treat as one's exogenous variable' (Hicks, 1977, p. 61). This is substantially the present position—at least for those who maintain that the problem of inflation can be solved by purely monetary means—although the fiscal policies of the state also play an important part.

The control of inflation is pre-eminently the concern of the central bank.[33] The means at its disposal are described in chapter 10. Broadly speaking, it can choose to determine either interest rates or the level of the monetary base:[34] it may also have statutory powers to regulate credit and foreign exchange transactions.[35] It is uncertain, however, whether these measures are even sufficient to contain inflation within the central bank's own jurisdiction,[36] for—as the history of the Eurocurrencies demonstrates—the sphere of payment defined in terms of its own currency may extend far beyond this jurisdiction. Moreover, even where the powers of the central bank are sufficient to control the supply of money, *M,* and therefore effective demand, *MV,* this control may be possible only on terms which are politically unacceptable[37] (Goodhart, 1975, p. 217). What is possible is the use of devaluation—at least in a regime of fixed exchange rates—to contain inflation within a

sphere of payment. But even in this case the measures adopted—such as establishing a very high minimum lending rate—will have a pronounced effect outside its boundaries, as has already been described in chapter 16.

Containment, generally, is a workable means of controlling inflation. Its basis is setting off an increase in factor costs—commonly for labour or raw materials—against increased productivity, with the hope that any residuary inflationary effects will be *convergent* in the terms of the previous section. It is a policy which can be adopted at any level, but its success always depends upon being able to maintain the boundaries of the sector or sectors to which it is applied. This is a particular, but very important, example of the general problem discussed in chapter 8. The policy is often carried out at the cost of undesirable external effects. Economizing on labour, to contain inflation within a given sector, limits the contribution which that sector can make to controlling unemployment. Social costs are thus implicit in many a policy adopted to counteract inflation, for, as was pointed out on p. 132, 'control reflects the interests of the sub-system on the side of the boundary from which it is exercised', and 'every boundary represents a conflict of interests'. If, as a measure against inflation, a policy of containment is followed, progressively, in a succession of different sectors, it will sooner or later define a common boundary round all of them in such a way that those who, by force of circumstance, find themselves outside it will constitute a marginal category of the population chronically dependent upon the grants economy, described in the last section of chapter 9.

In the end, the re-establishment of 'stickyness' must be the key to any successful policy for counteracting inflation. It is significant how much of government policy in the modern state is focused on the two inherently *unsticky* elements in any economy, human capital and land,[38] with right-wing parties preferring to concentrate on the former, and left-wing parties on the latter. If success may be achieved in the terms of the previous paragraph, so that the price of the output of a given sector is kept more or less stable—increased factor costs notwithstanding—a price may well have to be paid in terms of the hypertrophy of the open market in the area outside the common boundary. Here one finds not only the marginal population already referred to, but a flourishing and extensive class of moonlight workers and property speculators, whose exaggerated profits must have some demand-pull effect in maintaining the inflationary spiral.[39] Keynes was right, therefore, though not quite in the sense he intended: stickyness is essential to maintain the 'stability of values in a monetary system' (1936, p. 304).

Hyperinflation

Hyperinflation is phenomenal, in almost any possible sense of the word. Cagan's (1956) exhaustive analysis is based on no more than seven cases, Austria (1921–2), Germany (1922–3), Greece (1943–4), Hungary (1923–4 and 1945–6), Poland (1923–4) and Russia (1921–4), and only in the last of these did the state continue for substantially longer than a year. Although the definition of hyperinflation must be somewhat arbitrary, its true character (which is significantly different from that of ordinary inflation) is certainly reflected in the consistent average increase in prices at a rate of at least 50 per cent per month which is the basis of Cagan's (ibid., p. 25) definition. In its most extreme form this rate may become quite astronomical: in July 1946 prices in Hungary increased at an average rate of more

than 300 per cent per *day,* so that at the end of the month they were more than 100 billion times what they were at the beginning (ibid., p. 110). It is not surprising that the process then came to an end, with a new currency reform becoming effective.

Clearly, at any time in a period of hyperinflation the value of money, and of money assets (as defined in chapter 4) is much depreciated; for the cost of holding them, which is 'for all practical purposes the rate of depreciation in the real value of money, or equivalently, the rise in prices', is prohibitive. It is not surprising, then, that in every period of hyperinflation, *real* cash balances (which may be defined as the ratio of the quantity of money to the price level) tend to fall, even though they are, from month to month, subject to drastic fluctuations (Cagan, 1956, p. 86).

If in its early stages hyperinflation is the result of the aggregate monetary behaviour of individuals who bid prices up by excessive spending, leading to a significant increase in the velocity of cir-culation of money, it cannot really be established unless this process is accompanied by increases in the supply of money on a quite unprecedented scale (Cagan, 1956, p. 89). At a certain stage governments are forced to adopt this policy, effectively as a form of taxation, as delays in collection reduce to an impossibly low level the yield—in real terms—from all other forms.[40] For as money depreciates in value, the issue of new banknotes automatically imposes a tax on existing cash balances at a rate equal to that of the depreciation in the *real* value of money, which in turn is equal to the rate of rise in prices. The more this policy is resorted to, the higher the rate of inflation, and the smaller the yield from almost all other possible forms of taxation. However this form of taxation may appeal to governments, if only for the simplicity of its administration and its power to bypass the legislative process, its effect, once it begins to bite, is highly discriminatory, since it destroys the economic position of all those whose income is derived from money assets,[41] which means, incidentally, that the government is effectively relieved of the burden of servicing its own debts (which is normally a major charge upon its revenue).

Now it may be proved mathematically (Cagan, 1956, p. 80) that the yield from this form of taxation (measured in real terms) reaches a maximum at a fixed rate of inflation which, although extremely high in relation to the rates prevailing in any ordinary case, is low in relation to those prevailing in any case of hyperinflation.[42] In other words, a government which maintains hyperinflation is inescapably following a fiscal policy which is counterproductive: indeed, even at the relatively low optimum rate, the yield proves to be lower than that attainable with conventional means (ibid., p. 84). The truth of this proposition was unknown to any of the governments which pursued a policy of hyperinflation. In the end, the level of cash balances which the public was prepared to hold became so low (ibid., p. 80) that government revenue could be maintained only

> by inflating at successively higher rates.[43] Rates were quickly reached, however, that completely disrupted the economy, and they could not long be continued. The attempt to enlarge the revenue in the closing months thus produced the characteristic pattern of hyperinflations: price increases did not peter out; they exploded.

The only and inevitable cure for hyperinflation is for the government to stop printing money (Cagan, 1956, p. 88), a step which is generally coupled with the establishment of an entirely new monetary system, supported by orthodox fiscal practices.[44] Hyperinflation is indeed significant for being an almost purely monetary phenomenon,[45] hardly influenced by

such external factors as the level of employment or the relative power of capital and labour, which are so important in determining the course of any normal inflation. Important factors such as the level of real incomes[46] remain remarkably stable. Hyperinflation provides, therefore, a unique opportunity for studying the relations between monetary factors in almost complete isolation from the real sector of the economy (ibid., p. 25). None the less, the exponential rise in prices which is a necessary characteristic of a purely self-generating hyperinflation—although quite possible theoretically—has nowhere been observed. This could be because any hyperinflation which reached this stage would not last long enough to permit such observation to be made (ibid., p. 73).[47]

Hyperinflation is, finally, a significant phenomenon in the sociology of money. The problem can be simply stated. Why are transactors still prepared to hold, even if in reduced quantities, an asset whose value declines so rapidly? What are the properties of money that make it indispensable, even under hyperinflation? In this case, conventional answers in terms of the power of money to bridge the time gap[48] lose all validity. Hyperinflation eliminates the function of money as a store of wealth. It is none the less a property of the monetary system itself that it is always in the transactors' interest to continue to accept money, although, under hyperinflation, they are bound drastically to shorten the time for which they hold it. The increase in the velocity of circulation which then follows is an almost invariable feature of hyperinflation. It is this, as much as anything else, which maintains the whole vicious circle. The compulsion to spend money as soon as it is received inevitably creates a high order of relative scarcity of outlets for money, so all the conditions of a demand-led inflation are continually being reinforced. At the same time, so long as money continues to function as a universal means of exchange (however inadequate), it will economize significantly on the costs of acquiring the information necessary to transactors. To see the truth of this, one need only envisage, for a moment, the information costs of resorting to pure barter in any complex exchange economy, even in one prey to hyperinflation. Indeed, in this one case, where deferred payment is almost out of the question, money bypasses any need for personal information about the other party to any transaction (Goodhart, 1975, p. 7).[49] Alternative non-money systems would require information which, quite simply, may not be available.[50]

Conclusion: epidemiology, pathology and prognosis

Medicine is a useful source of metaphor for the description and analysis of inflation, which may be seen as a sort of cancer in any modern monetary system. If the science of epidemiology, defined as 'the study of the factors influencing the frequency and spread of diseases', with particular emphasis on those 'which cause or predispose them' (Bullock and Stallybrass, 1977, p. 208), is applied to inflation, two factors stand out as being present in every case. The first is that a monetary system susceptible to inflation must be differentiated, in the sense that it comprises different sectors, each potentially subject to variation in the terms upon which monetary transactions take place across its boundaries, whether or not such variations are in its own interest. An undifferentiated monetary system, such as that maintained by the game of bridge (which, as chapter 2 demonstrated, generates its own internal money), can never be subject to inflation. (If, over the last twenty years, the conversion of bridge scores into money in the clubs where bridge is played has shown

a pronounced inflationary trend, this is because the conversion operation incorporates the money system of the game itself, into some wider subsystem of a national economy, so that it is transformed into a component of a differentiated system.)

The second factor is the potential for monetary expansion, that is, for increasing the factor *M* in Fisher's equation. (The absence of such potential prevented any inflation in the traditional economy of the Kapauku of New Guinea, even though it was highly differentiated—Pospisil, 1963, p. 308). When, however, such ex-pansion occurs in a traditional economy, there is nothing to prevent inflation occurring (the case of the Admiralty Islands, presented early in this chapter, illustrates this).

The division of labour, which Adam Smith (1979, chapter 1) correctly identified as the key to the unprecedented prosperity of the modern industrial economy—as far back as the eighteenth century—together with the bottomless sink of purchasing power, which Keynes (1936, p. 231) established as a unique peculiarity of money, combine these two factors, and ensure that inflation is almost endemic under the present world-wide regime of scriptural money. Inflation, like cardio-vascular disease, is part of the price paid for affluence.

In any approach to the pathology of inflation the problem is to decide whether it is a social condition, determined by such factors as the level and distribution of employment,[51] or a monetary condition, defined in the terms—such as the prevailing rates of interest—of the institutions of the pure-money complex. The first approach, in its current line of development, is based upon the existence of a demonstrable relationship between the rate of inflation and the rate of unemployment[52] and the choice as to the best possible combination of rates is essentially political (Good-hart, 1975, p. 217). But there is then no essential guarantee that the rate of unemployment which is politically acceptable for labour will establish a rate of inflation below the critical threshold for the outbreak of hyperinflation; and if it fails to do so, then the condition it leads to is—as the previous section demonstrated—a purely monetary phenomenon, which, being no longer susceptible to analysis in terms of any social pathology, cannot be cured by any of the political expedients at the disposal of those who caused it. In this case Goodhart may well be right, and 'the economies of the West will remain faced with an internal contradiction which may well serve to destroy the atomistic, democratic, capitalist structure of their existing system' (1975, p. 221).

The alternative approach assumes that, in a period of inflation, 'there must be a *continuing* rise in nominal and real interest rates' leading eventually (Goodhart, 1975, p. 215) to

> a rise in both nominal and subsequently of real yields on financial, fixed interest securities, sufficient to cut back on monetary demand for goods and assets, and cause a decline in the pressure of demand and in the pace of price inflation.

The implicit basis of this purely monetary approach is that the pure-money complex always can compete successfully with the real economy, when it comes to the purchasing power of the general population. The competition is unfair, since the production factors of the pure-money complex are cheap and their supply almost perfectly elastic. At a certain point a preference on the part of purchasers for with-profits life assurance rather than for consumer goods will leave no alternative but to reduce, quantitatively, the factors employed in the production of the latter. Sooner or later this will increase unemployment—if this monetary approach is correct—to a point where inflationary increases in the cost of labour no longer occur. The social costs involved in the process may explain, at least in part, why no

government can resist interfering with the operation of supply and demand factors within the pure-money complex. At the same time, the extreme flexibility of the pure-money complex enables it to provide the monetary means of absorbing such shocks as the fourfold increase in oil prices in 1974, and it is, if anything, more likely to employ its resources in this way than remorselessly to turn the screws on the real economy, if only because, politically, this is much more acceptable than increased unemployment.

The debate continues. The two extreme positions have been taken by Nobel Prize winners. Samuelson (1974) refuses to identify any one cause of inflation, being 'forced by the facts of experience into an eclectic position', where Friedman, although never explicitly putting forward monetary growth as both a necessary and sufficient explanation, is certainly ready to assert that 'inflation is always and everywhere a monetary phenomenon' (1970, p. 24).

The 1970s have made inflation almost acceptable as the normal state of affairs. The transmission of inflation from one sphere of payment, defined in terms of given national currency, to another has been particularly pronounced, even though, in theory, under a regime of floating exchange rates it should be possible to contain local inflation within national boundaries (Crockett, 1977, p. 195). In the light of our present experience the most surprising lesson to be learnt from monetary history is that there have been long periods without inflation; it is doubtful, however, whether such stability will ever be restored—unless by a return to the gold standard. The abandonment of the convertibility of the US dollar in 1971, and the consequent loss to the world's monetary system of any standard base in the precious metals, combined with the integration of the greater part of the world's population into the international monetary system, ensure that the paradise lost will not easily be regained.

18
Diverse approaches to a single phenomenon?

The question which constantly recurs in any study of money is whether one is dealing with one single institution, in which case one is confronted with the problem of identifying and defining it, or with a number of different institutions, in which case one is concerned to discover not only the relationships between them—whether according to some evolutionary or historical scheme or on the basis of the interactions across their common boundaries—but also the attributes which they have in common, and which justify, therefore, their being treated as different occurrences of one single phenomenon, money.

The question of establishing a uniform theory arises, almost inevitably, in any academic discipline. The assumption, implicit in almost any economist's study of money, is that there is only one true monetary theory: the disagreement is about which one it is.[1] The study of 'Different types of monetary theory' presented in chapter 1 would suggest that the assumption itself was questionable. Nothing in the intervening chapters leads one to revise this judgment.

On the other hand, the whole tenor of the argument is that money is, historically, no more than one single phenomenon, which, under different *modes,* has changed in the way it is incorporated into societies in different stages of development.

Table 8 is designed to show how such changes have taken place. Where the change which has taken place under a given mode has been described in an earlier chapter, this is shown in brackets. In the remaining case the change is dealt with only in the present chapter.

TABLE 8

Mode	*Primitive*	*Modern*
Aetiological (chapters 5 and 7)	Endogenous	Exogenous
Systemic	Mechanical	Organic
Ethical (chapter 1)	Sacred	Profane
Purpose (chapter 8)	Special	General
Function (chapter 1)	Means of payment	Means of exchange
Cultural (chapter 1)	Pre-literate	Literate

Authority		
(chapter 9)	Customary	Legal
Historical		
(chapter 7)	Stable	Unstable
Form		
(chapters 1 and 5)	Specie	Scriptural

It is not to be thought that a monetary system has all the characteristics of the left-hand, or all those of the right-hand, column. The evolutionary trend under any mode is however, almost without exception, from an attribute from the left-hand to one from the right-hand column. This is the way in which the historical dialectic of money, discussed in the last section of chapter 7, operates. At the same time, the transformations tend to occur in the order listed, so that the first stage in the evolution of a primitive system is for an endogenous money to be replaced by an exogenous money: indeed, the stage of an endogenous money may, strictly, never occur at all.[2] The last stage, which is nowhere complete, is for scriptural money to supplant specie (in which case the question arises as to whether this is not a reversion to an endogenous money: the answer is a principal concern of chapters 10 and 11).

The transformation, at almost every stage, occurs over a long period of transition, so that one finds monetary systems such as that of Zinacantan, which clearly face in two directions, in the sense that the individual may use his money in either the primitive or the modern mode, depending on the particular institution involved. In theory, one could find specific monetary systems to exemplify every stage in the evolutionary process. In fact most systems, even the most elementary, are complex in the sense that the institutions comprised by them represent different points on the evolutionary scale. Gambling, for example, is an institution to be found in countless monetary systems, from the most elementary (where it may even be the only monetary institution[3]) to the most advanced. The question is whether any typology of monetary systems can yield a valid and clear-cut classification, to the point that money is established not as a single phenomenon, but as two or more separate phenomena.

The idea of regarding primitive and modern moneys as quite distinct from each other is intuitively appealing. The 'Are'are, after all, recognize precisely this distinction between their own money and that introduced by the colonial administration: in this case, at least, the key to the distinction is that no conversion is possible between the two systems, but as Douglas (1963, pp. 63f.) has demonstrated, with regard to the Lele, the basis of such a rule may be political rather than monetary. None the less, it may be true that inconvertibility between two contiguous systems may also reflect some essential monetary incompatibility. If, then, conversions are allowed, one system at least will change its character, often quite radically. This is the conclusion which follows from Stathern's recent study of Mount Hagen, cited on p. 214. The argument tends to focus on the function of money as a medium of exchange, so that an essential distinction is to be made between systems in which this function is dominant and those in which it is subordinate, with modern monetary systems being assigned to the former category and primitive systems to the latter. Of course, if as Clower (1969b, p. 207) assumes money, in a modern system, originates as a medium of exchange, then all alternative systems in which this function is subordinate (or even non-

existent) must have evolved separately, and in parallel to, all modern systems. On this supposition there are two separate lines of historical, or pre-historical, development, and if money is to be defined in terms of its medium of exchange function (which is taken for granted by economists concerned with monetary theory—ibid., p. 205), then one line is concerned with money *strictu sensu* while the other is concerned with what Bessaignet (n.d., p. 3) is pleased to call *'objets d'usage général*'. But the choice of definition cannot be allowed to conceal the true line of historical development, however imperfectly it may be recorded.

The time has now come to approach the matter at issue from the standpoint of a number of different disciplines: mathematics, linguistics, law, economics, sociology, and religion[4]—which is the central purpose of this final chapter. Every such approach will cast its own light upon the development of the phenomenon of money, though even at the end certain problems will be left unresolved.

The mathematical basis of money

Starting with mathematics, the essential basis of this approach in abstraction and generalization ensures the uniformity of any purely mathematical theory. This is just the point at which so many mathematical economists are led astray. Their fault lies in failing to appreciate the true nature of cardinal numbers, by falling into what may be called the 'unicorn fallacy'. The point is that any number is an abstraction from all possible classes of things which it enumerates. That is, the number 2 cannot exist without couples, nor the number 3 with trios, and so on: '2' merely designates the unique property common to all couples and '3' that common to all trios (Russell, 1936, chapter 2). Implicit in this definition is that when one says 'two', one always means '2x' or '2y', whether x and y are apples and oranges, or anything else which may be conceived of.[5] This principle extends to any statement in arithmetic, such as 2+3=5, which, being inherent in the definition of '2', '3' and '5', is essentially tautologous. The statement becomes concrete, however, only in the form 2x+3x =5x, whatever x may be. It is true, therefore, if x=a unicorn, so that 'two unicorns plus three unicorns equal five unicorns'. The *unicorn fallacy* consists of using this statement to prove the existence of unicorns. The truth is otherwise: if unicorns did exist, then one could derive any number, *n,* from any class of *n* unicorns, as much as one could do so from any class of *n* apples or *n* oranges; it would then follow, from the definition so derived, that 'two unicorns plus three unicorns would equal five unicorns', provided unicorns *existed*—which was of course the original, false, assumption. This fallacy is critical, since it lies behind all theories which explain the origins of money in terms of a commodity (see pp. 88f. above).

If, implicit in the definition of any number, *n,* is the existence of classes which it enumerates, this foundation is lost to arithmetic as soon as one starts to work with the ratio of two numbers to each other. That is, the ratio of 3x to 5x, i.e. 3/5, automatically eliminates x, whatever x may be, at the same time extending the class of numbers to include fractions. Indeed the *purely mathematical* properties of fractions are defined by a unique relationship between two *ordered*[6] numbers (Russell, 1936, p. 64). For purely mathematical purposes one need never express fractions in terms of any unit: indeed, this is contrary to the definition. In practice it is sometimes extremely useful to do so—so much so that at an elementary level of learning the practice is taken absolutely for granted. The measurement of angles,

as taught to school-children, and used in any number of professional applications, is an example of this. There is essentially only one way to measure an angle, and that is to divide the length of the arc it subtends on the circumference of a circle by the radius of that circle. This procedure leads to the discovery of the number π as the ratio between the length of the arc of the semicircle to its radius. The arithmetical properties of π are extremely difficult to understand,[7] and the measurement of any angle by this procedure is extremely awkward. Instead, one relies on different versions of an instrument called a protractor,[8] which, on the basis of a standard circle of fixed radius, divides its circumference into 360 equal arcs, each substended by an angle at the centre, equal—according to the notation adopted—to one degree of arc. In practice this means multiplying the actual angle—which mathematically is no more than a pure number—by another, $180/\pi$.[9]

In working with money, exactly the same procedure is followed. The point is established in chapter 3, under the heading 'Value, price and money'. The difference lies in the fact that not one abstract number is chosen, as in the case of measuring degrees of arc, but a wide range of such numbers, each corresponding to a different denomination. Moreover, as chapter 16 makes clear, the relationship between them is unstable, as is also, inevitably, their quantity as a standard of measurement. A good deal of monetary theory may assume, implicitly at least, that exchange rates between different denominations are stable, and that there is no inflation, but such an assumption excludes—in mathematical terms—some of the most interesting and original monetary phenomena, such as, for instance, hyperinflation.

The truth of the matter is that, in the language of mathematical physics, money has no dimension. Since the only other dimension relevant to monetary phenomena is time, one is left with a one-dimensional world[10] in which the only important factor has vanished away like the Cheshire cat.[11] The problem is to find some way of reifying this essentially ephemeral phenomenon of money. One must capture at least the smile of the Cheshire cat, which was the last part to disappear. This was easy enough in the days of the gold standard, when monetary phenomena were represented by the physical movement of coin. This introduces the dimensions both of mass, *M,* and length, *L,* as Keynes's vivid analysis of the Indian scene illustrates (1971, pp. 36f.). The phenomenon has little reality when the most important movements of money are effected electronically at the computer centre of a national giro-bank—a process which reduces both *M* and *L* to abstract concepts. This reduces monetary mathematics to a branch of theoretical physics, although certain representations of the phenomena it is concerned with still remain—somewhat paradoxically—observable.[12] In practice, the monetary system of the present day is conceived of, concretely, in terms of a model apparently based on the principles of fluid dynamics, as is confirmed by the use of terms such as 'liquidity' and 'circulation'. It is remarkable, then, that monetary theory makes little if any use of the principles of fluid dynamics. One would suppose, for instance, that the idea of viscosity could be adapted to the study of the circulation of money in relation to different levels of the money stock. The idea may be implicit in Keynes's use of 'stickiness', but it is never made explicit.[13] The use of terms borrowed from fluid dynamics, such as 'source' and 'sink' in chapter 5, is seldom found in contemporary monetary theory.[14]

In practice, the assumptions implicit in the theory of monetary dynamics drastically restrict its scope for significant mathematical development. In particular, any assumption of constant velocity eliminates all second and higher-order differentials from the analysis—a degree of impoverishment that no mathematician could accept. In the result, the mathematics

of conventional monetary theory, although sometimes extremely complicated, almost always lacks depth, and so remains trivial according to any purely mathematical criteria.

However this may be, the methods of mathematics can only present money as a one-dimensional phenomenon: there is, strictly speaking, no mathematical phenomenology of money.[15] A scientific phenomenon, moreover, whose one concrete dimension is time, which itself occurs only in first-order terms, inevitably reduces to elementary arithmetic.[16] The apparent occurrence of the phenomenon in different forms is no more than the result of the 'unicorn fallacy'. It is only regrettable that monetary theorists so seldom appreciate the limitations of their own mathematical methodology.

Language, number and money

The problem, in considering the linguistic phenomenology of number, is to find some way of reducing the diversity of language to some form of uniformity. The trend in modern linguistic scholarship—associated particularly with the name of Noam Chomsky—is to try to establish some form of generative grammar, or deep structure, which is applicable to all known languages. The generative grammar of money is arithmetical, rather than linguistic, so on this side the study of language is unlikely to help. What is relevant is the study of vocabulary, briefly mentioned in chapter 1, by scholars such as Benveniste. At this level one finds that the decimal system of numeration has imposed, somewhat chaotically, its own structure on language (Crump, 1978, pp. 304f.). Thus the number 'eightynine' contains three elements, eight-y-nine, which according to the established use of English must be interpreted arithmetically to mean 8×10+9. The system is not wholly uniform, as the Dutch, 'negen-en-tacht-ig', 9+8×10 (or such anomalies as the French 'quatre-vingt-neuf', 4×20+9), illustrates, but the discrepancies are quite unimportant. No one would try to argue that the diversity of language has any significant impact on the uniformity of arithmetic—whose written symbolism completely transcends all linguistic boundaries.[17]

In relation to money and monetary institutions, it is significant that the denominations of money are no more than a linguistic abstraction from one or other of its characteristics. In the termi-nology of modern semiotic analysis they are metonyms, and not metaphors (Barthes, 1967, pp. 58f.). This means that they are endlessly substitutable for each other in describing and analysing the functioning of any monetary institution. At this level it does not matter whether one is talking about pounds, dollars, guilders, escudos or whatever, unless one is concerned with an institution which is to be found exclusively within one sphere of payment. Even in this latter case the association is unlikely to be important, and the institution itself highly specific and of limited importance—even in its own sphere of operation.[18] In general, the metaphorical connotations of monetary denominations are linguistically convenient, rather than expressing any essential property of money. It is perhaps ironical that the crown, symbol of the old Hapsburg monarchy, is still the monetary denomination of communist Czechoslovakia; but if it signifies anything, it is the role of the state in the supply of money. After all, it is a long time since the pound sterling had anything to do with a pound of silver, and the idea that the Polish *zloty* (which was only established after the hyperinflation of the Polish mark in 1922–3) has anything to do with gold (which is what the word means) is simply ludicrous.

