

The Analytic Turn

Analysis in Early Analytic Philosophy
and Phenomenology

Edited by
Michael Beaney

Routledge Studies in Twentieth Century Philosophy

The Analytic Turn

One of the most important developments in twentieth-century philosophy – arguably *the* most important development – was the rise of analytic philosophy. In recent years there has been growing interest in the history of analytic philosophy and increasing debate over what exactly ‘analytic philosophy’ means. The name suggests that *analysis* is accorded a central role in its methodology, and one might indeed talk of an ‘analytic turn’ as having taken place in giving rise to analytic philosophy. But this analytic turn was a complex event, and studies in the history of analytic philosophy show that there are many conceptions of analysis in play, both explicitly and implicitly. This volume sheds light on these conceptions, particularly in the early phases of the history of analytic philosophy, and compares them with the methodology of phenomenology, one of the main rival traditions in twentieth-century philosophy. Here, too, one might speak of an ‘analytic turn’ as having taken place, and the relationship between the analytic and phenomenological traditions is a further theme of the volume.

Part I explores the work of Frege and Russell, two of the founders of analytic philosophy, explaining the development of their work and some of the similarities and differences. Part II contains essays on Wittgenstein and other philosophers, elucidating the shift in the second phase of analytic philosophy from broadly decompositional and reductive conceptions of analysis to explicatory and connective conceptions. Part III focuses on Bolzano and Husserl, clarifying their methodology and some of the relationships with methodologies in the analytic tradition.

This collection of essays, with contributions from leading philosophers in both the analytic and phenomenological traditions, and an introductory overview provided by the editor, will be welcomed by analytic philosophers, phenomenologists, and anyone interested in the history of philosophy, and of twentieth-century philosophy, in particular.

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Preface and acknowledgements

This volume brings together some of the papers that were presented, in an earlier form, at the conference that took place at St Catherine's College, Oxford, from 30 March to 1 April 2005, which I organized as the annual spring conference of the British Society for the History of Philosophy, in association with the Open University Mind, Meaning and Rationality Research Group. Entitled 'The Varieties of Analysis: Conceptions of Analysis in the History of Philosophy', the conference marked the centenary of the appearance of both Russell's theory of descriptions and Husserl's method of phenomenological reduction, but the aim was also to explore the richness of conceptions of analysis in the history of philosophy, and papers were given by scholars with research interests across the full range of history of philosophy. In putting together the present volume, however, I have kept the focus on analysis in early analytic philosophy and phenomenology. I hope that companion volumes on analysis in early modern philosophy and in ancient philosophy will eventually appear.

The only paper published here (other than the introduction) that was not given at the conference is my own. Presenting a paper at a conference of which one is the main organizer, especially when there are parallel sessions, did not strike me as sensible. But the paper published here, in an abridged form, was originally prepared for a conference on the common sources of the analytic and phenomenological traditions held in Memphis in September 2001, which played a role in my decision to organize a conference specifically on the theme of analysis. So it seems appropriate to include it here as well, and I hope that the overview I offer in this paper complements the other contributions. I would like to thank *The Southern Journal of Philosophy* for permission to publish the paper in its revised form.

I would also like to acknowledge here the financial support for the conference that was provided by the Analysis Trust, the British Society for the History of Philosophy, the Maison Française, the Mind Association, the publishers Taylor & Francis, and especially the British Academy and the Open University Arts Faculty. I would like to thank, too, all the participants at the conference – and my two student assistants Tara Beaney and Andrew Godfrey – for making the conference such a success, and in particular, all

the contributors to this volume for their help and forbearance in seeing this project through. At a more personal level, I am grateful for the support given me by the Department of Philosophy at the Open University in organizing the conference, the Department of Philosophy at the University of York in granting me study leave, and the Institut für Philosophie of the University of Jena and the Alexander von Humboldt Foundation in making possible my stay in Germany, during the final stages of editing this volume. Finally, as always, my thanks go to Sharon, Tara, Thomas and Harriet for keeping me as sane as someone with a philosophical obsession can be.