The point to be made is essentially no different to that already established in the previous section. Money is essentially a ratio between two values, so that its denominations represent no more than arbitrarily chosen multipliers.

Significantly, once one moves away from the connotations of monetary units (which are little more than a lexical curiosity), one finds that monetary institutions, in terms of vocabulary, display remarkable uniformity. The process of linguistic diffusion goes hand in hand with that of the institution itself (Bogaert, 1966, p. 176). As noted at the beginning of chapter 10, the Latin *bancum* is the basis of the word for 'bank' in almost every linguistic area in which the institution exists, with the exception of Greece, where the word *trapedza* is used. Significantly, however, the original meaning of both the Greek *trapedza* and the Latin *bancum,* is 'table'—referring of course to the table at which money-changers originally conducted their business.[19] True, one finds lexical variants in some cases, so that the French *rente,* which can mean both 'rent' and 'interest', has in English only the former meaning and in Dutch only the latter, but they do not alter the fact that monetary institutions are apt to establish themselves, by a process of diffusion, in any part of the world, and that this process is confirmed—in considerable detail—by the linguistic evidence. It is surprising only that the matter has attracted so little attention from scholars.[20]

The linguistic analysis would probably prove to be equally useful in regard to traditional societies. The native term *kula* used to refer to the elaborate system of exchanging two classes of valuables between and within the islands of the Melanesian archipelago off the north coast of New Guinea means no more than 'ring', and so relates to the most distinctive characteristic of the whole institution, which is that the valuables circulate indefinitely among those who participate in it.[21] There is almost unlimited scope for analysis of this kind, and one can do no more than guess at the conclusions it might lead to.

A type of linguistic analysis, established by de Saussure (1969, chapter 5), also provides a model for the analysis of the use of money, a theme developed by Schacht (1973, p. 127). De Saussure identifies two types of relationship in the use of language, the syntagmatic and the associative. The former expresses the relationship determined by the structure of the sentence, and the order in which the words it contains are used. The latter expresses the relationships of the individual words to others with associated meanings. In short, without syntagmatic relationships language would have no structure; without associative relationships it would have no meaning. Applying this analysis to monetary phenomena, transactions within the pure-money complex express syntagmatic relationships, while those across and beyond its boundaries express associative relationships. In this latter case the significance of the transaction is, in linguistic terms, metaphorical (Barthes, 1967, pp. 71f.).

The distinction between spoken and written Chinese also provides a metaphorical basis for a comparison between real and imaginary moneys, and the part they play in foreign exchanges. The different versions of spoken Chinese share a common written language (Newnham, 1971, pp. 32f.), which allows translations (or, in monetary terminology, conversions) to take place in a way which has no significant linguistic parallel elsewhere.[22] The capacity of written Chinese to represent different local languages is analogous to that of imaginary money to represent different local moneys, and by doing so to provide the means of effecting conversions between them.

Language and money are both means of communication. According to Schacht's analysis, 'language represents the spiritual bond between men, money, the material bond'.[23] It is not certain that this is the correct conclusion.[24] As pointed out in chapter 3, money, in its function as a medium of exchange, establishes a relationship between things: it is credit, in all its forms, which establishes a bond between men. To see this bond as 'material' is to take a profane view of money, which may be right for the monetary systems which Schacht has in mind, but is certainly wrong for systems such as that of the 'Are'are.

Since, as Wittgenstein ultimately came to realize (Pears, 1971, p. 15), the structure of language cannot be deduced from an abstract logical theory (a conclusion which monetary theorists would do well to ponder), it follows that, if any linguistic theory is to explain any monetary institution, there must first be established an empirical bond between linguistic and monetary phenomena. This confines the role of any analysis based on metaphor—such as that presented in the preceding three paragraphs—merely to illustration. It is only at the level of vocabulary that the necessary empirical ties are to be found. Since the vocabulary of money shows surprising uniformity, it lends strong support to the proposition that there is essentially only one phenomenon of money, which evolves through a succession of historical stages, and in such a way that the institutions of the most advanced stage of development are, by a process of diffusion, quickly taken up and adapted in every part of the monetary universe.

Money, law and custom

The essential connection between money and law is established in the first section of chapter 4, entitled 'The debt relationship'. The idea of debt is fundamental in almost any legal system. The Tiv of central Nigeria conceive of all legal claims in terms of a single word *injô,* which can best be translated in terms of debt (Bohannan, 1957, p. 102).[25] This established a category in which different members can be compared with each other in terms of a single denomination. The analogous process, in terms of exchange, is considered in chapter 3 under the heading 'The standard of value and medium of exchange'. Even in a pure exchange system, in which all transactions were self-liquidating, there would still have to be some means of establishing prices, and ensuring that bargains made were honoured. Whatever the approach, it is clear that money can hardly exist without law. What is not so clear is how far law can exist without money. In the modern state the law certainly takes money for granted (Parsons, 1967, p. 320).[26] Even in branches of the law such as crime or divorce, where money would seem not to be involved, legal practice tends to assign it an important role. The fine (whether or not with a term of imprisonment as an alternative[27]) is a ubiquitous legal sanction, which establishes the criminal as a debtor to society.[28] As for divorce, the bridewealth, in cattle, must be repaid, among the Nuer (Evans-Pritchard, 1940, pp. 167f.) and other pastoral tribes of East Africa, to the lineage of the divorced wife. In every possible area, the tie between law and money is very close.

The definition of law is almost more difficult than the definition of money. Similar problems arise in both cases. What Paton (1951, p. 51) says of 'law', that it

> may be defined firstly by its basis in nature, reason, religion or ethics; secondly by its source, in custom, precedent or legislation; thirdly, by its effects on the life of society; fourthly, by the

> method of its formal expression or authoritative application; fifthly by the ends that it seeks to achieve,

applies equally to money. In establishing a phenomenology of money, however, one must concentrate on the alternative explanations which the different definitions allow for.

Applying Paton's taxonomy to the preceding chapters of this book leads to the following conclusions:

(i) Money, according to its basis in nature,[29] reason, religion or ethics, is either *sacred* or *profane*.

(ii) The original use of money can be established only by custom, which is, in principle, the basis of all precedent.[30] Legislation, on the other hand, has played an important part in developing the monetary institutions characteristic of the modern world, particularly in relation to the pure money complex. Now although instances of legislation—in the sense of the promulgation of new law by recognized political institutions—are known to have occurred in traditional societies with no state form of government, they are so few as to be quite exceptional.[31] In money, therefore, the role of the state as a law-giver is, historically, of paramount importance. The distinction to be made, therefore, is between *customary* and *state* systems, subject to the reservation that the judicial institutions of a state system, by use of a rule of precedent, can give the imprimatur of the state to a customary system.[32]

(iii) The effects of money on the life of society follow from the institutions in which it is used. In terms of any legal analysis, this type of definition is essentially derivative. Its discussion is left, therefore, to the section below on 'The sociology of money'.

(iv) Chapter 1 established two forms, *specie* and *scriptural* money. The shift from the one to the other is the result of a long historical process, which is nearing completion only in the present century. The evolutionary scale clearly identifies customary systems with specie, but the regime of specie has endured into modern times. Although writing is the only essential basis for scriptural money, the legal system which maintains it is characteristically that of a state. Even in such cases as those of the *jus mercatorum* of the Champagne fairs or the Articles of the International Monetary Fund, where the system is established in international law, the legal authority of the different states is still essential for enforcing it.[33] The importance of the distinction between customary and state systems is confirmed once more.

(v) The whole analysis of 'money as an institution' in chapter 1 is concerned with the ends that money seeks to achieve, and the theme provides the leitmotive for the whole book. In spite of the diversity of monetary institutions, the analysis of reciprocity in chapter 7 provides the basis for the classification of monetary systems in functional—or, better, teleological—terms. Although it is tempting to adopt some clear-cut distinction, such as that which the so-called substantivist school makes between special and general purpose moneys (Polanyi, 1977, pp. 98f.),[34] the question is more one of the relative importance of different monetary uses. It is better to consider which parts of the spectrum established by Malinowski (and cited at the beginning of chapter 3) are prominent in any given system. This may lead to the conclusion that market exchange, requiring, pre-eminently, the use of money as a medium of exchange, is characteristic of modern 'economy-based' systems,

while ceremonial exchange is characteristic of traditional 'prestige-based' systems; but what is one then to make of a system such as that of Zinacantan (described in chapter 2), where economics and prestige go hand in hand, or that of the Kapauku of New Guinea, who use money, apparently, for every possible purpose? And in the modern world, how does the informal, extra-legal, sector, characterized by such institutions as gambling, prostitution and political corruption, fit into the picture?

If the consideration of the legal phenomenology does anything more than confirm the close ties between money and law postulated at the beginning of this section, it is to establish a somewhat imprecise dichotomy between customary systems, in which specie is used for ends conventionally regarded as sacred, and state systems with a historical bias towards the dominance of scriptural money, in which the ends for which money is used are regarded as profane. In the former case the sacred character of money inhibits any alteration in the customs which govern its use: in 'Are'are, for instance, only the ancestors could do this, and they are all dead. In the latter case, the state as law-giver is perfectly entitled to change the rules of the game, whether to suit its own ends, as a bureaucratic corporation, or the ends of those who hold the power in it. The character of money is then established as essentially profane. The game is governed by its rules in either case, and it is the rules that make the law.[35]

The economic basis of money

Starting from Robbins's well-known definition of economics as 'the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses' (1968, p. 96), one is confronted immediately with the need for at least one institution concerned with directing any such means from its point of origin to its ultimate destination. Now if the lesson from both history and anthropology is that a number of different institutions can fulfil this function, it is none the less inherent in the nature of the problem that they are all primarily concerned to maintain some sort of system of reciprocity as is described in chapter 7. Economics, as an academic discipline, concentrates on systems of balanced reciprocity, which accords with Boulding's definition of the 'economy as that segment of the total social system which deals primarily with exchange and, by extension, with exchangeables of the goods and services which participate in exchange' (1970, pp. 17f.).

The problem in any exchange system is that, at every stage in its journey, from point of origin to ultimate destination, any given means must find an exchange counterpart so that there is a double coincidence of wants between the two exchange partners involved at that stage. This establishes, in turn, a need for information, which even at the most rudimentary level can only be met by some institutional means. It can take the form of having some recognized place where potential exchange partners come together at certain specified times: this is the origin of the market. Alternatively, certain recognized individuals can make it their profession to be exchange intermediaries, maintaining their own livelihood by means of exchange circuits, such as those of the Siassi Islanders described in chapter 3. Although institutions of this kind can go a considerable way towards making the problem less intractable, they do so, essentially, by centralizing information—a process which can be carried out very efficiently when the number of transactors is large, and the range

of things to be exchanged extremely restricted.[36] This is the rationale of the telephone exchange, whose sole function is to establish a line of communication between origin and destination, without any regard to what is transmitted across it.[37] But the difficulty in any economic situation is that the range of means to be exchanged is, in principle, unlimited, and is in any case—save the most rudimentary—extremely wide. This changes the whole nature of the problem.

A universal medium of exchange, acceptable to one partner in every exchange transaction, does not so much solve the problem as eliminate it. Specialized institutions, such as markets or dealers, still function as focal points for exchange, but they do so much more efficiently. It is not surprising therefore that economists identify the essential function of money as that of acting as a 'medium of exchange' (Newlyn, 1971, p. 1), going so far as to define as money *anything* which has this function (Clower, 1969b, p. 207). On this basis there is, economically, only one phenomenon of money.[38]

Now it may be—by 'formal reasoning from first principles' (which Clower, 1963, p. 177, identifies as one of the two constituent elements of modern economics)—that one can derive all other functions of money from this starting point,[39] but one can do so only by accepting the validity of the economists' view of money, such as is briefly stated on p. 88. There is no need to repeat here all the difficulties which then arise: it is sufficient to observe that modern economics solves them largely by ignoring them.[40]

If, from an economist's point of view, there is only one phenomenon of money, is there any significant phenomenology of monetary institutions? On this point there is little to add to what has already been said in the section of chapter 7 entitled 'The historical dialectic of money'. It is important to note, once again, that any money exchange system needs the support of institutions engaged in what economists conceive of as financial mediation, which is an essential function of the pure-money complex as it is is presented in chapter 12. But if the primary function of money is as a medium of exchange, then the monetary role of the pure-money complex must always be subordinate, and the institutions which constitute essentially derivative. This may be the view of history which economists choose to take, but the evidence in support of it becomes every day more uncertain.[41]

In the end, the most significant range of monetary phenomena is to be found in the different theories with which economists have in the course of history explained the operation of monetary systems. A number of these are considered in chapter 1 under the heading 'Different types of monetary theory'. It is remarkable how many different ways may be found of looking at the same phenomenon, money. Although the different theories have a clear relation to historical circumstances (which in turn decide the choice made between different monetary policies), it is the extreme simplicity of the economists' preferred definition of money, coupled with their penchant for reasoning from first principles, which explains the great variety of different theories propounded at one time or another. In the world of the natural sciences there is an almost equal variety in the different theories, current at one time or another, about the nature of light. It is the potential for propounding new theories—or, better, new variants of already established theories—on the basis of first principles which explains not only the way in which economists' studies of money have developed, but also why it is that their empirical basis is almost never made explicit. The lesson is that the language of money (defined in terms of its function as a medium of exchange) can provide the basis for any number of different meta-languages. This is, however, phenomenology

at a very rarefied level, which, by taking the nature of the basic phenomenon, money, for granted, leads to obscurity rather than enlightenment.

The sociology of money

At first sight it would seem difficult to establish any systematic phenomenology of money based on the studies of society made by sociologists. The difficulty is twofold. In the first place these studies present such a diversity of institutions that it is difficult to reduce them to any kind of order. In the second place few of them take into account the part played by money in any useful way.[42] None the less, the two French scholars, Durkheim and Lévi-Strauss, provide the basis for establishing some kind of order. The primary contribution of Durkheim is to be found in the proposition that 'The totality of beliefs and sentiments common to average citizens of the same society forms a determinate system which has its own life; one may call it the *collective* or *common conscience*' (1964, p. 79). Lévi-Strauss, in observing that 'the system [Fr. *régime*] of the scarce[43] product' constitutes an extremely general model (1969, p. 32), identifies an institution which provides a means for maintaining, and perpetuating, the collective conscience established by Durkheim. Money is the basis for the regime of the scarce product. It has the essential properties which Durkheim (1964, p. 80) attributed to the collective conscience:

> It is, in effect, independent of the particular conditions in which the individuals are placed; they pass on and it remains. It is the same in the North and in the South, in great cities and in small, in different professions. Moreover, it does not change with each generation, but, on the contrary, it connects successive generations with one another. It is, thus, an entirely different thing from particular consciences, although it can be realized only through them.

If thinking of money in this way would come more naturally to a traditional society, such as the 'Are'are (discussed in chapter 2), it is still right to emphasize the autonomy of money in any modern society. For as Bloch (1933, p. 1) has observed, monetary phenomena are not only the form or representation of social or economic transactions, but may also be their cause. Lévi-Strauss's use of the phrase *régime du produit raréfié* is well judged.

Durkheim, proceeding from the concept of 'collective conscience', establishes a division of labour in society based on two types of 'solidarity', mechanical and organic. The former, which is characteristic only of certain traditional societies, supposes a segmentary social organization, based upon the co-ordination of any number of structurally identical groups of individuals, generally recruited according to some rule of kinship (and corresponding to the household in modern microeconomic theory), but so that each such group is, in principle, capable of providing for its own consumption, independently of all the others. Any division of labour is then to be found only within the units of the lowest order of the economy, and at this level communication is so perfectly established[44] that there is no useful function for a regime of the scarce product, either in the allocation of different tasks (generally on the basis of sex or age) or in the distribution of produce. (In this respect the position is not substantially different from that of the modern household.) If, then, such a regime can only operate between, and not within, these different units, and there is no significant economic differentiation between them, its primary function cannot be economic in terms of the preceding section. This provides the basis not only for Bessaignet's distinction (cited on

p. 114) between *'objets d'usage général'* and money as a medium of exchange, but also for the whole substantivist theory of special (as opposed to general)-purpose moneys. If this is the correct approach, then traditional societies, characterized by mechanical solidarity, may provide the basis for a phenomenology of moneys, represented by different forms and uses of *objets d'usage général*. Every such 'money' will then circulate according to the rules of its own idiosyncratic monetary institution, of which the 'Are'are funeral cycle (described in chapter 2) provides no more than one example. The weakness of this approach is simply that it is ethnocentric. It takes the whole economic view of money, deployed in the previous section, uncritically for granted.

According to Durkheim the transformation from a mechanical to an organic system begins to take place when specialist roles are assumed by particular segments in a traditional society (1964, p. 182). The example is given of the tribe of Levites, who became the priests for the whole Jewish people. Since segments, at any level, tend to be defined in prescriptive terms—generally on the basis of descent either through the male or female line—the division of labour according to the segmentary organization of society is judged to be unstable (ibid.):

> It can grow only by freeing itself from the framework which encloses it. As soon as it has passed a certain stage of development, there is no longer any relation either between the immutable number of segments and the steady growth of functions which are becoming specialized, or between the hereditarily fixed properties of the first and the new aptitudes that the second calls forth. The social material must enter into entirely new combinations in order to organize itself upon completely different foundations… The history of these types shows, in effect, that one has progressed only as the other has retrogressed.

The end of this process is (Durkheim, 1964, p. 200) that

> in organized societies, social harmony comes essentially from the division of labour. It is characterized by a cooperation which is automatically produced through the pursuit by each individual of his own interests. It suffices that each individual consecrate himself to a special function in order, by the force of events, to make himself solidary with the others.

In theory, this process of evolution could continue to a point at which 'the only remaining link between men would be that of an absolutely free exchange' (Durkheim, 1964, p. 201)—that is, exclusively in terms of balanced reciprocity. This trend, which was affirmed explicitly by certain English scholars of the nineteenth century, such as Spencer,[45] is essential also for providing the implicit basis for any theory which established money primarily in terms of its function as a medium of exchange. The objections to proceeding in this way are to be found in chapter 7, but it may justly be noted—in the present context—that it is certainly somewhat irrational to try to establish the origins of an institution, such as money, which appears in every phase of recorded history, near to the end-point of the historical process. It is, therefore, significant that Durkheim emphatically rejects the conclusions of Spencer, even though he acknowledges that Spencer is dealing with an ideal type, which 'has not yet been completely realized' (ibid., p. 204). The correct conclusion is that money, in an organic society, is represented in a number of different institutions, each with adherents drawn from only a limited class. The point has been made, for one particular case—that of commercial banking—in the last section of chapter 10, but it is of quite general validity.

Indeed, monetary institutions not only reflect the anatomy of society, but also determine, to a significant degree, its future development. They have also the important property of reducing a complex socioeconomic structure to a point where it can be represented in terms of a single unit—the denomination of the money which circulates within it. The process can be illustrated by the history of fiscal legislation. The essential base is numerical, and the tax levied is computed by applying an arithmetical process to it. In a simple case the base could be established by the price paid in certain types of transaction—such as the importation of specified classes of goods—and the arithmetical process consists of nothing more than multiplying this by a prescribed factor, so as to establish the tax charged. As Bowsky's (1970) study of public finance in early Renaissance Siena illustrates, the process can become extremely complex at a relatively early stage of historical development, although the complexities of the Sienese fiscal system are as nothing compared to those of any modern state system. But at every stage the system, which is essentially legal, is a mirror of the local economy, and a sociological study based solely on the Income Tax and Customs and Excise Acts, as presently enacted, combined with the statistical information published by the Treasury, would tell as much about contemporary British society as Bowsky's study tells us about that of Siena in the thirteenth and fourteenth centuries.[46] The differences between the two systems are the product much more of political, social, demographic and real economic factors than of any monetary factors. In monetary terms it is sufficient to observe that they constitute no more than two forms of negative reciprocity established to meet the financial needs of a particular type of corporation, the state. The generative grammar, or deep structure, of fiscal systems is much more palpable than that of linguistic systems, if only because the basic unit of communication, money, is much more elementary than the units out of which any language is constituted. The same is true of any other monetary institution, whether it be deposit banking, life assurance or the stock exchange. The conclusion reached in chapter 7, that the number of different types of such institution is limited, still holds good.

The high level of economic differentiation reflected by the division of labour under a system of organic solidarity does little, therefore, to establish a phenomenology of monetary institutions, except in so far as it relates the different types of institution to different social or economic classes.[47] The sociology of money, if it is to develop in any significant way, must concentrate therefore on this relationship, following the example given in the final section of chapter 10. In purely monetary terms, research of this kind will lead to no new discoveries about the functions or attributes of money, nor to the development of new monetary institutions.

Money and religion

Although Western thinking tends to dissociate money from religion, the two are closely connected in any number of ways. Religion may explain both the origins of money and its diffusion, establish the laws regarding its use (which it will sometimes incorporate in ritual and symbolic systems) and propound its own theories about the operation of monetary institutions. The difficulty—at least for any anthropologist—is in defining and classifying religion, in a way which is useful for relating it to money. The best way of dealing with this difficulty is to proceed with the analysis, on the basis of a number of different religious

systems, in such a way that questions about definition and classification resolve themselves in the course of the discussion.

A useful starting point is the distinction between literate and pre-literate religious traditions. The first class divides into two groups, the western and the eastern, the first comprising the religions of the ancient world of the Mediterranean and the Middle East, of which only Judaism still survives, together with the two world religions, Christianity and Islam, historically derived from Judaism, and the second comprising the religions of India and the Orient, of which Hinduism in India, Confucianism in China and Shintoism in Japan are all related to Buddhism, a world religion covering the whole area, but originally derived from Hinduism.

It may be, as Laum (1924, pp. 141f.) has argued, that the origin of specie in the western world is to be found in coins issued by temples, bearing an image of the god to which they are dedicated. The precious metals out of which the coins were made had long been recognized as an appropriate temple offering (ibid., p. 130), and their transformation into coin—to be returned to the offeror—fits in well with the general structure of the ritual of sacrifice.[48] It would also establish a viable system for the supply of specie, once such coins began to circulate as money. But however this may be, Judaism, by condemning idolatry in all its forms and establishing as unclean everything that was foreign to its own community—including, in particular, all that other religions used for sacrifice[49] (Ringren, 1966, pp. 141f.)—relegated money unequivocally to the realm of the profane. The whole Jewish monetary ethic is based upon money used (which is undoubtedly how the Jews first became acquainted with it) for the purposes of trade,[50] and as early as the eighth century BC the prophet Amos (2:6f.) condemned extortionate tradesmen.

What the Jews established in their law was taken over by both Christianity and Islam, so that in a very substantial part of the modern world all trace of any sacred origin of money is lost. The distinction between the realms of the sacred and the profane is made quite explicit, in monetary terms, in the New Testament (Mark 2:17) and Islam is equally categorical (Qureshi, 1946, p. xviii) in relegating gold and silver to a purely secular role. At the same time the ethic of *mngwotngwotiki* (introduced in chapter 4) represents an ideal state of release from secular ties in Judaism (Isa. 43:25), Christianity (Matt. 6:12) and Islam (Quran 2:280–1), although it is never expressed in monetary terms.

Implicit in the whole ethic is a profane world in which exchange transactions should be carried out on the basis of perfectly balanced reciprocity (in the terms of chapter 7)—exemplified, for example, in the medieval church's doctrine of the just price (Viner, 1978, pp. 81f.)[51]—while the ideal for transactions involving religious institutions is established on the basis of generalized reciprocity as presented in the passage from Sahlins quoted on p. 108.[52] The way in which money, in the form of specie, was given to the early medieval church, often to be converted into treasure, perfectly reflects the Christian ethic of the day. But the converse of generalized reciprocity is negative reciprocity; and at the same time as the Church encouraged pious benefactions, it did not hesitate to collect tithes, or to impose other forms of taxation.[53] In the Islamic institution of the *zakāt* one finds the transformation of what was originally a charitable donation for pious purposes into a form of taxation (Lewis, 1976, p. 27).

In the modern age only Islam is at all concerned to maintain its traditional monetary ethic,[54] where Christianity and Judaism[55] are content to regard monetary ethics as a purely

secular matter. The position is, and always has been, quite different with the eastern group of literate religious traditions. The Hindu scriptures constantly emphasize that 'gold is immortality', and from a very early stage it was handled by the priests on the basis of a standard measure (Kosambi, 1956, p. 114), thereby lending support to theories of the religious origins of money.[56] The importance of gold as an element in the dowry, combined with the idea that the gift of a daughter in marriage was essentially a religious offering—with the husband being equated to a god—establishes it unequivocally in the realm of the sacred. The symbolism of gold, expressed in terms of light and purity, extended from India to China (Laum, 1924, pp. 127f.). The hoarding of gold in the Orient, encouraged by its symbolic attributes, explains its constant drain from the West during long periods of history.[57]

In China, where the general use of specie, which took the form of a copper coinage, was restricted (Maspéro and Escarra, 1952, p. 53), the Emperor Han Wu Ti (140–87 BC) not only introduced a special coinage of gold and silver for rewarding the nobility for their services—which eventually led a fortune of divine origin to be spread throughout the whole empire (Mestre, 1937, p. 49)—but also introduced the first paper money in recorded history (Needham, 1978, p. 36). There is no doubt about the religious significance which the latter developed in the course of time.[58] From the eighth century AD one finds records of paper money being burnt, as a sacrifice, as a part of the ritual concerned with the healing of sickness, and ultimately with death itself (Hou, n.d. p. 127). The practice continues—at least in Taiwan—in the present day, although a special form of 'paper money' has long been manufactured and sold especially for this use. This paper money is a surrogate for both gold and silver: money of the former category is dedicated to the gods, of the latter category, to demons (ibid., p. 128). The final stage in the development of this type of sacrifice is also much the most significant. According to the principle of *Ming-lou,* which has always been central in Chinese thought, the social position of any individual, and the time-span allotted to him on earth, is decreed in heaven before he is even born. This principle came to be represented in monetary terms, so that every individual entered into a life burdened by debt, in a pre-determined amount, which would vary in the course of life, depending upon the sacrifices offered by him. This makes *mngwotngwotiki,* or a variant of it, explicit in monetary terms, in complete contrast to the western religions.[59] In practice, no individual is ever expected to discharge his indebtedness—one life is too short—so that the ideal state is never attained.[60]

The process of diffusion which was essential for establishing the world's literate religious traditions was largely dependent upon international trade, in which money, in its function as a medium of exchange, played a key role (Simmel, 1978, pp. 224f.).[61] The difference between the western and the eastern traditions lies in the way in which their religious ethics came to terms with this factor. The western tradition, in rejecting it, established money as essentially profane; the eastern tradition, in accepting it, allowed money to retain an essentially sacred character. But as already noted in the first chapter, this difference in ethos is not necessarily reflected in any essential difference between monetary institutions. In the West as much as in the East, money in the end established its own autonomy, even in regard to the established religion. The point can be illustrated by endless examples taken from the history both of Christianity and Judaism. It was pondered by Milton in his consideration of the scriptural prohibition of usury, which he felt constrained to repudiate, 'drawing on

a long-standing tradition among protestants who had to take into account this commercial world in which they lived' (Hill, 1979, p. 259).[62]

With pre-literate religious traditions, the position is quite different. The process of long-distance diffusion, whether of literacy, religion or money as a medium of exchange, need play no part at all. The latter, essentially profane, function of money may be quite secondary, as the case of the 'Are'are, presented in chapter 2, illustrates. One would expect, therefore, not only a sacred monetary ethos, but monetary institutions whose ends were sacred. These are to be encountered not only among truly primitive peoples such as the 'Are'are, but also in peasant communities whose tie to the outside world has long depended upon the use of a national money as a medium of exchange. Zinacantan (whose system for financing religious office is described in chapter 2) maintains a ritual in which certain specified officials add up the total value, in Mexican pesos, of a large number of coins, of different denominations, strung on three sacred necklaces which are normally kept in the chapel of Señor Esquipulas. The total value of the coins is 495 pesos, and this is also the number of maize kernels kept in a small sack along with the necklaces. The counting takes place by one official calling out in turn the value of the successive coins, while another moves an equivalent number of maize kernels from one pile to another. In practice the count never turns out to be exactly right, and according to its result it is taken to disclose either an increase in the value of the necklaces (in which case Señor Esquipulas is pleased), or a decrease in their value (in which case He is taken to be displeased). The reasons behind this ritual are somewhat obscure (Vogt, 1976, p. 128):

> In their round and shiny appearance, [the silver coins] may be symbols of 'little suns', representing days as they are counted. But it is also important that in a contemporary world where the Indians believe the Ladinos have most of the money and they (the Indians) are impoverished and need to increase their supply of money that the necklaces are composed of money which is counted…in a kind of increase rite. Further, the fact that coins are counted against kernels of maize is a sort of bridging ritual in which the symbol of exogenous wealth—money—is equated with the symbol of indigenous wealth— maize—and serves to bring money under control by integrating it into Zinacanteco culture and to affirm the stability of Zinacanteco wealth—maize—in the monetary terms of the Ladino world.

This may also be seen as another variation on the theme of *mngwotngwotiki*. It is worth noting that Señor Esquipulas, as a representation of the crucified Christ, is as exogenous to Zinacantan as is the money in which he expresses his judgments. On the other hand, according to a myth from the neighbouring community of Chamula, money was originally endogenous, but came to be a Ladino—or Spanish—prerogative as a result of divine intervention (Gossen, 1974, p. 306). The return to a primordial ideal state is therefore another possible theme in the Zinacantan ritual.

The overall conclusion is that, if money is profane, it is because it is exogenous, a point which the Jews were the first to establish for a literate religious tradition. And if money is exogenous, then it can be incorporated into any internal system only by a process of exchange across the boundaries of that system.[63] The function of money as a medium of exchange is therefore established as being essentially profane, and where money has no other separate and distinct function, it too will be inherently profane. It is this which determines its character in the western tradition. In the eastern tradition, or in primitive

systems such as that of the 'Are'are (which at least depends upon an imported money-stuff), the profane character of money can be transformed by an appropriate ritual of incorporation.[64] (This may be the intended symbolism of the Zinacantan counting ritual.) In primitive systems this may not be necessary, since in the absence of any division of labour on the basis of organic solidarity, the profane function of money as a medium of exchange may never be established.

Conclusion

The questions of seeing money as a unitary phenomenon depends, above all, upon the historical perspective adopted. As far as method is concerned, the moneys we now know of, both past and present, fall into two quite distinct categories. The first contains those whose origins and development can be investigated by the methods of the historian and the archeologist (who may be regarded as a sort of pre-historian). In the majority of cases this means that both tokens representing money, in the form of specie, and written documents relating to its use are available for research—although for some periods the evidence which they provide is extremely scanty. In certain cases only written records survive, while in others[65] the only available evidence has been provided by coin finds.[66] But whatever the problems which arise in the course of research, there is no doubt about the historical relationship between all the moneys and monetary systems which fall within this first category—save possibly for those originating in China. The story is one of the evolution of monetary institutions, which is a principal theme of chapter 7.

The second category contains all those other moneys which we know of primarily because their actual use has been observed and recorded by outsiders from the western world. In some cases, most notably that of the cowrie, there is a wide range of evidence concerning the history and diffusion of a particular form (Polanyi, 1966, p. 176), which serves—in a number of different contexts—as a bridge with moneys of the first category. In other cases one finds moneys known only because of their discovery in the present century, and which have to all appearances evolved independently of all other monetary systems. On the commonly made assumption that the medium of exchange function develops in response to the demands of long-distance trade (Simmel, 1978, pp. 224f.), one would then expect to find this function but poorly developed in any such isolated system: the case of the Kapauku of New Guinea (described in chapter 4), at least, serves to confound this expectation. Such argument is none the less the basis for almost every categorical distinction made between primitive and modern money. Once, however, it is recognized that the only persistent distinction is in the methodology of historical and anthropological research (and even this distinction is not clear-cut), the argument for recognizing two essentially distinct types of money becomes much weaker. And if the use of writing has enormously influenced the development of certain types of monetary institution, modern anthropological research has been surprisingly successful in discovering parallel institutions in pre-literate societies.[67] Nor must it be forgotten that historiography can itself only be an institution of a literate society.

The continuity of monetary functions and institutions can be illuminated by means of an analogy drawn from the physical theory of electromagnetic waves. Such waves occur over an enormous frequency range (the electromagnetic spectrum) of which visible light is

one very small part. The waves travel in all circumstances at the same speed, which is that of light. At almost any frequency the electromagnetic wave is capable of having a signal imposed upon it, but the wave used to transmit a given signal—say a radio or television broadcast—bears no inherent relation to the character or content of that signal, which might equally well have been transmitted on a wave of a different frequency. The point becomes immediately clear when one remembers that broadcasts are sent out on a wide variety of wave-lengths.[68] If, therefore, radio and television are broadcast on different wave-bands, this does not in any way affect the entirely neutral function of the 'carrier' wave chosen in either case. The carrier wave is, however, at all times quite indispensable: without it the signal would, quite simply, not be transmitted.

For if there is one general conclusion which the present study leads to, it is that money—in a manner analogous to that of the carrier wave—is a means for transmitting signals.[69] It functions as such by means of transactions of conversion on the basis of reciprocity, a theme introduced in chapter 1 and developed, in particular, in chapter 7. Money to fulfil this function must circulate, that is, must be maintained in a state of perpetual motion between transactors. The institution central to any monetary system will be that which maintains such circulation. Much of modern monetary theory takes it as almost axiomatic that the primary use of money as a medium of exchange establishes the market as this central institution. This confuses, however, the signals to be transmitted with the means of transmission.[70] It is as if one tried to establish the empirical basis of electromagnetic wave theory by looking at the widest possible variety of television programmes. The pure-money complex, established in the form of a general model in chapter 12, avoids any possibility of such confusion, since it is defined exclusively in terms of time and money, and the way in which they combine to maintain a network among transactors.

On this basis, any monetary system, from that of the 'Are'are to that of the Euromarket, can be analysed in terms of what particular monetary characteristics are most suited to the signals which are to be transmitted. This is precisely analogous to the procedure which specialists in electronics have followed in determining which part of the electromagnetic spectrum is best suited for television, and which other part for radio. In this way one establishes that necklaces of cowries best meet the needs of the 'Are'are, where telegraphic transfers best meet those of the Euromarket.

The analogy can be pursued yet further: just as some parts of the electromagnetic spectrum are intensively used for the transmission of signals, while others are hardly used at all, so also one finds a high intensity of monetary activity at certain points on the monetary spectrum. The significant factor is that at any such point, the activity will tend to be most intense within the pure-money complex.

The level chosen to look for the underlying structure of monetary phenomena determines the perspective on money developed in this book. A study in the natural sciences would hardly have to make this point. There are, no doubt, physicists who are so taken up with their own research into gamma-rays that they have no interest whatever in the separate characteristics of low-frequency radio waves at the other end of the electromagnetic spectrum. No such physicist would be unaware, however, of the existence of the spectrum itself, or of the location of his own research area within it. Why then do monetary theorists not have the same level of understanding?

A similar question can be asked in any of the social sciences. The critical point of distinction is that one takes the palpable manifestation of the system studied as in some ways essential to its structure. There would be no linguistics without language, nor monetary theory without money. Electromagnetic waves, however, were racing across the universe millions of years before television, and when mankind first came into being it was a very long time before they were discovered. But the discovery had to come first: without it there would have been no television.

In the social sciences, in contrast, a structure develops in constant interaction with its outward manifestations: the separate study of the structure itself is a recent development, which has probably preceded furthest in linguistics, where the essential distinction between *langue* (the underlying structure) and *parole* (the spoken word) established by de Saussure (1969, chapter IV),[71] lies at the centre of all modern study.[72] This provides, at the same time, a criterion for distinguishing the natural from the social sciences. The former see *parole* as based on *langue;* the latter see *langue* as derived from *parole*. It can only be otherwise if social, cultural and economic institutions are conceded their own autonomy.[73] Such concession comes hard in the world of money, where the effective exercise of power is implicit in all policy. This must explain, at least in part, the palpable defects of monetary theory, of whatever school. It does not matter that it knows nothing of the ’Are’are: what does matter is the persistent disregard of the existence of underlying structures shared in common with the ’Are’are and all other independent monetary systems, at whatever stage of development. It is as if linguistics had set its face against recognizing any language outside the boundaries of the Indo-European language family.[74]

The argument does not require that uniform phenomena occur across the whole of the monetary spectrum. The circulation of money maintained by the pure-money complex is more than a characteristic of any sphere of payment: it is inherent in the nature of money. The difficulty, indeed, is in identifying purely *monetary* phenomena where they occur. In a modern system, as chapter 17 shows, inflation may be such a phenomenon: hyperinflation almost certainly is. The same is true of variations in exchange rates, which are often an epiphenomenon of inflation. Inflation, as a monetary phenomenon, is interesting for the scope it offers for pursuing the analogy based on electromagnetic waves, since it corresponds to a phenomenon known as frequency drift, which in its acute forms leads to a total dysfunction of electromagnetic systems.

If nothing like this has been observed among the ’Are’are or the Kapauku, it may only be because the necessary analytical techniques have yet to be developed. Even in monetary theory the arguments of Goodhart (1975, pp. 214f.) and Cagan (1956, p. 25) (relating to inflation as a monetary phenomenon) are hardly directed to first-year students, and they could certainly never apply to the ’Are’are and the Kapauku. The point, once again, is that it is defects in method which explain the failure to establish the continuity of the monetary spectrum in terms of the phenomena observed at different points on it.[75]

This does not quite reduce the argument to mere assertion. The decisive factor is that the counter-argument never identifies a specific point of discontinuity.[76] On one side of it one finds a multiplicity of largely independent non-historical systems[77] in which money, generally, can be identified as no more than a means of payment (which as a definition would be tautologous), while on the other one finds the unified use of money as a medium of exchange following one single line of historical development. Protagonists of this

counter-argument have established this point of discontinuity only on the basis of *a priori* reasoning,[78] which can only lead to empirical conclusions contradicted by a number of clear counter-examples, many of which are adduced in the present study.

If the monetary theorists are asked for facts which they cannot provide, it is not unreasonable to ask those who oppose the established orthodoxy to provide at least a non-falsifiable hypothesis about the evolution of money. Allowing the possibility of different lines of evolution, there is one line which could explain the emergence of money and its development through a number of separate stages to the point which it has reached in the modern Western world.

The story begins with a population with a restricted command of some distinctive and durable natural product—a precious metal or a shell. Because of its scarcity, its ownership brings prestige, and because it is durable, the problem of disposing of it will occur from time to time, if only on the death of its owner. This latter problem can be solved by effacing it from the public domain, say by burying it with the body of the deceased owner. Alternatively, the death of the owner can provide the occasion for ownership to be transferred, either according to prescribed rules of succession (such as would apply to a king's regalia), or in pursuance of a game played according to prescribed rules, in which the critical moves are related to the occurrence of death. In this case the allocation of prestige will shift over the course of time, but in such a way that the pattern of distribution—as defined in chapter 7—will at any one time be more or less public knowledge.

As the game develops, new occasions are recognized for making moves, until a point is reached when they need not be related in any way to definite stages in the life-cycle of individual players. In anthropological terms, the transfer of these objects is no longer tied to the established *rites de passage*.[79] By a parallel development (which may occur at either an earlier or a later stage) the prestige attaching to ownership is measured purely in terms of quantity, so that no importance attaches to the separate identity of the different objects.

A crisis then afflicts one section of the population.[80] The harvest fails, the cattle die, the rivers dry up. In desperation, the rules of the game are abandoned, and the afflicted population offers its accumulated store of wealth in exchange for their basic needs; the valued objects are converted—by exchange—into new cattle, for instance, and the productive (and reproductive) cycle is resumed.

This emergency measure may fail to establish a precedent, and the game may simply go back to its old rules. Sooner or later, however, the usefulness of symbolic wealth, accumulated in recognized and indestructible units, for the purposes of exchange leads to the emergence of money—in the form of specie—as a universal medium of exchange. The rest is no more than history (briefly presented at the end of chapter 7). The transformation only had to happen once, somewhere in the ancient Near East, to establish an institution whose success led to its diffusion over the whole world. A similar transformation may have occurred in ancient China, and earlier stages in the evolution of money have been recorded in more primitive societies.[81]

It is inconceivable that the historical evolution of money, as presented above, could ever be followed through along one single line of development. The line suggested is indeed no more than one possible variation on a common theme.[82] The fact is, however, that every significant transformation along this line has occurred, and been recorded, not once, but in most cases in many different parts of the world.

It is as if one were to reconstruct the skeleton of an animal belonging to an extinct species from bones discovered over the whole of its habitat. The expertise of the specialists in animal physiology would then be sufficient guarantee of the validity of the reconstruction. Conclusive proof might have to wait for discovery of a complete skeleton of a single animal; but this might never occur, and would certainly provide no reason for not proceeding with research on the basis of the material already discovered.

As to the phenomenon of money, the need is not so much for the discovery of new material, but for those concerned with monetary theory to become better acquainted with that which is already available.[83] Then, with the advantage of the knowledge so acquired, one would then come to see that wealth—in whatever form it is recognized in the local culture—may be established, symbolically, in terms of multiples of identical units, whose value can be realized only by the act of transfer from one transactor to another. This is what makes the ritual of payment essential to the definition of money. At the same time it establishes, in its most perfect form, Lévi-Strauss's 'system of the scarce product'. In any such system based upon money, a pure-money complex, based on a network of recognized institutions (commonly in the form of corporations), will maintain the momentum in the circulation of money.

The system is of itself neutral, and according to the form it takes will be suitable for having a wide range of social, cultural and economic functions imposed upon it. In the modern world, in which the sale of goods is taken to be the primary monetary transaction, any monetary system is inevitably seen in terms of its purely economic functions—and these in turn determine the character of the institutions of the pure-money complex which have developed to maintain the system. This is no more than one case of the character of a system being determined by that of the most important type of transaction which takes place within it. But if the essence of money is not determined by the systems in which it is used, then there is no more than one money, and all the numerous theories which—implicitly or explicitly—run counter to this basic proposition are to some degree mistaken. The history of our own times, after all, gives us every reason for being sceptical about their truth.

Notes

1
The phenomenology of money

1 An interesting discussion of the foundations of mathematics is to be found in Calder (1979), and in the correspondence published in subsequent issues of *Scientific American*. One should also note Gödel's theorem (first proved in 1931) which states that in any formal system containing the arithmetic of natural numbers there is a formula which, if the system is consistent, can neither be proved nor disproved, neither it nor its negation being deducible from the axioms (Bullock and Stallybrass, 1977, p. 267). The existence of such a formula, and the axioms to which it relates, is not apparent in any established monetary theory.

2 'Assets' may be defined as 'anything owned which has a money value': what this implies is considered in chapter 3.

3 The point made by Newlyn (1971, p. 5) that 'there was no difference in various parts of Africa, between the cowrie shells which circulated as money and the cowrie shells worn as necklaces' can lead only to confusion. Plainly, cowries (or any other object suitable for use as money) can be recognized as such only in terms of function and not in terms of substance. They are money when they *circulate* as such, and ornaments when they are used for personal adornment.

4 The resulting confusion is well illustrated by a series of transactions, involving different types of 'money' current in an Ethiopian market in the 1880s, cited by Pankhurst (1965, p. 372). On the other hand, for the use of an exclusive export commodity as a *standard,* one has an example in the adoption of the bearer as such by the Hudson's Bay Company (Rich, 1960, vol. i, p. 76).

5 See chapter 7 below. The point is put correctly in Keynes (1971, p. 55).

6 For an example from Assyria, see Bogaert (1966, pp. 59f.), and for one from China, see Gernet (1956, pp. 171f.).

7 The question as to whether banknotes may be regarded as 'specie' is discussed in chapter 11 below.

8 The most cogent argument in favour of coinage is to be found in Smith (1979, ch. IV).

9 The relation between scriptural money and specie is examined in chapters 10 and 11 below.

10 In terms of mathematical graph theory one would then have a 'connected' graph: the application of this theory to monetary systems is explored in Crump (1980a).

11 The classic instance of this happening is provided by the Maria Theresa *thaler,* which originated in Austria in the eighteenth century but which now circulates only in Ethiopia (Pankhurst, 1965, pp. 373f.). For other historical instances, see Einzig (1970, pp. 109f.).

12 As Einaudi (1953, p. 252) puts it, 'In the Christian community of medieval Europe it was possible for each nation to adopt any foreign currency as its own, by simply giving it a rating in domestic money of account.'

13 One finds here a detailed list of the wealth of foreign coins circulating in Milan in the eighteenth century.

14 One should note the existence of a similar dual system in the United States during the so-called 'Greenback period', which lasted from 1867 to 1879 (Friedman and Schwartz, 1963, p. 27).

15 The Royal Mint is a department of the Treasury.

16 The importance of this point is made clear by the detailed analysis given by Mélitz (1974, pp. 71f.).

17 Coins had then existed for only three centuries.

18 There is a definite correspondence between the decline in the economic power of the Church and the increase in the supply of specie in the late medieval period. The importance of the durability of gold and silver, combined with their convertibility without damage into any form, is particularly emphasized by Viner (1955, p. 28), but is noted also by Marx (1973, p. 216), among others.

19 The edict of Pîtres in the year 864 may be taken to represent the first step in establishing the monopoly in western Europe after the fall of the Roman empire (Lafaurie, 1968, p. 325). Before this time—at least in Merovingian France—the manufacture and supply of coin was left to private enterprise. A reconstruction of a coiner's workshop from this period is to be found in the Musée des Antiquités Nationales in St-Germain-en-Laye, just outside Paris.

20 In England the granting of bail to counterfeiters was forbidden by the first Statute of Westminster in 1275. An Act of 1415 equated the clipping, washing or filing of money to treason. The severe penalties which can be imposed under the modern law are to be found in the Coinage Offences Act, 1936.

21 This is now an offence under s. 10(1) of the Coinage Act 1971. It is uncertain whether it was a specific offence under any earlier enactment, at least in England. When in Sweden, in 1975, 20,000,000 kronor paid into vending machines (each one of them with an actual value of kr. 1.40, according to their metallic content) were melted down into ingots in a backyard foundry west of Stockholm, this was certainly regarded as a criminal offence (*The Times,* 13 August 1975).

22 This notation is adopted for the purposes of the present analysis: it is not to be confused with that used officially for measuring the supply of different types of money at the present time, nor with that used by Keynes (1936, pp. 199f.) for the analysis of liquidity.

23 The Dutch Postgiro maintains the supply of what are effectively four different moneys, M_1 (current account), M_2 (interest account), M_3 (plus account) and M_4 (star account). Only the first can be used for payments from one transactor to another. An account-holder is free to use the normal post-cheque to transfer his own money between any of the different categories, on which successively higher rates of interest are paid. Since a penalty must be paid for withdrawing money from M_3 and M_4, these accounts are suitable only for relatively long-term holdings. For income tax a return must be made of the total sum held under all categories on the last day of the calendar year.

24 In the case of specie these are real assets (e.g. plate), whereas in that of scriptural money they remain purely monetary assets. As chapter 17 shows, the distinction is critical in the case of inflation.

25 See Codere (1968, p. 559):

> Money is a symbol. It functions as a sign, it is semiotic. It is a symbol of both past and future exchangeable goods, the idea of goods being understood to include services. As a symbol its particular physical character is arbitrary within certain practical limitations, as are all symbols; it has a range of frequency of usage depending upon its contexts; it involves abstraction from the particular concrete situation that is symbolized; and it has various degrees or levels of symbolic power depending upon its co-ordination with other symbols or systems of symbols.

The conversion of money into goods, which is implicit in the symbolism, has an interesting parallel in the medieval church's doctrine of 'transubstantiation' (*Oxford Dictionary of the Christian Church,* 1958, p. 1372), regarding the conversion of the bread and wine into the body and blood of Christ.

26 For other examples see Crump (1978, pp. 510f.).

27 Van Gennep (1960) is the standard anthropological text.

28 The actual passage is:

> La tua città…
> produce e spande il maledetto fiore
> ch'ha disviate le pecore e gli agni,
> però che ha fatto lupo del pastore

29 i.e. the lily on the coin.

30 This popular view of money is illustrated by a custom, reported by Gudeman (1976, p. 202) from Panama (but which is probably much more widespread), by which the godfather, at the time of baptism, throws a handful of coins to boys waiting outside the church, thereby signifying the renunciation of worldly interests on behalf of the child. The disgust which money arouses is exemplified by a trend in modern psychology which identifies money with faeces, appealing to Freud's formula, whereby excrement becomes aliment (Brown, 1970, p. 257). As chapter 18 will show, there are reasons for seeing this as a distinct characteristic of Western culture.

31 This is the opposite of the role of gifts in traditional societies (Mauss, 1968, p. 163).

32 Note the Spanish proverb cited by Gudeman (1976, p. 37): 'E1 que no debe no es gente'.

33 This is directed to the ideal state of 'mngwotngwotiki' described in chapter 4.

34 This is illustrated by the way in which blue-collar workers in the United Kingdom refuse to give up the right (established by the nineteenth-century Truck Acts) to be paid in cash.

35 But it does reflect the ideal of the credit and cash systems of the USSR: see chapter 13 below.

36 The term 'social facts' comes from Durkheim (1938, ch. 1).

37 Does the fear of large numbers, which Lévi-Strauss (1979, p. 430) attributes to traditional cultures, play a part here?

38 The point is illustrated by a Chamula myth recorded by Gossen (1974, p. 306):

> The Chamulas spread money on the ground, hoping that Our Father would walk on it. The Ladinos did the same with rose petals. He walked on the roses, which turned to money when the Ladinos collected them afterward. That is why Ladinos are so rich, since Our Fathers wanted them to be. That way they could give jobs to Indians and pay them.

39 An example is to be found in the very small number of astronomical observations made so far which provide any confirmation of Einstein's general theory of relativity (Kuhn, 1962, p. 26).

40 It may be that scientific theory, particularly if it is cast in a predominantly mathematical form, may seldom be capable of being proved true or false by direct comparison with nature, but when such opportunities for proof or disproof do occur, they are almost always conclusive. This recalls Einstein's reaction to a book which appeared in Germany at the beginning of the Nazi era, with the title *Hundert Autoren gegen Einstein;* Einstein pointed out that if his theory was false, one scientist would be sufficient to disprove it (Clark, 1973, pp. 394f.). The position is quite different in the social sciences (including economics), where head-counting is the order of the day.

41 For a discussion of monetary theory in relation to policy see Johnson (1978, chapter 1). Knight (1952, p. 510), in suggesting that the main relevance of monetary theory is to be found in its relation to social policy, is hardly overstating the case.

42 For a comparison with the position of the anthropologist see Malinowski (1922, p. XV):

> Ethnology is in the sadly ludicrous, not to say tragic, position, that at the very moment when it begins to put its workshop in order, to forge its proper tools, to start ready for work on its appointed task, the material of its study melts away with hopeless rapidity.

Monetary theorists are hardly conscious of this problem.

43 This is the basic assumption in Newlyn's (1971, p. 83) elementary discussion of the quantity theory of money.

44 For a strict treatment of this subject, see Russell (1936, ch. 3).

45 By 1600 America was already producing ten times as much silver as Europe (Brading and Cross, 1972, p. 545). The monetary consequences have led to a considerable amount of controversy among historians; a summary of the present position is to be found in Deane (1979, pp. 4f.).

46 Except by pure coincidence.
47 This process may be taken to coincide with the opening up of the gold mines of the Rand: its implications are dealt with in chapter 11.
48 Hicks (1977, p. 66) is correct in pointing out that Keynes's 'marginal efficiency of capital' expresses the same idea in another way.
49 As is illustrated by the treatment given in Keynes (1936, ch. 17).
50 As is confirmed by the passage from Keynes (1936, p. 150) cited on p. 187 above.
51 The categorical terms in which the conclusion is stated must be qualified in the light of Keynes's assertion that small 'bubbles of inflation' were not harmful.
52 This ignores such events as the Invergordon mutiny in 1931, when sailors refused duty in protest against cuts in their pay (Taylor, 1965, p. 296). Keynes, writing some three years later, could hardly have forgotten.
53 But as the example of, say, Switzerland, shows, some do considerably better than others.
54 Or as Johnson (1975) put it, Keynes became influential only when he was at least fifty years out of date.
55 Note particularly the tone of Keynes's earliest work (1971), which was first published in 1913, when he was twenty-eight years old. We hardly need St Paul to remind us (I Cor. 13:8) that all prophecies fail: the thought is hardly encouraging to any social scientist.
56 A short general discussion is contained in Crump (1951, pp. 22f.).
57 This is true even in the case of suicide, provided it is viewed as a social phenomenon rather than as an aggregate of separate cases (Durkheim, 1973, p. 8).
58 Contrast the ideal role of the state as seen in the era of mercantile capitalism (sixteenth and seventeenth centuries) with that which prevailed in the era of industrial capitalism (eighteenth and nineteenth centuries) (Roll, 1973, p. 63).
59 In terms of priesthood this is an aspect of 'indelibility': see under 'character' in the *Oxford Dictionary of the Christian Church,* p. 264. For bureaucracy see 'The Development of Bureaucracy and its Relation to Law' in Weber (1978, ch. 18).