Michael Beaney
Jena, November 2006

1 The analytic turn in early twentieth-century philosophy

Michael Beaney

Ever since I abandoned the philosophy of Kant and Hegel, I have sought solutions of philosophical problems by means of analysis, and I remain firmly persuaded, in spite of some modern tendencies to the contrary, that only by analysing is progress possible.

(Russell 1959: ch. 1)

One of the most important developments in twentieth-century philosophy – arguably, *the* most important development, at least in the English-speaking world – was the rise of analytic philosophy. There has been increasing debate in recent years over what exactly ‘analytic philosophy’ means, as the term has been used in a wider and wider sense and it has become harder and harder to identify any common assumptions, methods or themes. But there is general agreement on its main sources: the work of Gottlob Frege (1848–1925), Bertrand Russell (1872–1970), G.E. Moore (1873–1958) and Ludwig Wittgenstein (1889–1951) in the period from roughly 1880 to 1920. (Frege’s first book, *Begriffsschrift*, setting out his new logic, was published in 1879; and Wittgenstein’s *Tractatus* was published in 1921.) More specifically, the origins of analytic philosophy are often dated to the rebellion by Russell and Moore against British idealism at the turn of the twentieth century. But there is little doubt that as Russell’s and Moore’s ideas were developed – in particular, as Russell became convinced that mathematics was really logic, and through Wittgenstein’s early work – Frege’s writings became increasingly influential. In the *Tractatus*, Wittgenstein critically engages with Frege’s and Russell’s ideas above all else, with the result that both Frege and Wittgenstein have taken their place alongside Russell and Moore as the acknowledged founders of the analytic tradition.

Central to Russell’s and Moore’s rebellion against idealism was the emphasis placed on analysis, as the remark cited above from Russell’s *My Philosophical Development* indicates. But both Russell and Moore were notoriously unclear as to what exactly ‘analysis’ meant, and they use the term in a number of ways throughout their writings. At the time of their rebellion, however, the *decompositional* conception was undoubtedly dominant: analysis was understood as the process of decomposing something into its constituent parts. This conception is explicit in Moore’s 1899 paper,

'The Nature of Judgment'. On the naïve realist view advocated in this paper, the world is composed of 'concepts', which are synthesized into propositions, both concepts and propositions being independent of us. Analysis is then accorded a fundamental role in Moore's epistemology: 'A thing becomes intelligible first when it is analysed into its constituent concepts' (1899: 8).

Both Moore's naïve realism and the associated decompositional conception of analysis were endorsed by Russell in his initial rejection of idealism, but such a view faces obvious problems. How can we give an account of propositions about non-existent objects, for example? Much of Russell's subsequent philosophy is an attempt to think through and find solutions to such problems – the problems raised by adopting a decompositional conception of analysis in the context of repudiating idealism.¹ After the initial exuberance of his naïve realism, Russell gradually developed tools to cut back on his ontological commitments. This led first to his theory of denoting concepts, which was replaced within a few years by his theory of descriptions, on the basis of which he then developed his full-blown philosophy of logical atomism. By this time Wittgenstein, too, having been Russell's pupil, was developing his own form of logical atomism, which found its definitive statement in the *Tractatus*.

How can this path to logical atomism, however, be thought to have given rise to a whole new tradition of philosophy? Naïve realism is hardly new, and even logical atomism has its precursors in the work of Leibniz, in particular. In any case, neither naïve realism nor logical atomism can be regarded as characteristic of analytic philosophy after the 1920s. More specifically, the decompositional conception of analysis which seems to lie at the heart of Moore's, Russell's and Wittgenstein's early work is far from new. In its general form, such a conception played a key role in Descartes' philosophy (inspired by his analytic geometry) and in Locke's empiricism, to take just two examples from the early modern period, and in the particular case of concepts, found its classic statement in Kant's account of analyticity.² So if decompositional analysis is meant to characterize analytic philosophy, then why has analytic philosophy been thought to start with Russell and Moore?