2
The money game

1 The implicit assumption is that money is fungible according to the analysis presented on p. 18 above.
2 The importance of this for monetary analysis is explained in Friedman (1969b, pp. 33f.). One should note also that certain monetary institutions make the relationship quite explicit, e.g. monetary assets in the form of Treasury bills, certificates of deposit, etc., all of which are recognized forms of near-money.
3 i.e. by de Coppet (1968, 1970a and 1970b) for the 'Are'are and Cancian (1965) for Zinacantan.
4 For an instance of the tontine conceived of as a game, see Stevenson and Osbourne (1889). At the present time 'Monopoly' is probably the most popular terminal money game.
5 e.g. goods and services in an exchange system.
6 The compulsive gambler wastes an income which he should use to support his family. The successful professional does not necessarily have a distinct role, like that of the bookmaker, in the game played. The small number of skilled bridge players who support themselves and their families on their winnings should also be classed as professionals, although—according to the rules of the game—their status is no different to that of any other player.
7 Practical examples of successful strategies are provided by the survey of personal finance published in *The Economist* of 24 March 1979.

8 This is also the approach of Ortiz's (1973, pp. 272f.) study of the Paez Indians of Colombia, who must strike a balance between subsistence agriculture and the production of coffee for the external market: the strategies adopted are determined by the need of the individual household for the money earned from the sale of coffee, which is essential for the purchase of tools and clothing (ibid., p. 236).

9 This point is illustrated by the exchange economies of the Indian communities along the Mackenzie River in the Canadian North-West. The men are compulsive gamblers. A minority of consistent winners need have no other occupation: all their needs are met by their shares of the wages earned by the majority in other occupations.

10 The use of the money introduced by the British Colonial Administration is quite marginal, and is confined to a quite different sphere of payment.

11 See de Coppet and Zemp (1978, pp. 50–9) for photographs of the funeral rites.

12 Cancian uses throughout the Spanish word 'cargo', but the meaning is substantially the same.

13 In contrast to the general case of 'rotating credit associations' discussed by Geertz (1962).

14 This theme is central in chapter 7 below.

15 This actually happens in the more remote municipio of Chalchihuitán, where maize is a clearly recognized unit of account (Köhler, personal communication).

16 In the culture area of which Zinacantan is a part the process is described for the adjacent municipio of Chamula in Gossen (1974, pp. 22f.). In the absence of any sort of written records, historical memory is short, and the last creation is believed by some to have begun no more than 120 years ago, which is as far back as any genealogy could be traced. The important point is that the process took place at a time beyond any possible human record within the indigenous culture. (In the case of Chamula and Zinacantan the Spanish records go back to the earliest days of the conquest in the sixteenth century.)

17 The traditional basis of the common law is expressed in the concept of 'time immemorial', which is no more than another version of the idea stated in n. 16. In principle, in a case based on the common law, the judgment of the court does no more than state the law as it has *always* been, even though the particular point at issue may never previously have been enunciated. *Harrison* v. *Harrison* [1955] Ch. 261 is a case which shows that this is more than a purely academic point.

18 Collier (1973, p. 72) describes this process in relation to the legal system in Zinacantan.

19 If this example ignores such outgoings as taxation and savings, it is still useful as an illustration.

20 The point is made succinctly by Robinson and Eatwell (1973, p. 51):
'The change from the old orthodoxy brought about by the Keynesian revolution was, first and foremost, a descent from timeless equilibrium to the world in which we are living here and now.'

The belief in equilibrium, characteristic of pre-Keynesian economics, was the product of intellectual sloth, economic self-interest and political expediency.

21 If the 'Are'are monetary system, as described by de Coppet, seems complicated, it is simple in comparison with that of any modern economy.

22 The use of the term 'sphere of exchange' contains an implicit admission of the primary role of money as a medium of exchange. This is acceptable in the present case, but more generally the neutral term 'sphere of payment' is still preferable.

23 Rotating credit associations, as described in Geertz (1962), are possibly an exceptional case.

24 Compare the role of Bingo in maintaining solidarity among working-class old-age pensioners in England.

3
Money and exchange

1 This is the present definition of M_1: see p. 76 above. Before the French Revolution the position was quite different (Einaudi, 1953, pp. 235f.).

2 Compare the view expressed by Lekachman in his introduction to Schumpeter: 'As a subject, economics profited very little from overspecialization because the specialists concentrated less and less realistically on the nonexistent case of equilibrium under static conditions preferably of pure competition' (Schumpeter, 1978, p. XV).

3 The essential connection between the division of labour and the function of money as a medium of exchange has been appreciated at least since the time of Adam Smith (1979, ch. 4). The point is particularly important to Marxists, for whom exchange provides the primary use of money (Bessaignet, n.d., p. 4).

4 In other cases which come to mind, such as commerce in late medieval Japan (Storry, 1960, pp. 73f.), the solar market systems of Central America and elsewhere (Wolf, 1966, pp. 40f.), the long-distance trade of the Vikings (Graham-Campbell and Kidd, 1980, ch. 3) or, in modern times, the exchange systems of Darfur in the Sudan described by Barth (1967), exogenous factors must be taken as decisive in determining the way in which money was used: to a limited degree such factors were also present in the three autonomous cases described in the text.

5 This approach is similar, but not identical, to that of Chick (1978, p. 47).

6 In technical terms, this is the assumption of perfect inelasticity of substitution.

7 The argument at this stage ignores transaction costs.

8 The mathematical basis is to be found therefore in the calculus of finite differences rather than in the infinitesimal calculus. In practice it does not matter that monetary arithmetic is confined to rational numbers, since non-rational numbers can be approximated by rational numbers to any desired degree of accuracy (Hardy and Wright, 1945, ch. XI).

9 This is no more than a corollary to the mathematical theory of the highest common divisor and least common multiple (Hardy and Wright, 1945, ch. V).

10 Note the distinction made by Chick (1978, p. 38) between an object having value and being a store of value.

11 The question of confidence generally arises in connection with the creation of scriptural money by the banking system (ch. 10 below), but it is relevant to any sort of money—at least in theory.

12 This, essentially, is the starting point for Marx's analysis of the circulation of capital (Marx, 1973, pp. 667f.).

13 This is implicit in the mathematical analysis of 'Production with a surplus' in Sraffa (1975, chapter 2).

14 The metre is now defined in terms of a multiple of the wavelength of radiation emitted by the atom of Krypton 86.

15 At this stage coins gave no indication of their denomination, or of their date of issue.

16 At the present time, there are still 20 pennyweight in an ounce, even though there are now 16 ounces in a pound.

17 In the United Kingdom it is defined as such by the Sale of Goods Act, 1893. Section 28 establishes that the transaction is in principle self-liquidating.

18 See ch. 1, notes 20 and 21.

19 But this is not an exclusively monetary function (Rosenstein-Rodan, 1936, p. 266): it is shared by many durable goods, especially those with a variety of different uses.

20 See n. 17. The actual words of section 28 are given on p. 108 above.

21 Even this is now doubtful in the light of Grierson's (1959) critique.
22 This is a common mathematical technique used to prove false a hypothesis stated in general terms, by establishing a specific instance which contradicts it.

4
The debt relationship

1 As Paton's (1951, p. 379) discussion of *damnum sine iniuria* shows, damage can be caused in certain specific cases without legal liability being incurred.
2 In the United Kingdom damages can no longer be awarded for adultery: Law Reform (Miscellaneous Provisions) Act, 1970, s. 4.
3 Damages, especially in tort, are often unliquidated, in the sense that the wrong done does not automatically determine the amount to be paid: the assessment of damages must then be left to the court, where it may well be the only matter at issue.
4 This subject, with reference to Europe before the French Revolution, has already been introduced in ch. 1 above. Modern cases, such as are represented by Euro-currencies and the special drawing rights of the International Monetary Fund, are discussed in ch. 16.
5 An interesting exercise in this connection is to be found in Massell's (1968, p. 450) calculation of an 'own' rate of interest on cattle owned by the Turu of Tanganyika.
6 Here banknotes are something of a paradox, when held by the issuing bank. The notes held by the banking department of the Bank of England are treated as an asset, although strictly they represent no more than a debt owed by the Bank to itself. They correspond to a liability of the issuing department, so the correct zero-sum position is maintained. The anomaly is not apparent where the central bank is not divided into the two separate departments.
7 The mathematician will note that the position represented by table 3 is a logarithmic transformation of that of table 2 in ch. 3 above.
8 This is no more than the number of possible combinations of 2 out of n objects. Mathematically this means no more than $\binom{n}{2} = n(n-1)/1.2$.
9 This is an example of the counter-money defined by Bichot (1978, p. 36) and discussed in ch. 11 below.
10 This is an example of the transformation from *pecu* to *pecunia* mentioned in ch. 1.
11 It is a good question as to how far Euro-currencies and SDRs actually function as a means of payment: in most cases they represent a near-money readily convertible into currency.
12 The origins of the Ecu, and its use within the European Monetary System, are described in detail in *The Economist* of 17 March 1979, pp. 74f.
13 Bichot (1978, p. 39) examines the relationship between the increasing use of scriptural money and the decreasing use of specie, particularly in regard to the practice of paying wages by bank transfer—a practice largely frustrated in the United Kingdom (but not elsewhere) by the provisions of the Truck Acts (*The Economist,* 8 December 1979, Retail Banking Survey, p. 19).
14 Grierson (1959) has established that this principle also dominated the use of money in early medieval Europe.
15 The converse case, with customer payments being made in advance, also occurs, but on a much smaller scale.
16 A very curious instance of this relationship is provided by the Pardhi of central India, as described by Birch (1971). They are a tribal people, whose status in the villages with which they deal is below that of the Harijan (untouchables), yet they 'illegally lend hundreds of thousands of rupees to villagers ranking all the way from Harijan to Brahmin' (ibid., p. 84), although they do 'not use money as a means of commercial exchange' (ibid., p. 87). Although this should

lead to an unrestricted accumulation of funds, this appears not to be the case, so there must be leakages, but their exact form is unknown (ibid., p. 89). In terms of ch. 12 below, the Pardhi maintain one part of the pure-money complex of the villages they deal with, at the same time having no obvious use for the profits which should then accrue to them.

17 There is no problem where the debtor is solvent. In the case of insolvent debtors, the preference given to different categories of debt is a very complicated legal matter. The basis of the English law is to be found in the Bankruptcy Act, 1914, with special provisions applying to corporations and the estates of deceased persons. Comparable provisions are a part of any modern legal system.

18 This was also the general case in medieval Europe, although it is difficult to discover when the sale of land first became a recognized possibility: Milsom's (1976, pp. 103f.) analysis shows that in England this was certainly earlier than the Statute of Westminster II *(quia emptores),* 1290. In Italy, where the feudal restrictions on the alienation of land hardly applied, there may never have been any categorical restriction of sale. There were on the other hand legal restrictions on the free movement of agricultural labour until well into the twentieth century (Sereni, 1968, pp. 147f.).

19 This sanction was primarily enforced in cases of default in the payment of tithes: in certain parts of Europe this contributed significantly to the growth of heresy.

20 This was particularly important at a time when the legal system was largely ecclesiastical.

21 For a mathematical analysis see Crump (1976, pp. 288–9, n. 43).

22 An example of this process, relating to the Indian *municipio* of Chamula in southern Mexico, is given in Crump (1976, pp. 250f.).

23 The scriptural authority is to be found in Leviticus (19:33–6) and Deuteronomy (23:20, 21) in the Old and Luke (6:35) in the New Testament: the traditional rabbinical position is given in Montefiore and Loewe (1963, p. 448).

24 The Islamic position, as stated by Muhammed, is the most extreme: 'The taker of usury and the giver of it, and the writer of its papers and the witness to it, are equal in crime' (Suhrawardy, 1941, saying no. 408).

25 In 1977 Prince Mohammed Al-Faisal of Saudi Arabia took the initiative in establishing a banking system conforming to the Islamic law relating to usury. Under this system, which has members in a number of Islamic states, interest on clients' loans is replaced by a notional share in the profits earned by them.

26 Almost all modern legal systems include some restriction on the terms upon which money can be lent: see for instance the English law relating to money-lenders, pawnbrokers and hire-purchase. For a general discussion of the effect of such restriction see Blitz and Long (1965).

27 At the end of 1978 some 95 per cent of the cash in circulation was represented by banknotes, the rest by coin: the total amount was f. 19,722,800,000 (something under £5,000 million): see De Nederlandse Bank n.v., *Verslag over het jaar* (1978, p. 163).

28 Thus a packet of cigarettes is paid for in coin, and a house by means of a bank transfer: somewhere between these two extremes is a range of transactions where payment in cash and payment by cheque are equally acceptable.

29 These are (i) the income motive, (ii) the business motive, (iii) the precautionary motive and (iv) the speculative motive (Keynes, 1936, pp. 195f.).

30 Miss V.Chick has pointed out that this is almost certainly a more complex function of L_i and f_i, but the product $L_i.f_i$ is a sufficient approximation for the present analysis.

31 The case of undated stock, such as the British government's war loan, which is in practice never redeemed, raises special problems here.

32 *The Economist* (24 February 1979) notes a series, running from M_1 to M_{29}, which is used in the Federal Reserve System in the United States for analytical purposes: the Bank of England is content with M_1, sterling M_3 and M_3 *(Bank of England Quarterly Bulletin,* table 11.1: 'Money stock: amounts outstanding').

33 That this is not always the case is shown by footnote 23 to chapter 1, relating to the Dutch Postgiro.
34 This was the general practice in Venetian banking until well into the nineteenth century.
35 The practice was introduced on a limited scale in United Kingdom banking in 1961. In 1968 the National Giro (founded as a department of the Post Office) adopted it as the general means of making payments.
36 This happens by force of circumstance when the banks go on strike, as happened in the 1970s in both Ireland and India: for the chaos which resulted in the latter case, see *The Economist* (27 January 1979, p. 68).
37 This is explained in greater detail in ch. 10: the bills dealt in in the London market must carry the name of one of a small number of recognized accepting houses: the importance of this sector of the money market is shown by the fact that the total assets of the dozen-odd members of the Accepting Houses Committee add up to some £10,000 million (*Bank of England Quarterly Bulletin,* 1979, vol. 19, no. 4, table 3.5).
38 In the United Kingdom this sector is generally known as the 'capital market'.
39 This is not necessarily the subscription price since stock is often issued at a discount.
40 This is no more than the result of the operation of market factors: in particular cases the market will function imperfectly, especially when it comes to dealing in unusual issues.
41 This is the whole basis of interest arbitrage in the foreign exchange market (Einzig, 1966b, ch. 8).
42 One should note the implications for new government issues.
43 Once again, undated stocks are a special case, to be left out of the present analysis.
44 This is the point made on p. 18 above.

5
The supply of money

1 The author of this, the so-called 'quantity of money' (exchange) equation, was the American economist, Irving Fisher (1867–1947).
2 In Fisher's equation T is generally confined to the output of goods and services: the present analysis requires a wider definition.
3 Efficiency is essentially an economic concept developed in order to explain the way in which money—as a medium of exchange—by avoiding the need to base any exchange on a double coincidence of wants, saves on transaction costs (see, e.g. Crockett, 1973, ch. 1). The savings increase according to the square of the number of things desired to be exchanged, and so soon exceed the costs of maintaining a money supply. This proposition, whose basis is essentially mathematical, goes a long way towards explaining the economists' theory about the origins of money (which is essentially a *historical* question), dealt with in chs. 7 and 18, below.
4 There has been little research into the size of primitive money-stocks, although in some cases, such as that of Yap (see Lancaster, 1962), the exact quantity of money circulating is known. Grierson (1967) contains a useful review of the methods used for estimating the total volume of coinage circulating in a simple market economy.
5 As illustrated by Godelier's (1973) study of the Baruya.
6 This is an example of the 'negative reciprocity' discussed in ch. 7, below. The theme, which is very important for early medieval Europe, is fully discussed in Duby (1973).
7 This is the point made on p. 6 above.
8 See also the discussion in Lombard (1974, pp. 39–48) of the way in which, in the ancient world, gold and silver were used alternatively as money and ornament.
9 See n. 4 to ch. 7 below.

10 The provision of grave goods is so general a theme, particularly in archaeology, that no authority need be cited to establish it. See, however, for the ancient Near East, Oppenheim (1964, p. 234). In England the hoard of 'buried' coins discovered at Sutton Hoo is well known: see Grierson (1961, p. 348).
11 In modern French, 'thésaurisation', with its connotation of 'treasure', is the normal word for 'hoarding'. Note how under the law of feudal England the mortmain statutes frustrated the vesting of property in corporations (*Oxford Companion to Law,* 1980, p. 857).
12 But note Leach's (1964, pp. 7–10) criticism of equilibrium interpretations.
13 See p. 91 above.
14 This is a context in which plate can be seen as a sort of 'near'-money, capable of being converted into specie, an 'actual' money: see p. 17 above.
15 But see now van Leynseele (1979, pp. 80f.).
16 These assumptions go at least as far back as Aristotle, who was the first to explain the origins of money in the terms which modern economists take for granted (*Nicomachean Ethics,* bk. 5, ch. 8).
17 The sphere of exchange is a restricted category of spheres of payment, defined by taking sale to be the basic monetary transaction.
18 A universal medium of exchange can hardly be significant *mathematically* unless there are at least four commodities in the market: for it to be efficient *economically,* the number must be higher. For the fundamental monetary theory see Clower (1969b). The anthropologist who can point to spheres of payment where fewer than four commodities are traded presents the economist with something of a dilemma: see de Coppet (1968, p. 47).
19 The point has already been made in ch. 1, but see also Godelier (1974, p. 113) and Oppenheim (1964, p. 30).
20 This is related to the distinction made by Marx (1976, p. 126) between 'use value' and 'exchange value'. Marx's whole treatment of the relationship between commodities and money is very thorough, but it starts with the same questionable assumptions as were made by Aristotle: see n. 15 above.
21 This definition of consumer goods excludes ornaments. Even so, one true consumer good—pepper—served as money in the course of the Middle Ages (Bloch, 1933, p. 23), but only in spheres of payment to which it was exogenous, and in which it was also a surrogate for coin.
22 In terms purely of quantity, coins are certainly one of the largest-scale mass products of any modern economy. It is interesting to note here, how Hodson (1911, p. 123), having shown all his possessions to a group of Naga tribesmen among whom he was working, found that coins aroused the greatest interest and curiosity, simply because of their complete uniformity.
23 Investment in human capital attracts a fair amount of interest at the present time: for its importance in two different contexts, compare Becker (1964) with Fogel and Engerman (1974).
24 This means the complex of 'inputs' necessary for making a given commodity: the whole idea of 'factors of production' is fundamental in economic theory.
25 This assumes, of course, that 'coining' provides a 'living', with all that this implies for the existence of a differentiated exchange economy. In an elementary exchange economy, such as that of Merovingian France, this assumption may be too far-reaching.
26 There are few obvious historical examples of the hyperinflation of commodity money. In the nineteenth century the importation, by Hamburg merchants, of vast quantities of cowries to the west coast of Africa led eventually to so great a fall in prices that the cowries 'ceased to be of any use in trade' (Quiggin, 1949, p. 31). For a general discussion of hyperinflation, see ch. 17.
27 For the origins of coinage, see Balmuth (1973).
28 This process, of course, was reversible. A number of monasteries in early medieval Europe had their own mints (Spufford, 1971, p. 581).

29 See n. 8 to ch. 9.
30 This may be an over-simplification, since it fails to take into account the use of certain state moneys in international trade: see for example Lopez (1951).
31 Something looking very like mutation still appears to be used as a fiscal measure in the Soviet Union: see p. 139 above.
32 See n. 19 to ch. 1.
33 A passage from Lombard (1974, p. 159), discussing the circulation of gold, and gold coins, of Islamic origin in the latter Middle Ages, is extremely suggestive:

> a one-way movement, by which the stock of gold of one part of the world was depleted to the profit of another part, was replaced by a closed circuit, in which gold circulated from the Islamic world to the west, from the west to Byzantium, and from Byzantium back to the Islamic world. This is the first time that one finds a system of circulation on such a scale, of equal benefit to the Orient, the Mediterranean and the whole of Europe. The gold of the Islamic world was the origin of this radical transformation in the path and direction of the circulation of money.

34 Keynes (1971, pp. 70, 82) provides an interesting discussion of a regression to a linear movement of gold, which originates in the mines of South Africa, moves first to London, next to Egypt, and then on to India, where it is hoarded—'an uncivilized and wasteful habit'. But, then, 'if we take a longer view the Indian demand is, at a time of plentiful gold supply like the present, a true friend to the City and an enemy of inflation'.
35 The effect of foreign exchanges on this inequality is considered in ch. 16 below.

6
The role of the corporation

1 This was certainly the case in the United Kingdom until the mid-nineteenth century. At the beginning of the nineteenth century, partly as a result of the Bubble Act, 1720 (which stopped speculative and fraudulent companies), there were only three sorts of companies: (i) those established by Royal Charter, (ii) those established by special Act of Parliament, and (iii) deed of settlement companies, which were trusts in the form of a company. The modern law is to be found in the Companies Acts, 1948, 1962 and 1971 and the European Communities Act, 1972.
2 British examples are—apart from the crown—bishops and incumbents of the Church of England, ministers of the crown and the Public Trustee (Palmer, 1976, p. 1040).
3 n example is provided by the personal representatives which the English law entrusts with the administration of the estate of a deceased person (Administration of Estates Act, 1925, s. 1 and def. s. 55(1)(xi)). The *hereditas jacens* of the Roman law appears to have been in effect a corporation sole, although he was never recognized as such (Paton, 1951, pp. 327f.).
4 Note here the treasure associated with the crown, and the use of the crown as a monetary denomination, both of which reflect its character as a permanent institution (Crump, 1978, p. 515, n. 47).
5 The early history of the Belgian Congo provides an instance of the crown acting as a business corporation (Kossman, 1978, p. 391).
6 Something close to the traditional position was re-established by the king, Sobhuza, in 1973: one of the queens commented on this move with the words, 'Kingship has returned' (Kuper, 1978, p. 567).
7 Even a cursory study of the British companies legislation, cited in n. 1 above, will confirm this point.
8 The rule of St Benedict, dating from the sixth century, is one of the most successful models of a corporate constitution ever established.

9 This was a common practice of Chinese monasteries (Gernet, 1956, p. 19).
10 Tithes, the best-known form of church taxation, were paid in kind, but they were converted into a rate, payable in money, in London as early as the sixteenth century.
11 In technical legal terms they were exempt from the rule against perpetuities. See also n. 11 to ch. 5.
12 The accumulation of wealth by the Swazi royal house almost certainly depended upon its character as a corporation sole, although Kuper (1978, p. 568) never makes this point explicitly.
13 In contrast to their agricultural policies, with their focus of land reclamation, which were extremely progressive (Ganshof and Verhulst, 1971, p. 303).
14 The point is made very clearly by Bazant (1971, p. 1):

> Often the poverty of the State was the result of a war which had left the national exchequer exhausted and in debt. Military expenditure reduced national wealth, as did the extravagant and profligate activities of monarchs. In contrast the life of most religious, in particular the regular orders, was methodical and frugal. Moreover, ecclesiastical property enjoyed exemption from most civil taxes and there was a slow but continuous increase in legacies, inheritances and gifts to the Church. As the exchequer was impoverished, the Church grew richer….

15 A partnership is not strictly a corporation according to modern company law, but it was almost certainly effectively so in Renaissance Italy. Compare the deed of settlement companies (mentioned in n. 1 above), which flourished in eighteenth-century England.
16 The essential point was that a dividend was to be paid on the stock held by the members.
17 Certificates are also issued to the individual stockholders, and in certain cases they may even be the title to the stock.
18 The price may have been paid in kind, particularly by the original subscribers: in most legal jurisdictions all stock must have a nominal value expressed in money. There is, however, no essential reason for this, and some jurisdictions allow for stock to be issued with 'no par value'.
19 In the United Kingdom the full meaning of this principle was explained and emphasized by the House of Lords in Salomon *v*. Salomon & Co. Ltd [1897], A.C. 22, 51.
20 This, the well-known rule in Foss *v*. Harbottle (1843), 2 Hare 461, is now qualified, to some extent, by the Companies Act, 1948, s. 210.
21 This is the rule in Royal British Bank *v.* Turquand (1856) 6E. and B.327.
22 One should compare, for instance, the British private company, the French *société à responsabilité limitée,* and the Dutch *beperkte vennootschap*.
23 The Lord Mayor of London carries a comparable financial burden.
24 For instance, the city livery companies in London.
25 Compare the income which British charities receive under deed of covenant: for a comparable Dutch case, see Werdmölder (1979).
26 The same idea is expressed in the French *société anonyme*.
27 A summary of the present position is to be found in Robinson (1971, pp. 102f.).
28 Pitt's Combination Act, 1800, which was particularly directed against trade unions, was repealed in 1824, and trade unions thereby became legal—a stage not reached on the continent until much later (Hobsbawm, 1975, p. 109).

7
Distribution and redistribution

1 Shackle's (1974, p. 72) comment is very significant here:

> [Money]…has no place in a purely rational system, for its two purposes are *search,* the finding of partners for multilateral exchange, and *liquidity,* a means of providing against contingencies; but rationality pre-supposes complete knowledge, which would abolish both these purposes.