The answer is that it is not decompositional analysis on its own that characterizes analytic philosophy, even during its logical atomist phase. In my view, the single most significant event in the development of analytic philosophy was not Russell's and Moore's rebellion against idealism, but the appearance in 1905 of Russell's theory of descriptions. Frank Ramsey rightly described this theory as a 'paradigm of philosophy' (1931: 263), a view that was endorsed by Moore (1959: 151). What is crucial about the theory of descriptions is that it introduced a quite different conception of analysis, which might be characterized as a *transformative* or *explicatory* conception. Fundamental to the theory is the *rephrasing* of the sentence to be analysed, a sentence of the form 'The *F* is *G*', where 'The *F*' represents the definite description, into a sentence of a quite different form. To take Russell's classic example, 'The present King of France is bald' is analysed as

‘There is one and only one King of France, and whatever is King of France is bald’. There is nothing decompositional about this type of analysis. ‘The present King of France is bald’ is not being analysed into ‘The present King of France’ and ‘is bald’, for example. The definite description is ‘analysed away’: no such phrase appears in the analysed sentence.

Again, though, the idea of transformative analysis itself was not new. It can be found in medieval logic, for example, and arguably goes back to Aristotle’s logic and ancient Greek geometry (which is the original source of talk of ‘analysis’). Indeed, in some sense, transformation is involved in all types of analysis.³ A good example of the idea in its pure form can be found in the conception of paraphrasis articulated by Jeremy Bentham (1748–1832). In his *Essay on Logic* (published posthumously, in 1843), Bentham wrote:

By the word paraphrasis may be designated that sort of exposition which may be afforded by transmuting into a proposition, having for its subject some real entity, a proposition which has not for its subject any other than a fictitious entity.

(Bentham 1843: 246)

Bentham applied the method in ‘analysing away’ talk of ‘obligations’ (cf. 1843: 247), and the similarities between Bentham’s method and Russell’s theory of descriptions have been discussed, most notably, by John Wisdom (1904–93) in a book devoted to just this relationship published in 1931.⁴

In its distinctive modern form, however, transformative analysis originated with Frege, which is why Frege has also come to be seen as one of the founders of analytic philosophy. The central project of Frege’s life was to demonstrate that arithmetic is reducible to logic, and in pursuing this he both invented modern quantificational logic, which made the project feasible, and provided analyses of number statements. On his account, a number statement such as ‘Jupiter has four moons’ is analysed as ‘The concept *moon of Jupiter* has four instances’ (cf. Frege 1884: §§46, 54).⁵ That is, it is viewed not as predicating of Jupiter the property of having four moons, as a simple decompositional analysis might suggest, but as predicating of the (first-level) concept *moon of Jupiter* the (second-level) property *has four instances*, which can be logically defined in Frege’s theory. To make clear that number statements can be logically defined, in other words, Frege had to transform the statements to show what was ‘really’ involved.

What distinguishes Frege’s and Russell’s use of transformative analysis from earlier uses? Here what is crucial is the role played by quantificational logic, which Frege invented and which Russell further developed and applied. Quantificational logic offered a far more powerful means of representing propositions and inferences than had hitherto been available, but only worked by assuming that ordinary language sentences could indeed be radically transformed in formalizing them. The radical nature of these transformations and the use to which they were put in Frege’s and Russell’s

logician projects inevitably opened up semantic, epistemological and metaphysical questions. What is the relationship between ordinary language and formal logic? What governs the ‘correctness’ of a logical formalization? Clearly, not everything is preserved in such transformations, so what *is* preserved and what can be allowed to vary? If we make use of notions such as ‘content’, ‘sense’, ‘meaning’, ‘denotation’ or ‘reference’ in justifying the analyses, then how are these notions to be explained and what are their relationships? To what extent are our analyses answerable to the world itself? Can we say anything a priori about what the world must be like, and if so what? What is the relationship between language and thought? How do they represent or engage with the world? These and many other such questions have provided the dynamic of the analytic movement ever since the work of Frege and Russell.

Of course, many of these questions have been asked before in different forms, but what made such questions pressing was the need to justify the new logic, and what arose, as a result, was far greater self-consciousness about our use of language and its potential for leading us astray. This greater self-consciousness has prompted talk of a ‘linguistic turn’ having occurred in twentieth-century philosophy, a turn that was arguably first made in Wittgenstein’s *Tractatus*, drawing on Frege’s and Russell’s ideas. But underlying this linguistic turn was the analytic turn instigated by Frege’s and Russell’s use of transformative analysis in developing and applying quantificational logic. It is the philosophical questions that this raised that have given shape to the analytic tradition.