2 This Act codifies the English case law, which itself was based on the European Law Merchant, whose origins go back at least as far as the Champagne Fairs of late medievalism.
3 This, the Marxist view, rejects the possibility that both sides, in their own terms, see themselves as benefiting from the exchange. For the extreme non-Marxist view, see Friedman (1962, p. 13).
4 The literature on potlatch is vast, but see the articles reprinted in McFeat (1966, part 3).
5 Although it could be argued that any legal system is concerned to reverse the effects of negative reciprocity: such a system is still no more than a sub-system in monetary terms.
6 The rule, 'There is no equity in taxation', is fundamental. It deprives taxation of any moral basis, save the requirements of the taxing power, in which taxpayers may, indirectly, be represented by some form of democratic process.
7 See n. 22 to ch. 2 above.
8 The same point is made by Shackle (1974, p. 4): 'Money is only of use in a world where things are *not* certain, are *not* completely known or even knowable, where the fantasy that all knowledge can be had *at a cost* does not prevail'.
9 This is implicit in the whole critique of Keynes (1936): indeed, this was what the Keynesian revolution was all about.
10 'Own' in this context must often be qualified: see ch. 15 below.
11 Once again, the Marxist view is that the capitalist class structure makes balanced reciprocity impossible in any case: for an original modern commentary on this point, see Dumont (1977, pp. 14f.).
12 Most of those who were ruined by the great crash of 1929 lived to recover at least a part of their fortunes: all those stories of stockbrokers jumping out of skyscraper windows belong to the realm of myth (Galbraith, 1961, pp. 148f.).
13 See the diagram in Siverts (1969, p. 107).
14 An example of such a system is put forward by Tax (1953, p. ix), referring to the Indian community of Panajachel in Guatemala: the case must be exceptional.
15 The whole question is analysed in detail in Smith (1975), which, if correct, shows that these systems are much less useful as ideal types than was earlier thought to be the case.
16 Jones (1976) is a recent case in point: although the empirical assumptions upon which the article is based are quite unwarrantable, the bibliography contains a useful list of other works of this genre.
17 But see Foy (1913) for a possible exception.
18 But it may provide the original basis for money as a unit of account (Lambert, 1963, p. 79).
19 For 'conservatism' in economic thinking, see Galbraith (1971, p. 19).
20 This occurs generally as a result of the process of diffusion: see, *inter alia,* Bogaert (1966, p. 145).
21 Compare the saying attributed, probably incorrectly, to Mr Justice Darling: 'The law-courts of England are open to all men, like the doors of the Ritz Hotel.'
22 This conclusion may be contrary to Marxist theory, but it is supported by a number of instances from the Third World: see Bromley (1978) or Crump (1980b).
23 For a Marxist critique, see Mandel (1978, pp. 483f.).
24 For an example from Africa, see Fortes's (1940, pp. 253f.) short discussion of Tale religion.
25 See particularly the section entitled 'Distribution at the Chief's Court' in Richards (1939, pp. 147f.).
26 Contrast the Chinese system for the distribution of gold, described on p. 117.
27 This may not be true of the financial innovators of the post-war period, but they are hardly the 'controllers' of the monetary system.
28 As exemplified by Epstein's (1964, pp. 56f.) study of the Tolai of New Britain.

29 Alternative, non-monetary systems, are discussed in ch. 3 above. Tucci (1970, p. 17) is probably not alone in refusing to acknowledge the profit motive in traditional societies.
30 For a description of this process, see *The Economist* (4 November 1978, pp. 11–15, 109–15).
31 It is, however, well established for the payment of salaries by large corporate employers.
32 See 'Plastic—the Alternative Money', *Barclays Bank Quarterly Information Service on Money Matters,* n. 45 (July 1979).
33 This is a research topic on its own, but one can hardly deny such matters as the connection between unemployed youth and the obligations owed by employers—in the form of redundancy payments, sickness benefits, pensions, etc.—to their permanent work-force.

8
Boundaries in the use of money

1 In this context, the equitable doctrine of tracing (*Oxford Companion to Law,* 1980, p. 1227), which is concerned to identify money when it has been assimilated into a general fund—such as a trustee's personal bank account—should be contrasted with the problem faced by the Watergate conspirators, who devised special means for 'laundering' money, precisely so that its identity should be lost (Bernstein and Woodward, 1975, pp. 54f.).
2 This possibility falls within the mathematical theory of directed graphs: my own research in the Mexican Indian municipio of Chamula revealed a position very close to the one mentioned in the text.
3 This disregards the question as to whether labour must also be treated as a scarce resource, and the consequences which then follow.
4 See the Chamula myth quoted in n. 38 to ch. 1 above.
5 e.g. Montagu (1970, p. 347).
6 This explains the American 'company store', or the *tienda de raya* established on plantations in Spanish America. The Hudson's Bay Company went so far as to issue their own tokens, marked with the words, 'One dollar for trade'; but then it was the effective government of the whole of the north of Canada.
7 This was the case with the British Armed Forces vouchers, with which British soldiers were paid in occupied Europe after the Second World War.
8 It was thus misleading of Bohannan and Bohannan (1968, p. 237) to talk of 'general purpose' money.
9 Other currencies are also accepted. It is significant that the Polish government has gone so far as to issue its own form of notes, designated in US dollars, for use exclusively in the restricted sphere of payment created by the exchange control laws.
10 Leys (1978, p. 125) appears to be one of the few to make explicit that 'communism is not synonymous with egalitarianism'.
11 State-owned factories in Poland must, by force of circumstance, acquire essential spare parts by paying for them in dollars in a black market.
12 Compare the situation of the Mackenzie River Indians described in n. 9 to ch. 2.
13 Except where an agreement is made according to the Payment of Wages by Cheque Act, 1960. For the French position, see Bichot (1978, p. 40).
14 The attempts of Barclays Bank in this direction are described in *The Economist* of 21 April 1979, p. 138.
15 This is the specific purpose of building societies in the United Kingdom. Elsewhere the necessary credit is readily supplied by banks and insurance companies.
16 The position varies from one country to another. Canadian income tax law allows no deduction for mortgage interest, whereas in Holland, at the other end of the scale, interest and all legal costs are deductible.

17 Note the policy of the British Conservative Party to allow the tenants of public housing to buy their own houses.
18 The airlines must view the matter from a quite different perspective. Ideally, they should sell, at full fare, as many seats on every flight as are necessary to cover its costs: the load factor, here, is around 60 per cent. The remaining seats can then be offered to stand-by passengers, and others who pay less than the full fare, according to whatever strategy brings in the most revenue to the airline. It is interesting to note the recent trend in airline advertising to emphasize the extra benefits accruing to passengers paying the full fare.
19 This analysis disregards certain special sectors of the market, such as charter flights.
20 Discussed in ch. 10 below.
21 In the end, Chinese money was consolidated under a regime of paper money (Maspéro *et al.,* 1967, p. 297).
22 e.g. the Exchange Control Act, 1947; the Control of Borrowing Act, 1947.
23 It is significant that dealers in the United Kingdom (unlike the Stock Exchange) refuse to allow their list of current second-hand car prices to be published.
24 The most obvious examples are to be found in the field of tax evasion.
25 The consequence is that the local product tends to be considerably more expensive. Thus, in Holland, bananas are cheaper than apples, and margarine cheaper than butter.
26 Thus, in the United Kingdom, the wages paid by an employer are for him a deduction under Schedule D (which taxes business profits), while for the employee they are income under Schedule E (which taxes salaries and wages). The conversion is not purely a matter of form: the rules for assessment under the two schedules are quite different.

9
The monetary role of the state

1 Note the point made by Keynes (1971, p. 72), 'that the government of India is the successor to a trading company'. The Hudson's Bay Company in Canada and the British South Africa Company in Rhodesia (now Zimbabwe and Zambia) are parallel cases, not noted by Keynes.
2 This is certainly true of any 'planned' economy, e.g. that of the USSR discussed in ch. 14 below.
3 Religious institutions, such as the Church with its right to tithes, often have rights similar to those of the state: indeed, the Roman Catholic Church governed a substantial part of Italy until as late as 1870.
4 The book was, of course, first published in 1913.
5 Keynes (1971, p. 49) noted as early as 1913 that 'In England the use of a cheque currency [had] grown so universal that the composition of the metallic coin [had] become a matter of secondary importance'. None the less, according to Mélitz (1974, p. 72), the 'adoption of…coins with a market value above that of their metallic content plus coinage expenses…[dates] only since about 1934'.
6 All central banks are now nationalized, although in Holland and the United Kingdom this took place only after the end of the Second World War.
7 The case of tithes has already been mentioned, but see also ancient China (Mestre, 1937, p. 50) and ancient Rome (Hopkins, 1978, pp. 47).
8 e.g. the Ankole of Uganda (Oberg, 1940, p. 150). The position must be different in tribes with no central form of government, such as are examined in Middleton and Tait (1970).
9 Especially in the case of hyperinflation, discussed in ch. 17 below.
10 The point may be too obvious to need any examples, but see, in any case, for ancient Greece, Bogaert (1966, p. 133); for Byzantium, Andreades (1948, p. 71); for ancient India, Kosambi (1956, p. 281); for China, Gernet (1956, p. 29); for ancient Rome, Hopkins (1978, p. 47); and for medieval Europe, de Roover (1974, p. 142) and Miskimin (1963, p. 6).

11 For an elementary 'cattle' system, see Schapera's (1940, p. 78) study of the Ngwato; for medieval Europe see Rey (1965, pp. 14f.).
12 As in the Wars of the Roses in late medieval England.
13 This first occurred in Germany and the Netherlands in the sixteenth century (Viner, 1978, p. 78), but the English Poor Rate was established very soon after (Trevelyan, 1944, p. 113).
14 As late as 1937, the so-called National Defence Contribution (NDC) was introduced as a tax on corporate profits in the United Kingdom, in order to enable the government to pay for rearmament. The 'hypothecation' of taxes for particular ends is no longer current practice, and the NDC itself went through a number of transformations. Its final form, profits tax, was ended by the Finance Act, 1965, which established an entirely new basis for corporate taxation.
15 Income tax is still in principle an 'annual' tax, which would lapse if Parliament did not vote to continue it.
16 The monetary consequences of the political disabilities of the Jews are discussed in Simmel (1978, p. 224). See also 'The sociology of commercial banking', in ch. 10 below.
17 In ancient Rome this provided the basis for one of the four permitted forms of private corporation (Hopkins, 1978, p. 57).
18 The currency reform of 1961, which introduced entirely new rouble banknotes, can be regarded as a variant of mutation: the difficulties of discussing Soviet monetary behaviour in conventional terms are made clear in Nove (1979).
19 Save in exceptional cases, the state is always in credit in terms of M_1, at least if its accounts are consolidated with those of the central bank.
20 The 'roll-over' facilities granted to modern corporations put them in much the same position in practice.
21 The irony is that the King won the battle.
22 See n. 14 above, and compare Clapham (1970, vol. I, p. 191).
23 The deficits of the National Health Service in the United Kingdom are, in practice, always covered in this way, even though the service was originally presented as a form of health insurance.
24 As is illustrated by the case of the Maria Theresa *thaler* in Ethiopia: see n. 11 to ch. 1 above.
25 This was certainly how money was established by the British in colonial Africa (Watson, 1958, p. 20).
26 No one would seriously attempt to establish a criminal theory of money (save possibly as an element in some more general theory) on the basis of the fact that crime also ensures the redistribution of money by means of coercion. It would help, rather than hinder, the establishment of such a theory, that 'the redistributive effects of crime are almost completely unknown' (Boulding, Pfaff and Pfaff, 1973, p. 19).

10
The development of commercial banking

1 Money-changers probably first started to operate in the sixth century BC: the first reference in the Greek literature dates from a century later.
2 For the position in medieval Europe, see de Roover (1948, pp. 202f.).
3 A short, but none the less complete, review of bank failures in the 1970s is to be found in Muller (1979).
4 For the general British practice in regard to the bank's liquidity ratio, see Radcliffe (1959, paras. 143, 147).
5 Note the words of Lord Liverpool (1825) quoted on p. 219.
6 This has been a somewhat controversial historical point, disputed particularly by Sayous; see Bogaert (1966, pp. 30f.).

7 In the last analysis specie, even in the form of precious metals, also depends upon confidence.
8 In the United States this is specifically provided for by Federal Deposit Insurance Scheme maintained by the Federal Reserve System. For the United Kingdom one should note the classic rescue operation set up in the 1890s to resolve the Baring Crisis (Clapham, 1970, vol. ii, pp. 326f.), and the Bank of England's 'lifeboat' rescue of fringe banking in 1973–4. The present legal position is to be found in the Banking Act, 1979, part II.
9 The process is well described in Keynes (1971, pp. 36f.).
10 In an economic crisis of the early seventeenth century the professors of the University of Lund in Sweden had their salaries paid in grain (Heckscher, 1954, pp. 124f.).
11 Compare, for instance, the US 'prime rate' charged by commercial banks to first-class corporate borrowers with the London Inter-Bank Offered Rate (LIBOR).
12 This, by agreement between the clearing banks, is the position in the United Kingdom. The Dutch commercial banks do pay interest, although at a very low rate, on current accounts.
13 This balance sheet contains no entry for share capital or fixed assets. The statistical returns of the Bank of England, as they were presented before nationalization in 1946, were also a purely monetary account, containing no entry for fixed assets. I am most grateful to the Bank for allowing me to have a copy of such a return for 30 December 1914. The present-day balance sheet presents a quite different appearance, so much so that one scarcely believes that it relates to the same institution.
14 The account presented includes no charge for overheads.
15 Conversion presented no problems for coins such as the original florin, which were recognized internationally (Dieudonné, 1927, p. 935).
16 The European form of this instrument probably originated in Genoa in the twelfth century (de Roover, 1953, p. 23). The earliest such instrument was probably used in India, whence it came to Europe in the form of the Arabic *suftaja* (Goitein, 1967, pp. 244f.). For a similar instrument used in Japan in the fifteenth century see Lu (1974, p. 160).
17 Note 16 shows that it was not the first instrument of this kind.
18 Fictitious money (p. 12 above) was almost invariably used in these transactions (Einzig, 1970, p. 71).
19 The general provision was for the bill to be payable at usuance, which meant after the lapse of time determined by merchant custom and varying roughly according to distance (de Roover, 1966, p. 110).
20 The process is explained in detail in Einzig (1970, pp. 97f.).
21 A detailed example of the way in which the profit arises is given in de Roover (1966, pp. 113f.).
22 See n. 37 to ch. 4.
23 For the correct chronology, see Einzig (1970, p. 73): 'Most early banks in Western Europe owed their origins to Foreign Exchange dealings. The change of goldsmiths into bankers in England is a much later development; it dates from the 17th century.'
24 This was possible only after the Act of 1833 ended the Bank of England's monopoly of joint-stock banking.
25 Throughout the nineteenth century the banks cleared through *local* branches of the Bank of England.
26 These are now Barclays Bank, Coutts & Co., Lloyds Bank, Midland Bank, National Westminster. Bank and Williams & Glyn's Bank (*Bank of England,* contributors to UK banking statistics, January 1980).
27 Established in 1968, on a model already firmly established in almost every country on the continent of Europe. In England the Trustee Savings Banks are also taking over normal banking functions from the clearing banks.

28 This makes them subject to the Banking Act, 1979.
29 Beginning with Austria in the mid-nineteenth century: state giro-banking, judged historically, represents an attempt by the continental governments to provide the same level of efficient banking services as had been developed by the private sector in the United Kingdom.
30 e.g., in France, the Banque Populaire, the Banque Nationale de Paris and the Crédit Lyonnais.
31 The reasons for establishing the system, and the consequences which then followed, are described in Friedman and Schwartz (1963, chapter 5).
32 de Roover (1966) is not for nothing called *The Rise and Decline of the Medici Bank*.
33 This is comparable to the practice of the Board of Inland Revenue with regard to inspectors of taxes.
34 The case of the Lugano (Switzerland) branch of Lloyds Bank, where the local managers succeeded in losing millions of pounds in exchange transactions, illustrates the point.
35 The pre-conditions for modern forms of bureaucratization are described in Weber (1978, ch. 18).
36 There are no banks in the so-called 'acephalous' societies: see n. 8 to ch. 9.
37 The relationship of Jews to money in general is more evident in a sociological constellation that gives expression to that character of money. The role that the stranger plays within a social group directs him, from the outset, towards relations with the group that are mediated by money, above all because of the ransportability and the extensive usefulness of money outside the boundaries of the group. [Simmel, 1978, p. 224]
38 The new situation differed from the old in one critical respect: money-lending took place between co-religionists.
39 In the Netherlands the position has advanced so far that many payments, both due to and owed by the state, are automatically taken care of by a computer programme linked to the Postgiro, without any intervention on the part of the account-holder.
40 See n. 32 to ch. 7. The recommendation of the Platzky Committee (1979) to allow state pensions in the United Kingdom to be paid—subject to the consent of *both* sides—by bank credit raised the objection that this would deprive many sub-post offices of an important part of their business.

11
Central banking: illusion and reality

1 The original proposals for the Bank of England were not always 'well received' (Bank of England archives; cited in Muller, 1979, p. 44);

> Some said it was a new thing and they did not understand it, besides they expected an immediate peace and so there would be no occasion for it. Others said this project came from Holland and therefore would not hear of it, since we had too many Dutch things already.

2 'It is curious to note that the term "central bank" appears to occur first in the *Doctrine de Saint-Simon, Exposition,* 1830–1, pp. 272–3, to describe a bank which is to be "the depository of all wealth" in a socialist community' (Clapham, 1970, vol. ii, p. 133 n. 2; citing F.A.von Hayek in *Economica,* May 1941, p. 145).
3 The Radcliffe Report (1959, para. 347) describes this as 'a mere accounting distinction'.
4 The difference was that the notes issued by the cash-keepers represented gold by weight.
5 The emergence of the first joint-stock bank is described in Clapham (1970, vol. ii, p. 130).
6 For the position in the Third World see Bortolani (1975, p. 80) and ch. 14 below.
7 There has often been a pronounced distaste for banknotes, particularly in the Third World. Keynes (1971, p. 66) cites the case of the Punjab, where they were often accepted only at a discount.
8 For the position in the United Kingdom, see Radcliffe (1959, para. 347).

9 In December 1978, the value of the banknotes in circulation in the United Kingdom was some £9,000 million and in the Netherlands, some f. 18.700 million (approx. £4,500 million). Seeing that the Dutch population is but a quarter that of the British, the note circulation seems very high: the various factors relevant to this discrepancy are too complex for further analysis in a footnote.

10 Keynes, writing with reference to India, noted particularly how banknotes could contribute to 'seasonal elasticity in the currency' (1971, p. 68).

11 In some countries there are express legal limits to the amount of the note issue.

12 For the position in England before nationalization, see Clapham (1970, vol. ii, p. 425). The Nederlandsche Bank, in private hands until 1948, was probably the last of all the central banks to be nationalized. In both the United Kingdom and the Netherlands, nationalization was effected simply by the government's taking over all the issued shares in exchange for a part of its own funded debt.

13 Keynes, writing of India in 1913, noted that 'the annual income, derivable on the interest on the sums set free by the use of cheap forms of currency, amounts already to about £1,000,000' (Keynes, 1971, p. 63). This last figure is, of course, derisory by present-day standards.

14 For early historical examples, see Galbraith (1975, ch. VI, 'An instrument of revolution'). Modern examples are too numerous to be quoted; the disease is now endemic.

15 The official valuation at $42.2222 per fine ounce is quite unrealistically low.

16 Compare tables 1 and 24 of the *Bank of England Quarterly Bulletin* for December 1978.

17 This valuation works out at about $100 per fine ounce, which is about a sixth of what it should have been: compare the figure given in the *balans* (p. 172) with that given in the paragraph headed 'goud' (p. 176) in the Nederlandse Bank, *Verslag van het jaar* (1978).

18 See the *Jaarsverslag* (1978) of the Amsterdam Rotterdam Bank under the heading, 'Bankiers in binnen en buitenland', noting that the greater part of these foreign currency reserves are held on deposit account.

19 At the end of the seventeenth century, when many proposals were current in England for some form of 'central' bank, one popular idea was a Land Bank, whose reserves would consist in property in land, and which would "issue enormous quantities of notes on landed securities' (Macaulay, 1979, p. 501).

20 This was true at least in the Bretton Woods era: central banks are now diversifyirig. Sterling was also a reserve currency until the 1960s (Einzig, 1970, p. 302).

21 For a discussion of the development of this system in the late nineteenth century, see Keynes (1971, ch. 2): the system was then based on sterling and the United Kingdom gold standard.

22 Such issues as the krugerrand, which are clearly designed to provide a store of wealth, can hardly be regarded as a complete money.

23 There is some actual dealing in gold, but at an extremely low level.

24 At the end of 1979 the Dutch AmroBank introduced a *'Goudrekening',* that is a 'gold-account', for private clients, on the basis of a bank statement, in each individual client's name, in which the relevant entries related not to currency denominations but to specified quantities of gold, expressed in so many grams' weight. The client is free to make transfers to and from this account at the current price of gold. This is almost a reversion to the Amsterdam cash-keepers of the early seventeenth century. There is no theoretical reason why these new accounts should not form the basis for a complete scriptural money, with cheque transfers, etc., based on gold.

25 This is by no means clear from the present form of accounts presented by the Bank of England: in this regard the Nederlandse Bank is much more obviously a bank, as was the Bank of England according to the old form (n. 13 to ch. 10).

26 The different positions of the clearing banks in the United Kingdom and the Netherlands is made clear in the reports cited in ns. 16 and 17 above.

27 A central government must in practice maintain any number of separate bank accounts, not all of which need be held with the central bank.
28 At the end of 1978 the government's account with the Nederlandse Bank stood in credit for a sum of f. 3,208.4 million.
29 As early as 1781, the British prime minster is on record for saying that 'all money business of the Exchequer [was] done at the Bank [of England]' (Clapham, 1970, vol. i, p. 103).
30 Treasury bills are the main asset of the Bank of England: this is not at all the position elsewhere, e.g. the Netherlands.
31 This is common continental practice (Wilson, 1964, p. 208).
32 The former is the general practice of the Bank of England, the latter, of the Nederlandse Bank. It was not until 1930 that the Bank of England even started to open accounts with foreign central banks.
33 Note the words of President Nyerere of Tanzania in the Arusha declaration: 'to build and maintain socialism it is essential that all the major means of production and exchange in the nation (including banks) are controlled and owned by the peasants through the machinery of their government' (Nyerere, 1968, p. 233).
34 Thus Sayers (1967, p. 38) goes too far in stating, in general terms, that 'cash consists, in a modern banking system, of the liabilities of the central bank'. This is true in England, but only because the clearing banks are required to maintain in credit their accounts with the Bank of England.
35 Dutch 'Wet Toezicht Kredietwezen': the last revision became effective on 1 January 1979.
36 This is described in full in the 'Verslag' for 1978, ch. vi, 'Toezicht op het kredietwezen'.
37 Many of the powers granted to the Bank under earlier legislation, such as the Exchange Control and Control of Borrowing Acts of 1946, are now hardly used. As for an early example of bureaucratic control exercised by the Bank, it claimed, in the late eighteenth century, the right to supervise the melting-down of all 'light-cut' guineas into gold bars—a monopoly which the Bank restricted to two firms.
38 This is common Bank of England practice: the Federal Reserve banks deal only in bonds in the open market (Sayers, 1967, p. 25).
39 Compare Brunner and Meltzer (1977, p. 72): 'However, despite numerous plausible arguments to the contrary, there is very little evidence that, with the monetary base given…current interest rates have any sizable effect on money.' Note particularly how all the protagonists appear to speak *ex cathedra*.
40 But it can, and does, exercise pressure on a country such as Turkey to force the adoption of the means necessary to cure a financial crisis.
41 Compare the period of 'fictitious' money discussed in ch. 1 above.
42 See n. 13 to ch. 10.
43 The mechanism of the gold-points is described in ch. 16 below.
44 Keynes (1971, ch. 2) demonstrates this conclusively for the case of India.
45 For a theoretical analysis of this point, see Chick (1978, pp. 52f.). The point is particularly important for the major gold-producing countries, as to which see Gregory's (1962, pp. 504f.) discussion of the circumstances in which South Africa abandoned the gold standard in 1932.
46 This is introduced in ch. 5, and discussed further in ch. 16 below.
47 The question of Spanish silver in the sixteenth and seventeenth centuries is rather a special case, as to which see n. 45 to ch. 1.
48 'wonderfully few…countries have yet learnt that gold reserves, although no doubt they serve some purpose when they are held for show only, exist to much better purpose if they are held for use also' (Keynes, 1971, p. 125).
49 Long before this time the American gold standard had become largely meaningless, for, as Friedman and Schwartz (1963, p. 12) pointed out, 'Gold is currently a commodity whose price is legally supported, rather than in any meaningful sense the base of our monetary system.'

50 In the United Kingdom this means not the central bank but the Exchange Equalization Account, which belongs to the Treasury but is managed by the Bank of England.
51 This has been the general position, even in the United States, at least since 1934 (Friedman and Schwartz, 1963, p. 684).
52 Hayek (1976) clearly disagrees.

12
The pure-money complex and its transformations

1 This may be indefinite, as with a 'with-profits' policy.
2 There may be several variant forms for one type of transaction, e.g. life assurance, and the figures may, of course, be endlessly varied.
3 e.g. when one friend borrows from another.
4 See ch. 10, for the state's tendency to consolidate its pure-money operations.
5 This problem is largely solved by corporations: see p. 101 above.
6 This is what happened in the early 1970s with Savundra's scheme for accident insurance.
7 This theory, starting with Say's Law and Walras's Law—both enunciated in the nineteenth century—together with modern developments, is presented and criticized in Johnson (1978, pp. 18f.).
8 For all one knows, such rings may actually exist, perhaps as an element in a tax avoidance scheme.
9 The common form of such contracts well exemplify the role of the pure-money complex, in that the key relationship is between the user of the car and the finance company, the dealer who actually supplied the car having become *functus officii* as soon as it was delivered.
10 The contract itself is often implicit, as in the case of that subsisting between a company and its stockholders.
11 This form of analysis, in its relation to small-scale pure-money complexes, is presented in Crump (1980a, pp. 178f.).
12 The pejorative connotations of being 'on relief' are significant in the culture of money: there is also an interesting class distinction between 'net contributors' and 'net beneficiaries' of public insurance schemes.
13 The state of public ownership in eleven key sectors of a modern national economy, for eighteen different countries (none from the Eastern bloc), is presented in a chart in *The Economist* (30 December 1978, p. 39). The Post Office is 100 per cent publicly owned in all the countries listed, whereas for the motor industry this is true only of Austria (where it is of little importance). Austria is also at the head of the table in the extent of public ownership, while the United States occupies the lowest place.
14 The pension funds are, in terms of the pure-money complex, completely independent of the industries to which they relate.
15 A young couple buying their first home has little choice about the terms contained in standard mortgage proposals.
16 e.g. all forms of compulsory state insurance.
17 This is clear from the way in which large corporations use one single computer programme for the deduction of income tax from wages and salaries: this is no more than a mathematical analogue to the unique common form of the relevant tax code.
18 Note also the way in freedom of contract is now subject to statutory provisions designed to protect the interests of *[I]* against *[C],* e.g. the regulation of hire-purchase in the United Kingdom by the Consumer Credit Act, 1974.
19 The modern position, with the correct emphasis on legal prescription in place of freedom of contract, is presented in Boulding, Pfaff and Pfaff (1973, p. iii).