But where does this leave decompositional analysis with which analytic philosophy seemed to begin? The relationship between decompositional and transformative analysis is one of the key issues addressed in this volume – in particular, in Part I. But the short answer, as far as Russell is concerned (brought out in the papers by Griffin and Hylton), is that transformative analysis was introduced to *reinforce* his appeal to decompositional analysis, which he continued to assume was required at the ultimate level of analysis. For the aim of transformation was to reveal the ‘real’ logical form of the proposition to be analysed, the constituents of the fully analysed sentence being assumed to correspond to, and be structured in exactly the same way as, the ultimate simple constituents of the reality represented. As far as Frege is concerned, the issue is more complicated, since Frege did not share Russell’s fundamental assumption that every propositional content can be uniquely analysed into ultimate simple constituents. For Frege, function-argument analysis (as utilized in transformative logical analysis) played a far greater overt role than whole-part (decompositional) analysis, although (arguably) he still made tacit appeal to the latter in the ontological conclusions he drew. (For discussion of the differences between Frege’s and Russell’s conceptions of analysis, see the papers by Reck, Levine and Beaney.)

Although Russell does not seem to have recognized the distinction between transformative and decompositional analysis, at least explicitly, the

distinction (or something like it) did come to be drawn by the members of the so-called 'Cambridge School of Analysis' in the late 1920s and early 1930s – in the second phase of analytic philosophy (to endorse the division suggested by Hacker in his paper; see p. 126 below). In their terminology, there was a difference between 'logical' or 'same-level' analysis, which simply transformed one sentence into another, and 'philosophical' or 'metaphysical' or 'reductive' or 'directional' or 'new-level' analysis, which revealed the underlying ontological commitments. (The distinction can also be seen as implicit in Wittgenstein's *Tractatus*, as the papers by Hanna and Phillips indicate.) There was a great deal of debate in this period about the nature and role of analysis, the main result of which was growing criticism of the reductive conception.⁶ But with the distinction in place, it was possible to accept this criticism without rejecting analysis altogether. Same-level analysis could be endorsed without metaphysical reductionism, and this became the hallmark of the phase (or phases) of analytic philosophy that followed.

The move away from reductive conceptions of analysis and the development of alternative conceptions can be found, for example, in the work of the Vienna Circle during the 1920s and 1930s (in the third phase of analytic philosophy distinguished by Hacker). The most significant figure in this regard was Rudolf Carnap (1891–1970), whose first major work, *Der logische Aufbau der Welt*, was published in 1928. The *Aufbau* opens with endorsement of what Russell called in 1914 'the supreme maxim in scientific philosophizing': 'Wherever possible, logical constructions are to be substituted for inferred entities' (Russell 1917: 115). This has often been interpreted as recommending a programme of ontological eliminativism, as suggested by the theory of descriptions, but Carnap interprets it epistemologically, as permitting what he calls 'rational reconstruction'. (Russell's own understanding of logical construction is discussed in the papers by Hylton and Linsky.) As Carnap characterizes it in the preface to the second edition of the *Aufbau*, rational reconstruction is 'the searching out of new definitions for old concepts', where the new definitions 'should be superior to the old in clarity and exactness, and, above all, should fit into a systematic structure of concepts' (Carnap 1961: v). As he goes on to note, such clarification of concepts is what he later called 'explication'; and the idea of explication is one of the themes explored in this volume, beginning with the paper by Reck.⁷

Carnap's programme of explication provides one example of the transition to less reductive conceptions of analysis. But undoubtedly the most striking and important example is Wittgenstein's later work, in which he explicitly repudiates his earlier logical atomism, and develops a new view of philosophy as conceptual clarification. Wittgenstein's early and later thought is discussed in three of the papers in Part II of this volume, by Hacker, Hanna and Phillips. Wittgenstein's ideas were enormously influential, not only in Cambridge, among his various pupils and colleagues, but also in Oxford in the two decades or so after the Second World War (in the

fourth phase of analytic philosophy distinguished by Hacker), when related methodologies were used by Gilbert Ryle (1900–76), J.L. Austin (1911–60) and Peter Strawson (1919–2006), to name three of the most dominant figures. Strawson has talked of ‘connective’ analysis replacing reductive analysis (1992: ch. 1), and this is an apt way to encapsulate the transition. But connective analysis was not only a feature of British philosophy. As Baldwin shows in his paper, a connective conception can also be found prior to the Second World War in the work of C.I. Lewis (1883–1964), the most important American analytic philosopher of the period. The development of connective forms of analysis provides the main theme of the papers in Part II.

I suggested above that the single most significant event in the development of analytic philosophy was the appearance of the theory of descriptions in 1905. But 1905 also witnessed the introduction by Edmund Husserl (1859–1938) of the idea of ‘phenomenological reduction’,⁸ which was a key moment – perhaps *the* key moment – in the development of phenomenology. The analytic and phenomenological traditions have often been seen as rivals in the history of twentieth-century philosophy, but in recent years the common origins of the two traditions and their philosophical connections have been stressed.⁹ One important influence on Husserl, for example, was Bernard Bolzano (1781–1848), whose work anticipates many ideas in later analytic philosophy. Bolzano’s conception of analysis is discussed by Lapointe in the first paper of Part III.

Just as much as Frege and Russell, Husserl’s philosophy grew out of an interest in the foundations of mathematics, and he became deeply concerned to combat psychologism. From his earliest work onwards, his aim was to uncover the sources of our meaning-constituting acts, initially in mathematics and logic, later more generally. (Husserl’s early development is explained in the paper by Moran.) Indeed, we can also see an analytic turn as having taken place in giving rise to phenomenology. As in the case of analytic philosophy, this had many aspects. In my own work on conceptions of analysis in the history of philosophy, I have distinguished three main modes of analysis – the regressive, the decompositional and the transformative (see §1 of my paper below). The decompositional and transformative modes have already been introduced. But the regressive mode, understood as the process of identifying the principles, premises, causes, etc., by means of which something can be derived or explained, was arguably dominant in conceptions of analysis up until the early modern period, and regressive conceptions have been prevalent ever since (even if overshadowed by decompositional conceptions).¹⁰ Frege’s and Russell’s concern to reveal the logical source of our knowledge of arithmetic, encapsulated in logical laws and definitions, can be seen as illustrating the conception, and Russell alluded to the conception himself in the title of a paper written in 1907, ‘The Regressive Method of Discovering the Premises of Mathematics’. The regressive conception is also a feature of Husserl’s methodology. We can see it reflected in Husserl’s remark in the *Crisis* that he uses the key word

‘transcendental’ ‘in the broadest sense for the original motif ... which through Descartes confers meaning on all modern philosophies ... the motif of inquiring back into the ultimate source of all the formations of knowledge’ (Husserl 1936: §26).

As Husserl’s use of the term ‘transcendental’ suggests, though, there is a Kantian dimension to Husserl’s project, and the remark itself indicates a Cartesian motivation as well. So what was new in Husserl’s analytic turn? What Husserl himself identified as crucial was his ‘discovery’ in 1905 of the method of reduction (later elaborated into a number of procedures), by which all our various everyday, psychological and scientific assumptions are ‘bracketed’ in order to focus on the underlying concepts and structures of our cognitive acts.¹¹ Phenomenology became the task of ‘clarifying the essence of cognition and of being an object of cognition’, as he put it in *The Idea of Phenomenology* (Husserl 1964: 18).

It is not just the coincidence of date that prompts the comparison with Russell here. For, as I suggest in my own paper, just as Russell was concerned to identify the indefinables of philosophical logic, as he described it in the *Principles* (quoted on p. 208 below), to be apprehended by ‘acquaintance’, so too Husserl was concerned to isolate through phenomenological reduction the ‘essences’ that underlie our logical thinking, to be apprehended by ‘essential intuition’ (*Wesenserschauung*). Furthermore, as Haaparanta brings out in her paper, there are also elements of ‘transformation’ in phenomenological reduction, which raise philosophical issues, and the paradox of analysis, in particular, which equally affect the kind of transformative analysis exemplified by the theory of descriptions.