20 It is therefore more than a system of direct financial mediation: this is essentially the position taken by Johnson (1978—see n. 6 above).
21 On this point Johnson's (1978, ch. 1) approach is far too narrow.
22 e.g. the United Kingdom short-term money rates, as presented in the *Bank of England Quarterly Bulletin* (December 1978, table 28).
23 The so-called Public Sector Borrowing Requirement (PSBR) is at the centre of current government policy in the United Kingdom: it represents a sort of global control of the national economy.
24 In the United States these regulations are particularly associated with the federal government agencies, whose number is legion, and which are anathema to Professor Friedman (1962, pp. 125f.). The position is no better (or worse) elsewhere.
25 See n. 7 above.
26 A case such as that of the Tiv of Nigeria, who maintain three different spheres of exchange, is at first sight difficult to fit into a model based on a pure-money complex. This, essentially, is the function of the highest level of exchange, which, in terms of the 'rights in human beings' (p. 125 above), accords with the definition at the beginning of this chapter. In this case conversions across the boundaries of the pure-money complex are difficult to make, and occur comparatively rarely. A parallel case is to be found in ancient China, in which the mutual exchange of gifts, consisting of specific classes of valuables, was a distinctive feature of the nobility (Mestre, 1937, p. 39). In these two cases, however, it is not self-evident that internal circulation reaches a relatively higher level than in other systems. The way in which the pure-money complex is integrated into any general monetary system is, in almost every case, idiosyncratic, and is important in determining the character of that system—a point well illustrated by contrasting capitalist (ch. 13) with socialist (ch. 14) systems.
27 The modern state often ratifies tradition in the form of a legal code: the common example of the law merchant of early Renaissance Europe has already been cited.
28 Paton (1951, p. 144) does, however, cite an instance of legislation being made by the Elk soldiers of the Cheyenne Indians.
29 Marxist thinkers such as Mandel (1978, p. 571) are only too ready to point to these consequences as a fundamental defect of the capitalist economy.
30 The process is described in detail in Pressnell (1956, pp. 12f.). For the development of wild-cat banking in the United States, see Galbraith (1975, pp. 85f.).

13
Capital and the corporate state

1 The Siassi also consume pigs themselves, but in this case there is no exchange equivalence (Huntington, 1972, p. 477).
2 The Zinacantan game, described in ch. 2, is an alternative to capitalism: that is indeed part of its *raison d'être*.
3 For what this involves, see p. 10 above.
4 This point is discussed in greater detail on p. 217 above.
5 As witness the exchange economy of ancient Mexico described in ch. 3 above.
6 Since 1965 it has been legally impossible to create new *mezzadrie,* so the institution will soon disappear.
7 Note here the policy of the present Conservative Government in the United Kingdom to return certain enterprises to the private sector. See also n. 13 to ch. 12.
8 Until 1965 this was the approach of the British Income Tax Acts, which attributed corporate profits rateably to stockholders. The Finance Act, 1965, which introduced a new 'corporation tax', completely changed the position, although the problem of attribution remains critical in certain special cases.

9 The position in the Netherlands at the end of 1978 gives some idea of the vast scale of these operations: the assets of pension funds in the private and public sectors then totalled some f. 117,487 million. In British terms this represents an investment of £7,500 for every single household.
10 In the NATO countries defence accounts for some 35 per cent of government expenditure.
11 Under the Finance Act, 1965, corporate capital gains were assessed to corporation tax as if they had accrued on income account: individuals, in contrast, were to be charged a separate capital gains tax, at a generally lower rate.
12 This is generally known, for obvious reasons, as 'the insured population'.
13 The relation of the pure-money complex, whether on the private or public side, to expenditure on medical services is extremely involved, and generally full of contradictions, with almost every country maintaining its own idiosyncratic system.
14 Agricultural support is not confined to the EEC. The American and Japanese systems, for example, are fully described in *The Economist* (4 August 1979, p. 57), but the practice is extremely widespread. This is, significantly, another institution anathematized by Professor Friedman (1962, pp. 181f.).
15 Contrast the legal provisions protecting the special economic interests of the *artigianato,* or *small* craftsmen, in Italy (Alexander, 1970, p. 88).
16 In the end this provided the United States government the only means to bring A1 Capone—the greatest criminal boss of his generation—to justice.
17 The most extreme cases are, however, to be found in the Third World. At $8,000 million per year, the illegal export of marijuana from Colombia earns more than three times as much as coffee, which, officially, is the country's main export crop (*The Observer,* 9 September 1979).
18 Lord Rothschild, presenting the report (1978) of the Royal Commission on Gambling, observed that the best advice one could give to one's son was that he should make his career as a casino operator.
19 There is not a metro or underground railway anywhere in the world which operates at a profit.
20 For an example, see the printed salary scales which the City of Amsterdam sends every year to all its employees, from which one learns, for instance, that a chief inspector of police ranks somewhere between a university lecturer, first-class, and a senior lecturer.
21 A key issue at the present time is the representation of labour in corporate management, for which legal provision varies greatly from one country to another.

14
The socialist states

1 It is significant how often, in the last few years, Jews in the Soviet Union have been prosecuted for foreign exchange offences, for which very severe penalties may be imposed.
2 The appeal of ancient Mesopotamia to Soviet scholars is very significant here for the support it lends to official thinking (e.g. Tyumenev, 1956). For a full discussion in English, see Oppenheim (1964, pp. 95f.).

15
The Third World: scale, inversion and discontinuity

1 In Europe at least, this phenomenon began to develop long before the industrial revolution, as noted in Ladurie's (1979, p. 287) study of Montaillou in the early fourteenth century.
2 But note also how the Eurocurrencies (discussed in ch. 16) tend to dissolve national boundaries.
3 Bailey (1957) is a specific study of this phenomenon in the Indian province of Orissa.
4 In fact, in Somaliland the rupee circulated until 1940, and in Mauritius until 1934.

5 The Javaanse Bank, which maintained an independent currency in the Dutch East Indies, is an exception.
6 Keynes (1971, pp. 61f.) shows that this is a not unimportant point.
7 At the moment the currencies of two of the former High Commission territories, Swaziland and Lesotho, are still tied to the South African rand; the currency of Botswana (pula) is completely independent.
8 The point is argued, positively, in favour of India, in Keynes (1971, pp. 166f.).
9 Here history has shown Keynes to have been absurdly over-optimistic: he took the acculturation of the colonial empire to British standards for granted in a way which now seems completely unrealistic.
10 Newlyn (1977, p. 2) takes for granted that every country has, somewhere, a surplus over necessary consumption, which can be increased by public policy and made available for investment: this assumption, although clearly true for many lands in the Third World, can only raise false hopes in others. Newlyn's study is too culture-bound to Western economic ideas to be really helpful in solving the problems it deals with, which explains its neglect in the present chapter.
11 This makes it almost impossible for the Indians who go down to the coffee plantations during the harvest months to remit their wages to their families in the highlands of southern Mexico and Guatemala.
12 In southern Africa, the Witwatersrand Native Labour Association, which recruits labour for the mining industry, has developed an elaborate system for remitting a part of the wages earned to the families left behind by the workers in their place of origin.
13 In 1971 the Mexican government attempted to make the point quite clear in the Indian highlands of Chiapas by putting up posters with the slogan 'Todo en Chiapas es Mexico', disregarding the fact that few of the Indians would be able to read them.
14 For a discussion of the quality of the Kula valuables as money, see Mauss (1968, p. 178, n. 1).
15 The Mambwe were in any case constrained to earn some money in order to pay the poll-tax imposed by the British administration (Watson, 1958, p. 38).
16 Erasmus (1967, pp. 387f.) presents an interesting discussion of the division of a traditional society into two groups, one, the *'entrones',* seeking economic integration, and the other, the *'encogidos',* economic isolation: the conflict between the two groups is acute in many parts of the Third World.
17 But now ANDSA, an agency of the Mexican government, will buy any maize offered to it at relatively high fixed prices.
18 The Ladino shopkeepers, who sell to the Indians, still represent a relatively poor sector of the national economy (Plattner, 1969, p. 83).
19 The examples are numerous, but see Gudeman (1978, pp. 24f.) for an interesting historical exegesis. For Asia, see Myrdal (1977, p. 198).
20 Instances occur from ancient Ur (Bogaert, 1966, p. 78) to modern Madagascar (Dez, 1970, p. 198).
21 Recorded from the time of ancient Assyria (Bogaert, 1966, p. 66) onwards.
22 i.e. there is no free sale of land, nor free employment of labour: this is the characteristic position of pre-modern Europe as much as of many parts of the Third World at the present time.
23 Its operation in India is described in Myrdal.
24 For an actual illustration, see Vogt (1968).
25 This must be regarded as the classic study of autochthonous capitalism directed to exploit a world market.
26 The proliferation of lorries in marginal peasant economies shows how well suited they are as a basis for elementary capitalist enterprise. For a Mexican example, the case is examined in detail in Papousek (1978, pp. 82f.).

27 For the different economic policies which may make use of such tariffs, see Bannock, Baxter and Rees (1972, pp. 393f.).
28 For a detailed study of the difficulties facing small-scale local capitalist enterprise in the Indian state of South Gujarat, see Streefkerk (1978, pp. 84f.).
29 The literature on this point is extremely restricted, particularly seeing how important it is. See, however, Bottomley (1963) and Nisbett (1967).
30 Compare Keynes's (1971, pp. 156f.) discussion of the role of local joint-stock banks in India.
31 In nineteenth-century Thailand, gambling counters issued by the gaming houses (a recognized monopoly), were used as small change, being recalled for redemption (often at a loss) only if the issuing house ceased to operate (Einzig, 1966a, p. 104).
32 In January 1968, a news-flash heard in Chicago related a report of a local fire to a *coup d'état* in the West African state of Dahomey (now Benin), by pointing out that the total annual budget of Dahomey would be just sufficient to pay the wages of the Chicago Fire Brigade for one week.
33 1 per cent seems high in modern terms, but see the discussion of the specie-points on p. 226 above.
34 Perlman (1970, p. 300) notes that where Australia has one bank office for every 2,000 inhabitants, Burma has but one for every 500,000 inhabitants. Even this must be better than in Cambodia during the Pol Pot regime, when money was abolished, and the economy reduced to barter—so as to conform to the most elementary principles of the communist economic theory. The new regime, established in January 1979 with the support of Vietnam, found it difficult to restore the use of money, simply because of a complete absence of trained accountants and bank personnel.

16
Foreign exchanges and international finance

1 Foreign exchange must be carefully distinguished from the exchange, by weight, of precious metals: the basis of foreign exchange is counting, not weighing (Einzig, 1970, p. 12).
2 For the way in which this happened in British India—a classic case—see Keynes (1971, p. 52).
3 Under s. 5(1) of the Coinage Act, 1971, the Mint is obliged to coin any gold bullion brought to it by the Bank of England: sub-section (4) provides for this right to be extended to other persons. If, at the present time, such provisions have no monetary significance, the position was quite otherwise where money was based on one of the precious metals.
4 In practice the bezant was exchanged by weight in larger transactions, but this was no more than a matter of convenience, made possible only by the fine quality of the coinage.
5 Whose real importance came to be recognized only in the twentieth century (Einzig, 1970, pp. 209f.).
6 In this connection see also the discussion of manufactured money in ch. 5 above.
7 In the United Kingdom this was largely codified in the course of the nineteenth century: see n. 2 to ch. 7.
8 The popularity of Bruges as a banking centre in medieval Europe can largely be attributed to the privileged position of the *jus mercatorum* (de Roover, 1948, p. 11).
9 The most important historical factor was the emergence, in the course of the nineteenth century, of two monetary jurisdictions of unprecedented extent: that of the British Empire, and that of the continental United States.
10 This was at best a mixed blessing; Keynes (1971, p. 36) described it as the 'worst possible model for India'. It would have been better to follow Germany, Holland or Russia (ibid., p. 168), but they in turn had adopted the model base of the Bank of England (ibid., p. 14 and Sayers, 1967, p. 32).

11 A full history of this period, ending with the abandonment of bimetallism, is given in Friedman and Schwartz (1963, ch. 3).
12 The somewhat idiosyncratic Japanese position is described in Keynes (1971, p. 20, n. 1).
13 One wonders why Spain and Portugal are not on the list.
14 The Federal Reserve system started to operate only in 1914.
15 There was in this case no pure gold standard.
16 Dealing in specie (including banknotes) is a subsidiary operation.
17 Keynes's (1936, ch. 23) discussion of mercantilism as opposed to free trade is very illuminating here.
18 N.B. $r_{ij} \cdot r_{ji} = 1$.
19 Note Crockett's (1977) distinction between long-term investment and short-term lending.
20 Where it represented a sort of near-money.
21 This was a tenable position, if only because the United Kingdom was an overall creditor, at least in the short-term loans market.
22 Described in detail in Einzig (1966b, ch. 6).
23 This would seem to justify one current theory about the emergence of money—as a commodity which can be traded directly for all other commodities in the economy (Clower, 1969, pp. 205f.)—but in this case it assumes, paradoxically, the pre-existence of money.
24 There was a short period, of approximately two years, between the introduction of the SDR and the dollar's ceasing to be convertible.
25 The position will have changed in the meantime, but the general rule still holds good.
26 The figures have been modified to bring the illustration up to date.
27 See n. 11 to ch. 10.
28 This is a comparatively recent development (Einzig, 1966b, pp. 86f.), the desirability of which is discussed in Crockett (1977, p. 153).
29 Compare the 3 per cent 'spread' of the D-mark with the 20 per cent 'spread' of the escudo (Portugal), reported for the 22 June 1979.
30 The way in which United Kingdom exporters, led by the Confederation of British Industries, complain about the current high rate for the pound sterling (November, 1980) lends support to this analysis.
31 Regulation Q. The American domestic banks were also subject to the 'Voluntary Foreign Credit Restraint Program' and the 'Interest Equalization Tax'. The attempts, on the part of the Federal Reserve, to monitor the operations of foreign banks in the United States are far-reaching, and have encountered considerable resistance from the central banks of Germany, the United Kingdom, Switzerland, Japan, the Netherlands, Belgium, France, Italy and Sweden (*Financial Times,* 23 May 1980, p. 18). The root of the conflict is to be found in the American insistence on free information, contrasted with the other central banks' insistence on secrecy in banking.
32 Even so, Crockett's analysis excludes interbank deposits within the reporting area (the eight major countries of Western Europe) (1977, p. 182, n. 1).
33 This is a normal practice in secondary banking (Revell, 1969).
34 This factor leads to endless confusion about the size of the market.
35 I am grateful to Mr Ian Peacock for emphasizing the importance of this point.
36 The words come from the Chancellor of the Exchequer's speech in Parliament (2 February 1943), introducing the government's plans for an 'international monetary mechanism' (Crump, 1963, p. 230).
37 The confusion of Soviet thinking about foreign exchange caused considerable perplexity among the American delegation to Bretton Woods (van Dormael, 1978, p. 191). The Soviet position might have been better understood if the Americans had appreciated that the matter at issue was the right to change the internal value of the rouble by mutation. This expedient was actually adopted on 1 January 1961 (p. 200 above).

38 Discussed in detail in Crump (1963, chs. XXIX and XL).
39 Invisible trade, e.g. tourism, is not subject to GATT, hence all the currency restrictions imposed upon travellers abroad.
40 That is, it fails to satisfy the Marshall-Lerner criterion, which, in its simplest form, requires 'that the price elasticities of demand for imports and exports must sum to greater than unity for an improvement to be effected' (Bannock, Baxter and Rees, 1972, p. 227) by devaluation.
41 Zaire and Turkey come to mind. In Jamaica the position of the central bank became so critical that not even its own internal reserve account was in credit (*The Economist,* 5 January 1980, pp. 51f.).
42 Which explains a bemusing headline from the *Daily Telegraph:* 'Crude [oil] prices may end up in [currency] basket'.
43 Although in the course of the 1970s the IMF steadily sold gold, SDRs contributed relatively little to the international monetary supply.
44 The United Kingdom has not so far (May 1980) become a member.
45 Province de Québec, 40,000,000 Ecu at 9¼ per cent due 1994 (advertisement, *The Economist,* 19 January 1980).
46 Einzig (1970, p. 324) is sceptical about this point.
47 The extent to which these rates may be determined by market factors depends on the nature and extent of exchange control. Note, here, the abandonment of most of the existing regulations by the British Conservative Government, almost immediately after it was elected in 1979.
48 The weights of these coins would be much the same as that of the old sovereign.

17
Inflation

1 e.g. Flemming (1976, p. 5): his book also provides much of the theoretical basis for the present chapter.
2 This definition of *T,* which is more specific than that given at the beginning of ch. 5, is the one usually adopted by economists.
3 The evidence is analysed in detail in Perlman (1970), which shows, in particular (pp. 303–6), that the ratio of monetary assets to income varies very widely from one country to another.
4 For a detailed discussion of this factor at the time of the American discoveries, see Braudel (1972, vol. I, pp. 451f.).
5 Except by such expedients as mutation. This explains the extreme monetary stability of the classic gold standard period in the nineteenth century.
6 The view adopted by Keynes must be qualified in the light of Deane (1979, pp. 4f.).
7 For the application of such Walrasian theory to inflation, see Flemming (1976, p. 10).
8 It is, of course, perfectly possible that every increase in production corresponds to a rateable decrease in price.
9 In mathematics a series of numbers, $x_1, x_2, \ldots,$ is convergent if x_i approximates infinitely close to a given number, $x,$ as i tends to infinity: in the series dealt with in the text, x=0.
10 There is, in England, a Society for Distressed Gentlefolk: this hits the nail on the head.
11 The present analysis is not based on any specific theory, such as that of Marx or Ricardo.
12 e.g. the Book of Genesis (2:7). For a modern instance, see the common earth cult of West Africa (Fortes, 1940, pp. 254f.).
13 As for instance in the plantation economy of Latin America: e.g. Montagu (1970).
14 The special attributes of labour and land in relation to an exchange economy are explained in Sraffa (1975, chs III and XI). The discussion of the 'Are'are in chapter 2 shows how different the position can be in a traditional society.

15 The first page of *Pride and Prejudice* introduces Mr Bingley as being worth 'four or five thousand a year': the income would almost certainly have been a money rent derived from land, probably let on a long lease. In this regard the social implications of the investments permitted under the Settled Land Act and Trustee Act of 1925 are very interesting.
16 It is important, here, that 'labour' cannot be 'stored'.
17 Note how frequently advertisements for development projects emphasize the availability of cheap land and labour.
18 e.g. feudalism (*Oxford Companion to Law,* 1980, pp. 466f.).
19 e.g. serfdom (ibid., p. 1132).
20 This is sometimes also the case in traditional societies: see, for instance, the valuation of slaves in terms of cowries (Héritier, 1975, pp. 489f.).
21 But note recent attempts to link long-term obligations to inflation by means of indexing.
22 For an example, see Friedman and Schwartz (1963, p. 115): 'Debtor farmers…who had no interest in a higher price for silver, joined the silver producers, in the belief that "free coinage" or "free silver", as they termed it, would increase the money supply and thereby lower the real burden of their debt.' This is part of the background to the whole issue of bimetallism, which dominated American politics in the late nineteenth century.
23 In the 1960s the World Bank, as a condition for providing financial support to the Argentine, required the dismissal of some 70,000 railway employees (Hayter, 1971, p. 203). In the 1970s the Chilean junta took similar steps, simply in response to the economic doctrines of Professor Friedman.
24 The concept is necessarily vague, particularly since accounting practice is being substantially revised to take inflation into account.
25 For the present discussion, OPEC is treated as a single corporate body.
26 Which explains the enormous demand for gold, reflected in market prices at unprecedented levels.
27 Latin American governments, in particular, do not hesitate to take advantage of inflation so as to favour certain sectors of the population at the cost of others: history has, needless to say, provided them with plenty of opportunity for developing this art.
28 True in principle, but see the discussion of the Euromarkets in ch. 16 above.
29 Described briefly in Hemming (1970, pp. 369f.).
30 Now, at the end of the twentieth century, the irony is perhaps heightened by the exceptionally large reserves of gold which the Nederlandse Bank thinks it appropriate to hold.
31 Parity changes between the dollar and the rand had, of course, always to be taken into account.
32 Compare the consequences (discussed in ch. 1 above) of the opening up of the Witwatersrand in the late nineteenth century.
33 True in practice, but Hayek (1976, especially ch. XVII) is almost certainly not alone in contending that the position would be much improved by leaving the supply of money to free banking.
34 The choice is discussed in the *Bank of England Quarterly Bulletin* (1979, vol. 19, pp. 149–59); but compare Brunner and Meltzer (1977, p. 72).
35 Compare the Exchange Control and Control of Borrowing Acts of 1946 with the Dutch Wet Toezicht Kredietwezen (Credit Supervision Act), 1956, etc. The considerable scope and generality of the Dutch law is apparent from the *Jaarsverslag* for 1978 of the Nederlandse Bank, ch. VI.
36 For an examination of external causes of inflation, see McKenzie (1979).
37 In principle, any terms laid down by the central government are politically acceptable in the Soviet Union (Nove, 1979, p. 218), where the occurrence of inflation is never allowed to be made explicit.
38 In the United Kingdom contrast the Conservative Party's obsession with trade unions with the Labour Party's obsession with land speculation.

39 At the time of *The Times's* printing strike (1979–80), printers were reported as being able to earn as much as £30,000 per year, largely from casual labour not caught in the tax net. In the Argentine, which is subject to chronic inflation, there is an enormous circulation of cheques, which, at one and the same time, increases the money supply and provides the means for tax evasion. In this regard, compare the case of the British motor-dealers, given on p. 130 above.

40 In addition to the cases of hyperinflation studied by Cagan, Goodhart (1976, p. 215) mentions Chile under Allende and Indonesia under Soekarno as cases of governments expanding the money supply to 'obtain command over a larger proportion of real output and real assets'.

41 Consider the political consequences in Germany between the wars, when rentiers, whose fortunes were destroyed by inflation, later became enthusiastic supporters of Hitler.

42 The critical rate at which this maximum is reached varied from 12 per cent (Austria) to 54 per cent (Poland) (Cagan, 1956, p. 81), which, except for the latter case, is below the monthly rate which defines hyperinflation.

43 i.e., as the tax bases contracts, the rate must go up, if the yield is to be maintained.

44 So that in Germany the *mark* became the *reichsmark;* in Austria, the *krone* became the *schilling;* in Hungary, in the first round the *krone* became the *pengö* and in the second the *pengö* became the *forint;* in Poland, the *mark* became the *zloty;* while Greece and Russia retained their original denominations, the *drachma* and the *rouble,* but with completely new values.

45 The question as to whether ordinary inflation is a purely monetary phenomenon is discussed in Goodhart (1976, pp. 214f.).

46 This must exclude the income of rentiers fixed in nominal terms.

47 An exception must surely be the month of July 1946 in Hungary: see p. 258 above.

48 e.g. Keynes (1936, p. 294): see p. 11 above.

49 Or as Chick (1978, p. 50), puts it, 'nothing need be known about the person who offers money'.

50 But hyperinflation does put a premium upon the use of alternative systems, such as barter in the Soviet Union, or reliance on foreign currency in Germany (Cagan, 1956, p. 47f.).

51 The level of distribution and employment is also a factor in non-monetary economies, even at the most primitive level (Crump, 1973, p. 41).

52 This is expressed in the so-called Phillips Curve, about which there is an enormous volume of literature. For a short description see Bullock and Stallybrass (1977, p. 469).

18
Diverse approaches to a single phenomenon?

1 Thus the schools of Keynes, Friedman and Marx each regard themselves as the only true guardians of orthodoxy: this is why economics is a branch of theology.

2 Simmel (1978, p. 224) is very interesting on this point: see also the discussion in chapter 5 above.

3 As it is with the palaeolithic Hadza of Tanzania (Woodburn, 1968, pp. 53f.).

4 The list could be extended to include history, archaeology, numismatics, etc., but their contribution is implicit under the other headings.

5 Difficulties at the level of popular culture might occur with categories identified with a specific number, such as in 'The Twelve Days of Christmas', or 'Green Grow the Rushes O', but they hardly present a problem to the mathematical logician.

6 The order is essential for distinguishing *n/m* from *m/n*.

7 It has been proved (Hardy and Wright, 1945, pp. 172f.) that π is not the root of any algebraic equation of the form $a_n.x^n+a_{n-1}.x^{n-1}+\ldots+a_0=0$, where all a_i are integers: this makes it a transcendental number, with very special arithmetical properties.