Insofar as grasping ‘essences’ amounts to ‘fixing concepts in intuition’, as Moran characterizes phenomenological analysis (see p. 251 below), Husserl’s project can also be seen as one of conceptual clarification. This is discussed, in complementary ways, by Moran and Thomasson in their papers. Moran elucidates the ‘transcendental subjective’ aspects of Husserl’s methodology, while Thomasson compares phenomenology with ordinary language philosophy. Appreciating the similarities and differences between phenomenological analysis and forms of analysis in analytic philosophy sheds much light on both. Certainly, comparison demonstrates just how subtle and intricate are the relationships between the various conceptions of analysis that can be found in the two traditions, conceptions that themselves have roots in earlier conceptions. The nature of phenomenological analysis and its relationship to other conceptions of analysis form the central theme of the papers in Part III.

Even in a book devoted to the topic of analysis, with fourteen contributors writing from a variety of perspectives, it is not possible to do justice to the full range of conceptions of analysis in twentieth-century philosophy. This volume focuses on certain key figures in early analytic philosophy and phenomenology, in the period prior to the Second World War. But both earlier and later conceptions are also discussed, since these help place the

developments in this period in context. In the rest of this introduction I will say a little more about each of the papers in turn, highlighting their significance in the overall picture that I have all too briefly sketched in these first few pages. I draw some conclusions in the final section.

1 Frege and Russell: decompositional and transformative analysis

The papers in Part I explore the work of Frege and Russell, the two main instigators of the analytic turn that gave rise to analytic philosophy. As indicated above, both Frege and Russell came to philosophy through concern with the foundations of mathematics, and both sought to demonstrate the logicist thesis that arithmetic (and geometry as well, in the case of Russell) could be reduced to logic by offering transformative analyses utilizing the new quantificational logic. It was in their philosophical attempts to justify their logicist projects that analytic philosophy was born.

In ‘Frege–Russell numbers: analysis or explication?’, Erich Reck takes as his starting-point the logicist definition of the natural numbers as equivalence classes of equinumerous classes which both Frege and Russell gave, and considers the status of this definition, focusing primarily on Frege’s views. Was it intended as an ‘analysis’, in the sense of revealing what the natural numbers ‘really’ are, or as an ‘explication’, in the sense of offering a reconstruction that does essentially the same job but in a more powerful and rigorous theoretical system? The Platonism that many have attributed to Frege would seem to suggest the first, while the second is compatible with a more conventionalist reading that brings Frege closer to Russell and Carnap. Reck does not attempt the difficult task of deciding the issue on textual grounds, but he does elucidate the conceptions of analysis involved in asking the question and discuss the constraints on such definitions that might narrow down the possibilities.

As far as Frege’s Platonism is concerned, Reck argues that this should not be interpreted as invoking a ‘Platonic heaven’ of abstract objects such as numbers, which we apprehend by some quasi-perceptual ‘intuition’. The most charitable and sophisticated reading, he suggests, is that developed by Tyler Burge,¹² according to which getting at ‘the facts of the matter’ is taken to involve reasoning and theory construction rather than (quasi-)empiricist observation. Nevertheless, even this sophisticated reading seems to conflict with a more conventionalist reading, and as Reck notes, there are certainly passages where Frege offers something very close to Carnap’s notion of explication (in lectures that Carnap actually attended).¹³

One way of approaching the issue is by comparing the Frege–Russell definition with alternative definitions such as those subsequently provided by John von Neumann and, more recently, by Crispin Wright and Bob Hale. Taking these three cases, how do we decide whether to identify the natural numbers with the *Frege–Russell numbers*, the *von Neumann numbers* or the *Wright–Hale numbers*, as Reck calls them? Like the Frege–Russell

numbers, the von Neumann numbers are classes (set-theoretic objects), which satisfy the Dedekind–Peano axioms, but they arguably do not do justice to the role of numbers in ‘bringing together’ equinumerous collections. The Wright–Hale numbers, on the other hand, seem to do justice to the application of numbers, but do they really count as logical objects? Would Frege have been happy with Wright’s and Hale’s ‘neo-logicism’?

Clearly, there are different constraints in different theoretical contexts, and the question of what the numbers ‘really’ are can only be answered in a particular conceptual framework. As Reck suggests, this might help us in reconciling the Platonist and conventionalist strands in Frege’s thought, even if Frege himself may not have seen it in this way. Indeed, for any interpretation of Frege’s thought that might be offered, we might well be tempted to ask an analogous question. Does the interpretation offered count as an ‘analysis’ or an ‘explication’? Are there ‘facts of the matter’ as to what Frege really meant? The question Reck addresses in his paper clearly has implications beyond the specific case of the natural numbers.

Frege’s and Russell’s logicist definition of the natural numbers as equivalence classes of equinumerous classes is also the starting-point of James Levine’s paper, ‘Analysis and abstraction principles in Russell and Frege’. Although they offered the same definition, however, Levine argues that they used that definition in quite different ways (providing a further illustration of the Carnapian message of Reck’s paper). For Frege, it played a role in his claim that numbers are ‘self-subsistent objects’, whereas for Russell, it was taken as showing that numbers can be dispensed with in giving an inventory of the world. Underlying these two different philosophical approaches were two different conceptions of analysis and propositional contents. Central to Russell’s philosophy from the time of his rejection of idealism, Levine argues, was the principle that every propositional content can be uniquely analysed into ultimate simple constituents, a claim that Frege did not endorse. This meant that, for Russell, every proposition had a privileged representation (even if no one had yet been able to give it), which mirrored its content at the ultimate level of analysis. If two sentences of different forms could be used to assert the same propositional content, therefore, then they could not both be privileged representations. Frege, on the other hand, insisted throughout his life that one and the same content (‘thought’, in his later terminology) could be analysed in indefinitely many ways, without assuming that there was some one way that was uniquely privileged.

Consider, then, the case of the Cantor–Hume principle,¹⁴ asserting the equivalence between (Na) and (Nb):¹⁵

(Na) The concept *F* is equinumerous to (i.e. can be correlated one–one with) the concept *G*.

(Nb) The number of *F*s is equal to the number of *G*s.

On Russell's view, if (Na) and (Nb) have the same propositional content, then at most only one of them can offer a privileged representation of that content, since they are of different forms. So their equivalence suggests that talk of numbers can be 'reduced' to talk of the one–one correlation of concepts, so that we do need to suppose the existence of numbers in addition to that of concepts. For Frege, on the other hand, the possibility of contextually defining numbers in this way does not imply that numbers are not objects. On the contrary, the fact that number statements can be true and that constituent number terms such as 'the number of *F*s' are proper names is enough to show that numbers *are* objects. The issue is how we can apprehend such objects, given (as Frege himself stressed) that they are not *actual* objects, i.e. spatio-temporal objects that have causal effects. It was here that he appealed to the equivalence between (Na) and (Nb). According to Frege, we apprehend numbers by understanding the sense of sentences in which number terms appear, an understanding that is grounded (and hence shown to have a logical source) by our grasp of sentences such as (Na) together with our recognition of the equivalence captured in the Cantor–Hume Principle.¹⁶

What we have in the case of the Cantor–Hume Principle is what is often called an 'abstraction principle', and Frege's and Russell's different conceptions of analysis clearly lead to different views of the use of such principles. In fact, it is significant in this respect that Frege himself never called it an 'abstraction principle', a phrase which itself suggests that one of the two sentences involved is on a different and 'higher' (i.e. more abstract) level to the other – numbers being 'abstracted' from the relation of one–one correlation obtaining between concepts. Indeed, from Russell's diametrically opposed perspective, the use of the phrase is also misleading, since it seems to grant that numbers are objects, just 'higher' or more abstract objects. As Levine notes (p. 65 below), Russell at one point remarks that the principle of abstraction should really be called 'the principle which dispenses with abstraction', since it 'clears away incredible accumulations of metaphysical lumber' (Russell 1914: 51). In Russell's case, the reductionism made possible by abstraction principles takes the form of eliminativism – 'analysing away' the supposed abstract objects. Not only the use of abstraction principles but also the very name they are given, then, reflects the underlying conceptions of analysis.