8 The sextant and theodolite, for example.
9 The practical advantages for surveying, etc., have no theoretical significance.
10 Cagan (1956, p. 35) appears to be the only monetary theorist to realize this point.
11 Hence the 'money illusion': see Johnson (1978, p. 22).
12 The concern of modern theoretical astronomy with stars, which may be not only invisible, but also non-existent, may be compared to the systems constructed by monetary theorists; e.g. Johnson (1978) 'Neo-classical One-Sector Growth Model…a standard piece of equipment in the economic theorist's tool-kit'.
13 The approach of this paragraph could well be appropriate for hyperinflation.
14 But see Keynes's 'bottomless sink of purchasing power', quoted on p. 161 above.
15 See Gödel's theorem, stated in n. 1 to ch. 1.
16 There are naturally tricks of the trade, with a mathematical base, such as Hicks's (1977, p. 53) expressing the circulation function, c, in the form e^{-y}, and then using this as the basis for integration. Almost the only purely mathematical insight in the present book is to be found in n. 7 to ch. 4.
17 Such countries as the Soviet Union, China, Japan, etc., make no use of their own written symbols for mathematics. Non-decimal systems of numeration present quite special problems, which are discussed in Crump (1978).
18 An instance is provided by the stamps sold by the Dutch supermarket chain, Albert Heyn. At the check-out point, a customer may buy stamps to a value equal to 10 per cent of his purchases, which are then stuck in a special book. This, when full, contains stamps purchased for f. 47, which may, however, be redeemed for f. 53. The question then is whether Albert Heyn is borrowing money at interest, or selling at a discount.
19 The Japanese 'ginko', for 'bank', meaning literally a 'silver guild', is readily associated with 'ginza', literally 'silver seat', the place where the members of the guild operated. The first part of the character,  for 'gin' or 'silver', means, significantly, 'gold', 'metal' or 'money'.
20 Apart from my own article (Crump, 1978) see Lopez (1954, p. 603) and Bogaert (1966, pp. 154f.).
21 The Kula valuables cannot, strictly, be regarded as money, if only because each example had its own separate identity (Malinowski, 1922, p. 89).
22 Except in countries such as Japan and Korea, which adopted the Chinese system.
23 In the original German version, the former is characterized by '*der* Verdienst', or merit, and the latter, by '*das* Verdienst', or profit (Schacht, 1973, p. 127).
24 Note also the parallel drawn by Polanyi (1977, p. 98) between money and language, each 'employing a limited number of "all-purpose" symbols according to definite rules so as to cover a number of different uses'.
25 Compare 'forgive us our *debts*' in the Lord's Prayer (RSV Bible, Matt. 6:12).
26 In England, at least, courts are reluctant to enforce the specific performance of contracts (*Oxford Companion to Law,* 1980, p. 1169), damages in money being generally held to be a sufficient remedy.
27 In this case one finds an interesting equivalence between time and money: e.g. 'a week in prison or a £50 fine'.
28 See Holdsworth's (1936, vol. II, p. 47) comment on the German tribes of late antiquity:
> wrong must be atoned, not merely by *bot* or compensation to the injured man, but also by a *wite* to the King, or other person having authority. In the *wite*...the condition…precedent to the growth of a criminal law.

29 No anthropologist would happily recognize a 'natural' as opposed to a 'cultural' basis for money.
30 See n. 17 to ch. 2.

31 See n. 28 to ch. 12.
32 This is particularly important in the common law systems of the Anglo-Saxon world, but one should note that most legal institutions relating specifically to money originated *outside* this world.
33 For the ratification of the Bretton Woods proposals, see van Dormael (1978, pp. 251f., 275f.).
34 For a criticism of this approach see LeClair and Schneider (1968, pp. 468f.).
35 The point is clear in a language such as French, which distinguishes between *loi* and *droit,* both being generally translated by 'law' in English.
36 Boulding's (1970, p. 15) concept of an 'infosphere' is useful to the present analysis.
37 Compare the organization of the international foreign exchange networks described in ch. 16.
38 The question remains as to whether money is a member of the category of objects for which it is exchangeable. The traditional view seems to be that it was not: as Hume (1711–76) said, 'Money is not, properly speaking, one of the subjects of commerce', a view shared, implicitly, by Keynes (1971, p. 55), and made explicit in the definition of goods in s. 62 of the Sale of Goods Act, 1893. Modern theorists, such as Clower (1969b, p. 207), Crockett (1973, pp. 8f.) and Newlyn (1971, p. 3), tend to take the opposite view, if only because of its *a priori* usefulness to their line of argument. For Marx's position, see (1976, pp. 230f.).
39 e.g. Crockett (1973, p. 9).
40 Not always so: see Boulding (1970, pp. 11f.) on the 'grants economy'.
41 See particularly Grierson's (1959) critical study of the use of money in late antiquity.
42 Note how Veblen's (1953) classic study of the leisure class always seems to leave the role of money implicit.
43 'Scarce' is hardly an adequate translation of the French *raréfié,* with its suggestion that the necessary scarcity cannot always be taken to be inherent.
44 Note 'the specialized role of money as a device from simply providing the requisite information necessary to consummate an exchange' (Goodhart, 1975, p. 5).
45 *Principles of Sociology,* vol. II, p. 160.
46 The particular relationship between the legislation cited and the British economy has unrealized possibilities for logical analysis, according to the principles of modern linguistic philosophy.
47 The point, in relation to money, is made in Bloch (1933, p. 32): 'Humanity is composed of divers groups, whose different styles of life are expressed in the contrasts between their monetary habits'.
48 Note how, in the Mass, consecration is preceded by the offering of the elements.
49 Note particularly the fate of King Jeroboam, after he had made two calves of gold to be worshipped by the people of Israel (I Kings 12:28f.).
50 Aristotle makes the same assumption—at least implicitly—in his own observations about money (*Nicomachean Ethics,* book v, ch. 8).
51 For Islam the position is less clear-cut, but see the Quran (2:41) as discussed in Qureshi (1946, pp. 87f.).
52 It is interesting how close this is to the Marxist monetary ethic.
53 See, for example, the head-tax, enforced by Notre Dame in medieval Paris (Kraus, 1979, p. 25).
54 See the obvious bias in Qureshi (1946).
55 One must make an exception, perhaps, for the ultra-orthodox Jewish sects.
56 See particularly Mauss (1914, p. 16).
57 This was noted by both Marx (1976, p. 228) and Keynes (1971, p. 53). The Orient seemed to have known no prohibition on usury (Moore, 1973, p. 359).
58 The monetary use of certificates of ordination, and the burning of paper money as part of the funeral ritual, have already been noted.

59 But do not forget the sale of indulgences by the Roman Catholic church.
60 This is what makes Nirvana—which imports extinction—so difficult to attain.
61 Literacy, almost as much as money, is a diffusion phenomenon (Goody and Watt, 1968, pp. 39f.).
62 This was not only a part of the Protestant ethic: see de Roover (1966, p. 7) on the Medici.
63 It is significant how, in the New Testament, the question put to Jesus by the Pharisees, 'Is it lawful to pay taxes to Caesar, or not?' occurs in all three of the synoptic gospels. It is the answer which is so telling: 'Render unto Caesar the things that are Caesar's, and to God the things that are God's' (Mark 12:17). Compare Shakespeare's (*Timon of Athens,* act 4, scene 3) warning:

> This yellow slave [gold]
> Will knit and break religions….

64 The term comes from van Gennep (1960, p. 11).
65 See, for example, Bogaert (1966, pp. 125, 132).
66 The difficulties arising in relating coin finds to the use and supply of money are explained in Lafaurie (1968).
67 Note the title of Epstein (1968), as well as her (1964) detailed study.
68 The speed of light, which is constant, is equal to the wave-length× frequency.
69 See n. 44 above.
70 This point is shortly discussed in Clower (1969a, pp. 14f.).
71 de Saussure lived from 1857 to 1913.
72 Compare Chomsky's distinction between 'competence' and 'performance' (Bullock and Stallybrass, 1977, p. 120).
73 Bloch (1933, p. 1) does this quite explicitly in the case of money.
74 Nineteenth-century scholars, confronted with primitive languages, attempted to reduce them to Indo-European grammatical forms, thus failing to recognize their true structure.
75 The present argument is a special application of the Heine-Borel theorem from mathematical analysis.
76 This failure is common to Clower, Bessaignet, Polanyi and Bohannan, to cite but a few of those whose studies are referred to in the text.
77 As, for instance, in Pryor (1977, pp. 12f.).
78 e.g. Jones (1976).
79 This point was reached in the Kula ring (Malinowski, 1922, ch. III).
80 There are very few specific studies of the consequences of natural disaster for a primitive population, but see Firth (1959).
81 Evolutionary transformations have rarely been observed, but see Foy (1913, p. 136) for the transformation of ornaments into money.
82 An alternative line is suggested by van Leynseele (1979, pp. 80f.).
83 Note how much of the early historical material in Bogaert (1966) is completely ignored in Galbraith's (1975) popular study of money.

Bibliography

ALEXANDER, R. (1970), 'L'artisanat', in J.Meyriat (ed.), *Tradition et changement en Toscane,* Armand Colin, Paris.

ANDREADES, A.M. (1948), 'Public finances, currency, public expenditure, budget, public revenue', in N.H.Baynes and H.St.L. B.Moss (eds), *Byzantium,* Oxford University Press.

BABELON, E. (1909), 'La théorie féodale de la monnaie', *Mémoires de l'Académie des Inscriptions et de Belles Lettres,* vol. XXXVIII.

BAILEY, F.G. (1957), *Caste and the Economic Frontier,* Manchester University Press.

BALMUTH, M.S. (1973), *Origins of Coinage,* Report of the International Numismatic Congress, New York and Washington.

BALOGH, T. (1974), *The Economics of Poverty,* Weidenfeld and Nicolson, London.

BANNOCK, G., BAXTER, R. and REES, R. (1972), *A Dictionary of Economics,* Penguin, Harmondsworth.

BARTH, F. (1964), 'Capital, investment and the social structure of a pastoral nomad group in South Persia', in J.R.Firth and B.S. Yamey (eds), *Capital, Savings and Credit in Peasant Societies,* Aldine, Chicago.

BARTH, F. (1967), 'Economic spheres in Darfur', in J.R.Firth (ed.), *Themes in Economic Anthropology*, Tavistock, London.

BARTHES, R. (1967), *Elements of Semiology,* Jonathan Cape, London.

BAZANT, J. (1971), *Alienation of Church Wealth in Mexico,* Cambridge University Press.

BAZELON, D.T. (1959), *The Paper Economy,* Vintage Books, New York.

BECKER, G.S. (1964), *Human Capital,* Columbia University Press, New York.

BELSHAW, C.S. (1965), *Traditional Exchange and Modern Markets,* Prentice-Hall, Englewood Cliffs, NJ.

BENVENISTE, E. (1969), *Le Vocabulaire des institutions indo-européennes,* Editions de Minuit, Paris.

BERNSTEIN, C. and WOODWARD, B. (1975), *All the President's Men,* Warner Books, New York.

BESSAIGNET, P. (1970), 'Monnaie primitive et théories monétaires', in J. Poirier (ed.), *Monnaie et para-monnaie dans les sociétiés non-industrielles, Cahiers Vilfredo Pareto, Revue européenne de sciences sociales,* no. 21.

BESSAIGNET, P. (n.d.) *La Pseudo-monnaie Primitive,* Thèse de doctorat, Paris.

BICHOT, J. (1978), 'La monnaie-dette: un choix entre deux interpretations', *Questions à propos de la monnaie, Cahier no.* 7, *Monnaie en Financement, Université de Lyon,* vol. II.

BIRCH, S. (1971), 'Beggar money-lenders of Central India', in G.Dalton (ed.), *Studies in Economic Anthropology,* American Anthropological Association, Washington, DC.

BLITZ, R.C. and LONG, M.F. (1965), 'The economics of usury regulation', *Journal of Political Economy,* vol. 73, pp. 608–19.

BLOCH, M. (1933), 'Le problème de l'or au moyen-âge', *Annales E.S.C.,* pp. 1–34.

BLOCH, M. (1953), 'Mutations monétaires dans l'ancienne France', *Annales E.S.C.,* vol. VIII, pp. 145–58, 433–56.

BOGAERT, R. (1966), *Les Origines antiques de la banque de dépôt,* A. W.Sijthoff-Leyde, Leiden.

BOHANNAN, P. (1957), *Justice and Judgment among the Tiv*, Oxford University Press.

BOHANNAN, P. (1967), 'The impact of money on an African subsistence economy', in G.Dalton (ed.), *Tribal and Peasant Economies,* Natural History Press, New York, pp. 123–35.

BOHANNAN, P. and BOHANNAN, L. (1968), *Tiv Economy*, Longmans, London.
BORTOLANI, S. (1975), *Central Banking in Africa,* Cassa di Risparmio delle Provincie Lombarde, Milan.
BOTTOMLEY, A. (1963), 'The cost of administering private loans in under-developed rural areas', *Oxford Economic Papers,* no. 15, pp. 154–63.
BOULDING, K.E. (1970), *Economics as a Science,* McGraw-Hill, New York.
BOULDING, K.E., PFAFF, M. and PFAFF, A. (1973), *Transfers in an Urbanized Economy,* Wadsworth, Belmont, California.
BOWSKY, W.M. (1970), *The Finance of the Commune of Siena 1287–1355,* Oxford University Press.
BRADING, D.A. and CROSS, H.E. (1972), 'Colonial silvermining: Mexico and Peru', *Hispanic American Historical Review,* vol. 52, no. 4, pp. 545–79.
BRAUDEL, F. (1972), *The Mediterranean and the Mediterranean World in the Age of Philip* II, Collins, London.
BROMLEY, R. (1978), 'Organization, regulation and exploitation in the so-called 'urban informal sector': the street traders of Cali, Colombia', *World Development,* vol. 6, pp. 1161–171.
BROWN, N.O. (1970), *Life Against Death,* Wesleyan University Press, Middletown, Connecticut.
BRUNNER, K. and MELTZER, A.H. (1971), 'The uses of money: money in the theory of an exchange economy', *American Economic Review,* pp. 784–805.
BRUNNER, K. and MELTZER, A.H. (1977), 'Friedman's monetary theory', in R.J.Gordon (ed.), *Milton Friedmans Monetary Framework,* University of Chicago Press.
BULLOCK, A. and STALLYBRASS, O. (1977) (eds) *The Fontana Dictionary of Modern Thought,* Fontana/Collins, London.
BURRIDGE, K. (1969), *New Heaven, New Earth,* Blackwell, Oxford.
CAGAN, P. (1956), 'The monetary dynamics of hyperinflation', in M. Friedman (ed.), *Studies in the Quantity Theory of Money,* University of Chicago Press.
CALDER, A. (1979), 'Constructive mathematics', *Scientific American* (October), pp. 134–143.
CANCIAN, F. (1965), *Economics and Prestige in a Maya Community,* Stanford University Press.
CANCIAN, F. (1972), *Change and Uncertainty in a Peasant Economy,* Stanford University Press.
CARUS-WILSON, E.M. (1958), 'Towns and trade', in A.L.Poole (ed.), *Medieval England,* Oxford University Press.
CASELLI, C. (1975), *The Banking System of Tanzania,* Cassa di Risparmio delle Provincie Lombarde, Milan.
CHAPMAN, A.C. (1957), 'Port of trade enclaves in Aztec and Maya civilizations', in K.Polanyi, C.M.Arensberg and H.W.Pearson (eds), *Trade and Market in the Early Empires,* Henry Regnery Company, Chicago.
CHICK, V. (1978), 'Unresolved questions in monetary theory', *The Economist,* vol. 126, no. 1, pp. 37–60.
CLAPHAM, J. (1970), *The Bank of England* (2 vol), Cambridge University Press.
CLARK, R.W. (1973), *Einstein, the Life and Times,* Hodder & Stoughton, London.
CLOWER, R.W. (1963), 'Permanent income and transitory balances: Hahn's paradox', *Oxford Economic Papers,* no. 15, pp. 177–90.
CLOWER, R.W. (1969a), 'Introduction', *Monetary Theory,* Penguin, Harmondsworth.
CLOWER, R.W. (1969b), 'Foundations of monetary theory', in *Monetary Theory,* Penguin Harmondsworth.
CODERE, H. (1968), 'Money-exchange systems and a theory of money', *Man,* n.s., vol. 3, pp. 557–77.
COLLIER, J.F. (1973), *Law and Social Change in Zinacantan,* Stanford University Press.
CROCKETT, A. (1973), *Money: Theory, Policy and Institutions*, Nelson, London.

CROCKETT, A. (1977), *International Money: Issues and Analysis,* Nelson, London.
CRUMP, N.E. (1963), *The A B C of the Foreign Exchanges,* Macmillan, London.
CRUMP, S.T. (1951), *Polynomial Approximations,* Rouse-Ball Prize Essay, Trinity College, Cambridge.
CRUMP, S.T. (1973), *Man and his Kind,* Darton, Longman and Todd, London.
CRUMP, S.T. (1976), *Boundaries in the Function of Money: Internal and External Debt in Selected Mexican Communities*, Ph.D. thesis, London University.
CRUMP, S.T. (1978), 'Money and number: the Trojan horse of language', *Man,* n.s., vol. 13, pp. 503–18.
CRUMP, S.T. (1979), 'Judaism, religion and finance in the period of the Cairo Geniza', *Conference on Religion and Religious Movements in the Mediterranean,* Amsterdam.
CRUMP, S.T. (1980a), 'Trees and stars: graph theory in Southern Mexico', in J.C.Mitchell (ed.), *Numerical Techniques in Social Anthropology*, ISHI, Philadelphia.
CRUMP, S.T. (1980b), 'Market news and perfect competition in third-world markets', International Geographical Union, *Working Group on Market-Place Exchange Systems,* Nagoya, Japan.
DAHRENDORF, R. (1965), *Class and Class Conflict in Industrial Society,* Routledge & Kegan Paul, London.
DEANE, P. (1965), *The First Industrial Revolution,* Cambridge University Press.
DEANE, P. (1979), 'Inflation in history', in D.Heathfield (ed.), *Perspectives on Inflation,* Longman, London.
de BRUNHOFF, S. (1973), *Marx on Money,* Urizen, New York.
de COPPET, D. (1968), 'Pour une étude des échanges cérémoniels en Mélanésie', *L'Homme,* vol. VIII, no. 4, pp. 45–57.
de COPPET, D. (1970a), '1, 4, 8; 9, 7. La monnaie des morts et mesure de temps', *L'Homme,* vol. x, no. 1, pp. 17–39.
de COPPET, D. (1970b), 'Cycles de meurtes et cycles funéraires. Esquisse de deux structures d'échange', in *Mélanges offerts a Claude Lévi-Strauss,* vol. II, Mouton, the Hague-Paris, pp. 759–81.
de COPPET, D. and ZEMP, H. (1978), *'Aré'aré. Un peuple mélanésien et sa musique,* Seuil, Paris.
de ROOVER, R. (1948), *Money, Banking and Credit in Medieval Bruges,* Medieval Academy of America, Cambridge, Massachusetts.
de ROOVER, R. (1953), *L'Evolution de la lettre de change, XIV^{e}-XVIII^{e} siècles,* Armand Colin, Paris.
de ROOVER, R. (1954), 'New interpretations of the history of banking', *Cahiers d'Histoire Mondiale,* vol. 2, pp. 38–76.
de ROOVER, R. (1966), *The Rise and Decline of the Medici Bank 1397–1494,* W.W.Norton, New York.
de ROOVER, R. (1974), *Business, Banking and Economic Thought,* University of Chicago Press.
de SAUSSURE, F. (1969), *Cours de linguistique générale,* Payot, Paris.
DEZ, J. (1970), 'Monnaies et structures traditionelles a Madagascar', in J.Poirier (ed.), *Monnaie et para-monnaie dans les sociétés non-industrielles, Cahiers Vilfredo Pareto, Revue européenne de sciences sociales,* no. 21.
DIEUDONNÉ, A. (1927), 'Changes et monnaies au moyen-âge', *Revue Deux Mondes,* vol. I, pp. 929–37.
DOEHAERD, R. (1952), 'Les réformes monétaires carolingiennes', *Annales E.S.C.*, vol. 7, pp. 13–20.
DOLLEY, R.H. (1958), 'Coinage', in A.L.Poole (ed.), *Medieval England,* Oxford University Press.
DOUGLAS, M. (1963), *The Lele of the Kasai,* Oxford University Press.
DOUGLAS, M. (1967), 'Primitive rationing', in J.R.Firth (ed.), *Themes in Economic Anthropology*, Tavistock, London.

DOUGLAS, M. (1969), *Purity and Danger,* Routledge & Kegan Paul, London.
DU BOIS, C. (1936), 'The wealth concept as an integrative factor in Tolowa-Tulutni culture', in *Essays in Anthropology Presented to A.L.Kroeber,* University of California Press.
DUBY, G. (1973), *Guerriers et paysans,* Gallimard, Paris.
DUMONT, L. (1977), *Homo Aequalis. Genèse et épanouissement de l'idéologie économique*, Gallimard, Paris.
DURKHEIM, E. (1915), *The Elementary Forms of the Religious Life,* George Allen & Unwin, London.
DURKHEIM, E. (1938), *The Rules of the Sociological Method,* University of Chicago Press.
DURKHEIM, E. (1964), *The Division of Labour in Society,* Free Press, New York.
DURKHEIM, E. (1973), *Le Suicide,* Presses Universitaires de France, Paris.
EINAUDI, L. (1953), 'The theory of imaginary money from Charlemagne to the French revolution', in F.C.Lane and J.C.Rimersma (eds), *Enterprise and Secular Change,* George Allen & Unwin, London.
EINZIG, P. (1966a), *Primitive Money,* Pergamon Press, Oxford.
EINZIG, P. (1966b), *A Textbook of Foreign Exchange,* Macmillan, London.
EINZIG, P. (1970), *The History of Foreign Exchange,* Macmillan, London.
ELLIOTT, J.H. (1970), *Imperial Spain,* Penguin, Harmondsworth.
EPSTEIN, T.S. (1964), 'Personal capital formation among the Tolai of New Britain', in J.R.Firth and B.S.Yamey (eds), *Capital, Savings and Credit in Peasant Societies,* Aldine, Chicago.
EPSTEIN, T.S. (1968), *Capitalism, Primitive and Modern. Some Aspects of Tolai Economic Growth,* Australian National University Press, Canberra.
ERASMUS, C.J. (1967), 'Peasantry and agrarian reform', *Ethnology,* vol. 6, pp. 349–80.
EVANS-PRITCHARD, E.E. (1940), *The Nuer,* Oxford University Press.
FIRTH, J.R. (1959), *Social Change in Tikopia,* George Allen & Unwin, London.
FISCHEL, W. (1933), 'The origin of banking in medieval Islam: a contribution to the economic history of the Jews of Baghdad in the tenth century', *Journal of the Royal Asiatic Society,* vol. LIII, pp. 569–91.
FLEMMING, J. (1976), *Inflation,* Oxford University Press.
FOGEL, R.W. and ENGERMAN, S.L. (1974), *Time on the Cross: the Economics of American Negro Slavery,* Wildwood House, London.
FORTES, M. (1940), 'The political system of the Tallensi of the Northern Territories of the Gold Coast', in M.Fortes and E.E.Evans-Pritchard (eds), *African Political Systems,* International African Institute, Oxford.
FORTES, M. and EVANS-PRITCHARD, E.E. (1940), 'Introduction', *African Political Systems,* International African Institute, Oxford.
FOY, W. (1913), 'Zur Geschichte der Muschelgeldschnüre in der Südsee', *Ethnologica,* vol. II, pp. 134–47.
FRIEDMAN, M. (1962), *Capitalism and Freedom,* University of Chicago Press.
FRIEDMAN, M. (1969a), 'The Euro-Dollar market: some first principles', *Morgan Guaranty Survey,* October, pp. 3–14.
FRIEDMAN, M. (1969b), *The Optimum Quantity of Money and Other Essays,* Macmillan, London.
FRIEDMAN, M. (1970), *The Counter-revolution in Monetary Theory,* Occasional Paper no. 33, Institute of Economic Affairs, London.
FRIEDMAN, M. (1972), *Money and Economic Development,* Praeger, New York.
FRIEDMAN, M. (1977), 'A theoretical framework for monetary analysis', in R.J.Gordon (ed.), *Milton Friedmans Monetary Framework,* University of Chicago Press.
FRIEDMAN, M. and SCHWARTZ, A.J. (1963), *A Monetary History of the United States, 1867–1960,* Princeton University Press.

FRYDE, E.B. and FRYDE, M.M. (1971), 'Public credit with special reference to North-Western Europe', in *Cambridge Economic History of Europe,* vol. III, pp. 430–553.

FURTADO, C. (1970), *Economic Development of Latin America,* Cambridge University Press.

GALBRAITH, J.K. (1961), *The Great Crash,* 1929, Penguin, Harmondsworth.

GALBRAITH, J.K. (1971), *Economics, Peace and Laughter,* New American Library, New York.

GALBRAITH, J.K. (1975), *Money, Whence it Came, Where it Went,* André Deutsch, London.

GANSHOF, F.L. and VERHULST, A. (1971), 'Medieval agrarian society in its prime: France, the Low Countries and Western Germany', in *Cambridge Economic History of Europe,* vol. I, pp. 290–339.

GARVY, G. (1972), 'The monetary system and payments flow', in A. Nove and D.M.Nuti (eds), *Socialist Economics,* Penguin, Harmondsworth.

GEERTZ, C. (1962), 'The rotating credit association: a "middle rung" in development', *Economic Development and Culture Change,* vol. 10, pp. 241–63.

GEERTZ, C. (1963), *Peddlers and Princes,* University of Chicago Press.

GELLNER, E. (1974), *The Legitimation of Belief,* Cambridge University Press.

GERNET, J. (1956), 'Les Aspects économiques de Bouddhisme dans la société chinoise du V^{e} au X^{e} siècle', *Ecole Française d'Extrême-Orient,* Saigon.

GÖDEL, K. (1931), 'Über formal unentscheidbare Sätze der Principia Mathematica und verwandte Systeme I', *Monatshefte für Mathematik und Physik,* vol. 38, pp. 173–98. There is an English translation in M.Davis (ed.), *The Undecidable,* Raven Press, New York, pp. 4–38.

GODELIER, M. (1973), '"Monnaie de sel" et circulation des marchandises chez les Banya de Nouvelle Guinée', in *Horizons, trajets marxistes en anthropologie*, Maspéro, Paris.

GODELIER, M. (1974), *Rationalité et irrationalité en économie* (2 vols), Maspéro, Paris.

GOITEIN, S.D. (1967), *A Mediterranean Society—The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza,* vol. 1, *Economic Foundations,* University of California Press.

GOODHART, C.A.E. (1975), *Money, Information and Uncertainty,* Macmillan, London.

GOODY, J. and WATT, I. (1968), 'The consequences of literacy', in J. Goody (ed.), *Literacy in Traditional Societies,* Cambridge University Press.

GOSSEN, G.A. (1974), *Chamulas in the World of the Sun,* Harvard University Press, Cambridge, Massachusetts.

GRAHAM-CAMPBELL, J. and KIDD, D. (1980), *The Vikings,* British Museum Publications, London.

GREGORY, T. (1962), *Ernest Oppenheimer and the Economic Development of Southern Africa,* Oxford University Press.

GRIERSON, P. (1959), 'Commerce in the dark ages: a critique of the evidence', *Transactions of the Royal Historical Society,* 5th series, vol. 9, pp. 123–40.

GRIERSON, P. (1961), 'La fonction sociale de la monnaie en Angleterre aux VIIe-VIIIe siècles', in *Moneta e scambi nell'alto medioevo,* Centro Italiano di Studi sull'Alto Medioevo, Spoleto, pp. 341–62.

GRIERSON, P. (1967), 'The volume of Anglo-Saxon coinage', *Economic History Review,* 2nd series, vol. XX, pp. 153–60.

GRIFFITHS, B. (1972), *Mexican Monetary Policy and Economic Development,* Praeger, New York.

GUDEMAN, S. (1974), *Relationships, Residence and the Individual: a Rural Panamanian Community,* Routledge & Kegan Paul, London.

GUDEMAN, S. (1978), *The Demise of a Rural Economy. From Subsistence to Capitalism in a Latin American Village,* Routledge & Kegan Paul, London.

HALL, M.W. (1935), 'Early bankers in the Genoese notarial records', *Economic History Review,* vol. 6, pp. 73–9.

HARDING, T.G. (1967), *Voyagers of the Vitiaz Strait,* University of Washington Press, Seattle.
HARDY, G.H. and WRIGHT, E.M. (1945), *An Introduction to the Theory of Numbers,* Oxford University Press.
HAYEK, F.A. (1976), *Denationalization of Money,* Institute of Economic Studies, London.
HAYTER, T. (1971), *Aid as Imperialism,* Penguin, Harmondsworth.
HECKSHER, E.F. (1954), *An Economic History of Sweden,* Harvard Economic Studies XCV, Cambridge, Massachusetts.
HEMMING, J. (1970), *The Conquest of the Incas,* Macmillan, London.
HENNEQUIN, G.P. (1972), 'Problèmes théoriques et pratiques de la monnaie antique et médiévale', *Annales Islamologiques*, vol. X, pp. 1–51.
HENNEQUIN, G.P. (1974a), 'Points de vue sur l'histoire monétaire de l'Egypt musulmane au moyen âge', *Annales Islamologiques*, vol. XII, pp. 1–36.
HENNEQUIN, G.P. (1974b), 'Mamlouks et métaux précieux. A propos de la balance des paiements de l'état syro-égyptien a la fin du moyen âge', *Annales Islamologiques*, vol. XII, pp. 37–44.
HENNEQUIN, G.P. (1977a), 'Nouveaux aperçus sur l'histoire monétaire de l'Egypte', *Annales Islamologiques*, vol. XIII, pp. 179–215.
HENNEQUIN, G.P. (1977b), '"Bonne" ou "mauvaise" monnaie? Mutations monétaires et loi de Gresham avant l'époque moderne', *L'Information Historique,* vol. 39, no. 5, pp. 203–11.
HÉRITIER, F. (1975) 'Des cauris et des hommes: production d'esclaves et accumulation de cauris chez les Samo (Haute Volta)', in C. Meillassoux (ed.), *L'Esclavage en Afrique pré-coloniale,* Maspéro, Paris.
HERLIHY, D. (1957), 'Treasure hoards in the Italian economy 960–1139', *Economic History Review,* series 2, vol. 10, pp. 1–15.
HERSKOVITS, M.J. (1952), *Economic Anthropology,* Alfred A.Knopf, New York.
HICKS, J.R. (1969), 'Monetary theory and history: an attempt at perspective', in R.W.Clower (ed.), *Monetary Theory,* Penguin, Harmondsworth, pp. 254–69.
HICKS, J.R. (1977), *Economic Perspectives,* Clarendon Press, Oxford.
HILL, C. (1979), *Milton and the English Revolution,* Penguin, Harmondsworth.
HILL, P. (1970), *Studies in Rural Capitalism in West Africa,* Cambridge University Press.
HOBSBAWM, W.J. (1975), *The Age of Capital 1848–1875,* Weidenfeld and Nicolson, London.
HODSON, T.C. (1911), *The Naga Tribes of Manipur,* Macmillan, London.
HOGBIN, H.I. (1951), *Transformation Scene. The Changing Culture of a New Guinea Village,* Routledge & Kegan Paul, London.
HOLDSWORTH, W. (1936), *A History of the English Law,* Methuen, London.
HOPKINS, K. (1978), 'Economic growth and towns in classical antiquity', in P.Abrams and E.A.Wrigley (eds), *Towns in Societies,* Cambridge University Press.
HOU, C-L. (n.d.), *Monnaies d'Offrande et la notion de trésorerie dans la religion chinoise,* Institut des Hautes Etudes Chinoises, Collège de France, Paris.
HSIAO, K.H. (1971), *Money and Monetary Policy in Communist China,* Columbia University Press, New York.
HUELIN, D. (1974), 'Latin America and monetary reform', *BOLSA Review,* pp. 312–22.
HUNTINGTON, H.G. (1972), 'The rate of return from the Basseri's livestock investment', *Man,* n.s., vol. 7, pp. 476–9.
IBANES, J. (1967), *La Doctrine de l'Eglise et les réalités économiques au XIIIe siècle,* Presses Universitaires de France, Paris.
JAIN, L.C. (1929), *Indigenous Banking in India,* Macmillan, London.
JEFFREYS, M.D.W. (1948), 'The diffusion of cowries and Egyptian culture in Africa', *American Anthropologist,* n.s., vol. 50, pp. 45–53.
JOHNSON, H.G. (1969), 'Money in a neo-classical one-sector growth model', in R.W.Clower (ed.), *Monetary Theory,* Penguin, Harmondsworth.

JOHNSON, H.G. (1975), 'The consequences of Keynes', *Times Literary Supplement,* pp. 139–40.
JOHNSON, H.G. (1978), *Selected Essays in Monetary Economics,* George Allen & Unwin, London.
JONES, R.A. (1976), 'The origin and development of media of exchange', *Journal of Political Economy,* vol. 84, pp. 757–75.
KATZ, F. (1956), 'Die sozialökonomischen Verhältnissen bei den Azteken im 15. und 16. Jahrhundert', *EthnographischArchäologische Forschungen,* vol. 3, no. 2, pp. 10–166.
KEYNES, J.M. (1936), *The General Theory of Employment, Interest and Money,* Macmillan, London.
KEYNES, J.M. (1971), *Indian Currency and Finance,* Macmillan, London.
KNAPP, G.F. (1921), *Staatliche Theorie des Geldes,* Verlag von Dunckler & Humbolt, Munich.
KNIGHT, F.H. (1952), 'Anthropology and economics', in M.J. Herskovits (ed.), *Economic Anthropology,* Alfred A.Knopf, New York.
KOSAMBI, D.D. (1956), *An Introduction to the Study of Indian History,* Popular Book Depot, Bombay.
KOSSMAN, E.H. (1978), *The Low Countries 1780–1940,* Oxford University Press.
KRAUS, H. (1979), *Gold was the Mortar,* Routledge & Kegan Paul, London.
KUHN, T.S. (1962), *The Structure of Scientific Revolutions,* University of Chicago Press.
KUPER, A. (1978), 'Rank and preferential marriage in southern Africa: the Swazi', *Man,* n.s., vol. 13, pp. 567–79.
LADURIE, E.L. (1979), *Montaillou: the Promised Land of Error,* Vintage Books, New York.
LAFAURIE, J. (1968), 'L'article XII de l'Edit de Pîtres du 25 juni 864', *Bulletin de la Société Française de Numismatique*, vol. 23, no. 9, pp. 324–6.
LAMBERT, M. (1963), 'L'usage de l'argent-metal a Lagash au temps du IIIe dynastie d'Ur', *Revue d'Assyriologie,* vol. 57, pp. 79–92.
LANCASTER, L. (1962), 'Credit, épargne et investissement dans une économie non-monétaire', *Archives européennes de sociologie,* vol. III, pp. 149–64.
LANDES, D.S. (1966), 'Technological change and development in Western Europe', *Cambridge Economic History of Europe,* vol. vi, pp. 274–603.
LAUM, B. (1924), *Heiliges Geld,* J.C.B.Mohr, Tübingen.
LAURENT, H. (1932), 'Droits des foires et droits urbains aux 13^{e} et 14^{e} siècles', *Revue historique de droit français et étranger,* series 4, vol. II, pp. 660–710.
LAVIGNE, M. (1978), 'Soviet money', *Economy and Society,* vol. 7, pp. 29–55.
LEACH, E.R. (1964), *Political Systems of Highland Burma,* Athlone Press, London.
LEACH, E.R. (1968), *Pul Eliya. A Village in Ceylon,* Cambridge University Press.
LE CLAIR, E.E. (1962), 'Economic theory and economic anthropology', *American Anthropologist,* n.s., vol. 64, pp. 1179–1203.
LE CLAIR, E.E. and SCHNEIDER, H.K. (1968), 'Preface and introduction', *Economic Anthropology*, Holt, Rinehart & Winston, New York.
LÉVI-STRAUSS, C. (1969), *The Elementary Structures of Kinship,* Eyre & Spottiswood, London.
LÉVI-STRAUSS, C. (1979), *The Origin of Table Manners,* Harper & Row, New York.
LEWIS, B. (1976), *The World of Islam,* Thames & Hudson, London.
LEYS, S. (1978), *Chinese Shadows,* Penguin, Harmondsworth.
LOMBARD, M. (1974), *Les Métaux dans l'ancien monde du V^{e} au XI^{e} siècle,* Mouton, Paris and the Hague.
LOPEZ, R.S. (1951), 'The dollar of the middle ages', *Journal of Economic History,* vol. XI, pp. 209–34.
LOPEZ, R.S. (1952), 'Economie et architecture médiévales. Cela aurait-il tué ceci?', *Annales E.S.C.,* vol. 7, pp. 433–8.

LOPEZ, R.S. (1953), 'An aristocracy of money in the early middle ages', *Speculum,* vol. XXVIII, pp. 1–43.
LOPEZ, R.S. (1954), 'Les influences orientales et l'éveil économique de I'occident', *Cahiers d'Histoire Mondiales,* vol. I, pp. 594–622.
LOPEZ, R.S. (1956), 'Back to Gold, 1252', *Economic History Review,* vol. IX, pp. 219–41.
LU, D.J. (1974), *Sources of Japanese History,* McGraw-Hill, New York.
MACAULAY, Lord (1979), *The History of England,* Penguin, Harmondsworth.
MC FEAT, T. (ed.) (1966), *Indians of the North Pacific Coast,* McClelland & Stewart, Toronto.
MACHLUP, F. (1969), 'Cost push and demand pull', in R.J.Ball and P. Doyle (eds), *Inflation,* Penguin, Harmondsworth.
MC KENZIE, G. (1979), 'International aspects of inflation', in D. Heathfield (ed.), *Perspectives on Inflation,* Longman, London.
MAC LEOD, M.J. (1973), *Spanish Central America. A Socio-Economic History 1520–1720,* University of California Press.
MALINOWSKI, B. (1922), *Argonauts of the Western Pacific,* Routledge & Kegan Paul, London.
MANDEL, E. (1978), *Late Capitalism,* Verso, London.
MARX, K. (1973), *Grundrisse,* Penguin, Harmondsworth.
MARX, K. (1976), *Capital,* vol. 1, Penguin, Harmondsworth.
MARX, K. (1978), *Capital,* vol. 2, Penguin, Harmondsworth.
MASPÉRO, H., BALAZS, P. and DAMIEVILLE, M. (1967), *Histoire et institutions de la Chine ancienne des origines au XIIe siècle après J.-C.,* Presses Universitaires de France, Paris.
MASPÉRO, H. and ESCARRA, J. (1952), *Les institutions de la Chine,* Presses Universitaires de France, Paris.
MASSELL, B.F. (1968), 'Economic variations on a theme by Schneider', in E.E.Le Clair Jr and H.K.Schneider (eds), *Economic Anthropology*, Holt, Rinehart & Winston, New York.
MAUSS, M. (1914), 'Origines de la notion de monnaie,' *Institut Français d'Anthropologie. Compte rendu des séances,* vol. 2, pp. 14–19.
MAUSS, M. (1968), 'Essai sur le don. Forme et raison de l'échange dans les sociétés archaiques', in *Sociologie et Anthropologie,* Presses Universitaires de France, Paris.
MÉLITZ, J. (1974), *Primitive and Modern Money,* Addison-Wesley Publishing Company, Reading, Massachusetts.
MELTON, W.C. (1977), *Reserve Requirements and Membership in the Federal Reserve System: an Analytical Framework and a Survey of the Evidence,* Federal Reserve Bank of New York.
MESTRE, E. (1937), 'Monnaies métalliques et valeurs d'échange en Chine', *Annales Sociologiques*, vols 2–4, series 'D', pp. 33–61.
MIDDLETON, J. and TAIT, D. (eds) (1970), *Tribes Without Rulers,* Routledge & Kegan Paul, London.
MILSOM, S.F.C. (1976), *The Legal Framework of English Feudalism,* Cambridge University Press.
MISKIMIN, H.A. (1963), *Money, Prices and Foreign Exchange in 14th Century France,* Yale University Press, New Haven, Connecticut.
MONTAGU, R. (1970), 'Autoridad, control y sanción social en las fincas tzeltales', in N.A.McQuown and J.Pitt-Rivers (eds), *Ensayos Antropológicos*, Instituto Nacional Indigenista, Mexico, DF.
MONTEFIORE, C.G. and LOEWE, H. (1963), *A Rabbinic Anthology,* Meridian Books, Cleveland and New York.
MOORE, B. (1973), *Social Origins of Dictatorship and Democracy,* Penguin, Harmondsworth.
MORRISON, K. (1963), 'Numismatics and Carolingian trade: a critique of the evidence', *Speculum* XXXVIII, pp. 403–32.
MULLER, J.H. (1979), 'Het Concordat: een model voor internationale samenwerking', *De Nederlandse Bank NV, Kwartaalbericht,* vol. 2, pp. 36–44.

MYRDAL, G. (1977), *Asian Poverty,* Penguin, Harmondsworth.
NASSEF, E.S. (1972), *Monetary Policy in Developing Countries,* Rotterdam University Press.
NEEDHAM, J. (1978), *The Shorter Science and Civilization in China,* Cambridge University Press.
NEWLYN, W.T. (1971), *Theory of Money,* Oxford University Press.
NEWLYN, W.T. (1977), *The Financing of Economic Development,* Clarendon Press, Oxford.
NEWNHAM, R. (1971), *About Chinese,* Penguin, Harmondsworth.
NICOLAS, G. (1970), 'Circulation des biens et échanges monétaires', in J. Poirier (ed.), *Monnaie et para-monnaie dans les sociétés non-industrielles, Cahiers Vilfredo Pareto, Revue européenne de sciences sociales,* no. 21, pp. 111–20.
NISBET, C. (1967), 'Interest rates and imperfect competition in the informal credit market of rural Chile', *Economic Development and Culture Change,* vol. 16, pp. 73–90.
NOVE, A. (1979), 'Inflation in communist countries', in D.Heathfield (ed.), *Perspectives on Inflation,* Longman, London.
NYERERE, J.K. (1968), *Freedom and Socialism,* Oxford University Press, Dar-es-Salaam.
OBERG, K. (1940), 'The kingdom of Ankole in Uganda', in M.Fortes and E.E.Evans-Pritchard (eds), *African Political Systems,* Oxford University Press.
OPPENHEIM, AL.L. (1964), *Ancient Mesopotamia. Portrait of a Dead Civilization,* University of Chicago Press.
ORTIZ, S.R.de (1973), *Uncertainties in Peasant Farming,* Athlone Press, London.
PALMER, F. (1976), *Company Law,* Stevens & Son, London.
PANKHURST, R. (1965), 'The history of currency and banking in Ethiopia and the Horn of Africa from the middle ages to 1935', *Ethiopia Observer,* vol. 8, no. 4, pp. 358–408.
PAPOUSEK, D.A. (1978), *Op Eigen Houtje,* Cedla Incidentele Publicaties, Amsterdam.
PARKER, G. (1977), *The Dutch Revolt,* Allen Lane, London.
PARSONS, T. (1967), *Sociological Theory and Modern Society,* Free Press, New York.
PATON, G.W. (1951), *Jurisprudence,* Oxford University Press.
PEARS, D. (1971), *Wittgenstein,* Fontana, London.
PERLMAN, M. (1970), 'International differences in liquid assets portfolios', in D.Meiselman (ed.), *Varieties of Monetary Experience,* University of Chicago Press.
PLATTNER, S. (1969), *Peddlers, Pigs and Profits: Itinerant Trading in South-East Mexico,* Ph.D. thesis, Stanford, California.
POLANYI, K. (1966), *Dahomey and the Slave Trade,* University of Washington Press, Seattle.
POLANYI, K. (1977), *The Livelihood of Man,* Academic Press, New York.
POPPER, K.R. (1961), *The Poverty of Historicism,* Routledge & Kegan Paul, London.
POSPISIL, L. (1963), *Kapauku Papuan Economy,* Yale University Publications in Anthropology, no. 67.
POZAS, R. and POZAS, I.H. de (1971), *Los Indios en las clases sociales de Mexico,* Siglo Veintiuno Editores SA, Mexico, DF.
PRESSNELL, L.S. (1956), *English Country Banking in the Industrial Revolution,* Oxford University Press.
PROCACCI, G. (1973), *History of the Italian People,* Penguin, Harmondsworth.
PRYOR, F.L. (1977), *The Origins of the Economy,* Academic Press, New York.
QUIGGIN, A.H. (1949), *A Survey of Primitive Money,* Methuen, London.
QURESHI, A.I. (1946), *Islam and the Theory of Interest,* Shaikh Muhammad Ashraf, Lahore.
RADCLIFFE, Lord (Chairman) (1959), *Report of the Committee on the Working of the Monetary System,* Her Majesty's Stationery Office, London.
RADCLIFFE-BROWN, A.R. (1950), 'Introduction', in A.R.Radcliffe-Brown and D.Forde (eds), *African Systems of Kinship and Marriage,* Oxford University Press.
RENOUARD, Y. (1941), *Les Relations des papes d'Avignon et des compagnons commerciales et bancaires de 1316 a 1378,* Bibliothèque des Ecoles Frangaises d'Athènes et de Rome, Paris.

REVELL, J. (1969), *A Secondary Banking System,* Department of Applied Economics, Cambridge, Reprint Series, no. 294.
REY, M. (1965), *Les Finances Royales sous Charles VI. Les causes du deficit,* Imprimerie Nationale, Paris.
RICH, E.E. (1960), *Hudsoris Bay Company 1670–1870* (3 vols), McMillan, New York.
RICHARDS, A.I. (1939), *Land, Labour and Diet in Northern Rhodesia,* International African Institute, Oxford.
RICHES, D. (1975), 'Cash, credit and gambling in a modern Eskimo economy', *Man,* n.s., vol. 10, pp. 21–33.
RINGGREN, H. (1966), *Israelite Religion,* SPCK, London.
ROBBINS, L. (1968), 'The subject-matter of economics', in E.E.Le Clair, Jr and H.K.Schneider (eds), *Economic Anthropology*, Holt, Rinehart & Winston, New York, pp. 88–100.
ROBINSON, J. (1971), *Economic Heresies,* Macmillan, London.
ROBINSON, J. and EATWELL, J. (1973), *An Introduction to Modern Economics,* McGraw-Hill, Maidenhead.
ROLL, E. (1973), *A History of Economic Thought,* Faber & Faber, London.
ROSENSTEIN-RODIN, P.N. (1936), 'The co-ordination of the general theories of money and price', *Economica,* n.s., vol. III, pp. 257–80.
ROSS, J.B. (1971), *The Economic System of Mexico,* California Institute of International Studies, Stanford.
ROTHSCHILD, Lord (Chairman) (1978), *Report of the Royal Commission on Gambling* (2 vols), Her Majesty's Stationery Office, London.
RUSSELL, B. (1936), *Introduction to Mathematical Philosophy,* George Allen & Unwin, London.
SAHLINS, M. (1972), *Stone Age Economics,* Tavistock Publications, London.
SAMUELSON, P.A. (1974), 'Worldwide stagflation', *Morgan Guaranty Survey* (June), pp. 3–9.
SAYERS, R.S. (1967), *Central Banking after Bagehot,* Oxford University Press.
SCHACHT, J. (1973), *Anthropologie Culturelle de l'argent,* Payot, Paris.
SCHAPERA, I. (1940), 'The political organization of the Ngwato of Bechuanaland Protectorate', in M.Fortes and E.E.Evans-Pritchard (eds), *African Political Systems,* Oxford University Press.
SCHUMPETER, J.A. (1978), *Can Capitalism Survive?*, Harper & Row, New York.
SEERS, D. (1963), 'The limitations of the special case', *Institute of Economics and Statistics* (Oxford) *Bulletin,* vol. 25, no. 2, pp. 77–98.
SERENI, E. (1968), *Il Capitalismo nelle campagne,* Einaudi, Turin.
SHACKLE, G.L.S. (1974), *Keynesian Kaleidics,* Edinburgh University Press.
SIMIAND, F. (1934), 'La monnaie, réalité sociale', *Annales Sociologiques*, series D, pp. 1–86.
SIMMEL, G. (1978), *The Philosophy of Money,* Routledge & Kegan Paul, London.
SIVERTS, H. (1969), 'Ethnic stability and boundary dynamics in southern Mexico', in F.Barth (ed.), *Ethnic Groups and Boundaries,* Universitetsforlaget, Oslo.
SLICHER VAN BATH, B.H. (1963), *The Agrarian History of Western Europe A.D. 500–1850,* Edward Arnold, London.
SMITH, A. (1979), *The Wealth of Nations,* Penguin, Harmondsworth.
SMITH, C.A. (1975), 'Examining stratification systems through peasant marketing arrangements: an application of some models from economic geography', *Man,* n.s., vol. 10, pp. 95–122.
SMITH, M.G. (1965), 'The sociological framework of law', in H.Kuper and L.Kuper (eds), *African Law: Adaptation and Development,* University of California Press.
SPUFFORD, P. (1971), 'Coinage and currency', *Cambridge Economic History of Europe,* vol. III, pp. 576–602.
SRAFFA, P. (1975), *Production of Commodities by means of Commodities,* Cambridge University Press.

STEVENSON, R.L. and OSBOURNE, L. (1889), *The Wrong Box,* Longmans, Edinburgh.
STORRY, R. (1960), *A History of Modern Japan,* Penguin, Harmondsworth.
STRATHERN, A.J. (1979), 'Gender, ideology and money in Mount Hagen', *Man,* n.s., vol. 14, pp. 530–48.
STREEFKERK, H. (1978), *Lichte Industrie in een Kleine Indiase Stad,* published by the author at Amsterdam.
SUHRAWARDY, A. (1941), *The Sayings of Muhammed,* London.
TAX, S. (1953), *Penny Capitalism: a Guatemalan Indian Economy,* United States Government Printing Office, Washington, DC.
TAYLOR, A.J.P. (1965), *English History 1914–45,* Clarendon Press, Oxford.
TREVELYAN, G.M. (1944), *English Social History,* Longman, London.
TUCCI, G. (1970), 'Origine et développement de la monnaie primitive', in J.Poirier (ed.), *Monnaie et para-monnaie dans les sociétés non-industrielles, Cahiers Vilfredo Pareto, Revue européenne de sciences sociales,* no. 21.
TYUMENEV, A.I. (1956), *Gosudarstvennoye Khoziaistvo Dryevnyevo Sumyera,* Moscow-Leningrad.
USHER, A.P. (1943), *The Early History of Deposit Banking in Mediterranean Europe,* Harvard University Press.
VAN DER WEE, H. (1977), 'Money, credit and banking systems', *Cambridge Economic History of Europe,* vol. v, pp. 290–393.
VAN DORMAEL, A. (1978), *Bretton Woods: Birth of a Monetary System,* Macmillan, London.
VAN GENNEP, A. (1960), *The Rites of Passage,* Routledge & Kegan Paul, London.
VAN LEYNSEELE, P. (1979), *Les Libinza de la Ngiri. L'anthropologie d'un peuple des marais du confluent Congo-Ubangi,* Academisch Proefschrift, Leiden.
VANSINA, J. (1973), *The Tio Kingdom of the Middle Congo,* Oxford University Press.
VAN VELSEN, J. (1964), *The Politics of Kinship,* Manchester University Press.
VEBLEN, T. (1953), *The Theory of the Leisure Class,* Mentor Books, New York.
VILAR, P. (1976), *A History of Gold and Money 1450–1920,* NLB, London.
VINER, J. (1955), *Studies in the Theory of International Trade,* George Allen & Unwin, London.
VINER, J. (1978), 'Religious thought and economic society', in J.Mélitz and D.Winch (eds), *History of Political Economy,* vol. 10, no. 1.
VOGT, E.Z. (1968), 'Penny capitalists or tribal ritualists? The relationship of market behaviour to ceremonial life in a modern Maya community', *Proceedings of the VIIIth International Congress of Anthropological and Ethnographical Sciences, Tokyo and Kyoto, Japan,* vol. II, pp. 243–44.
VOGT, E.Z. (1976), *Tortillas for the Gods,* Harvard University Press, Cambridge, Massachusetts.
WATSON, W. (1958), *Tribal Cohesion in a Money Economy,* Manchester University Press.
WEBER, M. (1978), *Selections in Translation,* Cambridge University Press.
WERDMOLDER, H. (1979), 'Karnavals anders bezien. Een studie naar het orgamsatonsche aspekt van het Karnaval te Venlo', *Volkskundig Bulletin,* pp. 1–20.
WILSON, J.S.G. (1964), 'The Netherlands', in R.S.Sayers (ed.), *Banking in Western Europe,* Oxford University Press.
WOLF, E.R. (1966), *Peasants,* Prentice Hall, Englewood Cliffs, NJ.
WOMACK, J. (1968), *Zapata and the Mexican Revolution,* Vintage Books, New York.
WOODBURN, J. (1968), 'An introduction to Hadza ecology', in R.B.Lee and I.deVore (eds), *Man the Hunter,* Aldine, Chicago.

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