What led Russell to this eliminativist view of abstraction principles? He may have shared Frege's concern to demonstrate logicism, but he adopted a diametrically opposed approach to the use of abstraction principles. As Levine shows, at the root of this disagreement lies their different conceptions of analysis, and in particular, their different attitudes to the principle that every propositional content can be uniquely analysed into ultimate simple constituents, which Russell endorsed but Frege did not. This principle was adopted by Russell in his initial rejection of idealism. But adopting this principle does not in itself determine which of the two sentences

involved in an abstraction principle is to be seen as the more fundamental (as the more privileged representation, in Levine's terminology), nor whether eliminativism is to be preferred to a more moderate reductionism. Why should (Na) be seen as more fundamental than (Nb), for example, and why, if we do this, should we think of numbers being 'analysed away' rather than just being shown to be 'higher' objects?

Levine identifies the source of Russell's concern with abstraction principles in his interest in theories of serial order, which arose in his engagement with Hegelian idealism. Take the case of events, considered as ordered by the temporal relations of *before*, *after* and *simultaneous with*. On an absolute theory, to say that two events are simultaneous with one another is to say that they both occur at one time, moments of time being treated as just as real as events, and the relation of *occurring at* being treated as just as basic as the ordering relations. On a relative theory, on the other hand, events and the ordering relations are taken as basic, and moments of time are then defined in terms of these. (There is no absolute framework of temporal moments in which events are located.) Immediately after his rejection of idealism, Russell adopted absolute theories of order, but he soon came to endorse relative theories. In the case of number, for example, he moved from regarding numbers as just as real as (and distinct from) classes to treating them as definable in terms of (and hence reducible to) classes.

What led Russell to endorse relative theories of order? In his paper Levine is more concerned with the differences between Frege and Russell than with the details of the evolution of Russell's ideas, but he does note that the change coincides with Russell's acceptance of logicism in 1901/1902.¹⁷ Russell was able to endorse the logicist definition of numbers as classes without subscribing to Frege's realism, however, because of his different conception of analysis. This is Levine's main point, and it illustrates not only the dependence of metaphysical views on conceptions of analysis but also, in the case of Russell, the significance of the period between 1900 and 1905. This period has long been recognized as crucial in the development of Russell's thought, and much light has been shed on it by the authors of the next two papers, Nicholas Griffin and Peter Hylton.¹⁸ Griffin looks in more detail at Russell's early conception of analysis, and Hylton discusses the transformative conception of analysis that was introduced by the theory of descriptions in 1905.

In 'Some remarks on Russell's early decompositional style of analysis', Griffin shows how fundamental Russell's early conception of analysis was in his thinking after his break with idealism, a conception that was essentially decompositional: that is, that treated analysis as a process of identifying the constituents of something. Russell initially conceded to idealism that a complete analysis was only possible where the complexes to be analysed were mere collections rather than unities, unities involving relations that could not be separated out. But he nevertheless rejected the key doctrine of the British idealists that all relations are internal. What exactly did this

doctrine mean, however, and why did Russell reject it? In answering these questions, Griffin focuses on the debate that Russell had with Harold Joachim (1868–1938) in 1905–7, a debate in which the question of the nature of relations was central. Russell glossed what he called the ‘axiom of internal relations’ as the view that all relations are grounded in the natures of their terms. But according to Russell, ‘the nature of a term’ could mean either ‘all the propositions that are true of the thing’ or ‘the adequate analysis of the thing’, and he accused the idealists (Hegelians) of failing to recognize this distinction, a failure that follows, he claimed, from their principle that every proposition attributes a predicate to a subject (cf. pp. 79–80 below).

Understanding this principle to be restricted to the case of atomic propositions, however, Griffin points out that Russell’s claim is only correct on the assumption that *all* the properties of a thing are included in an adequate analysis of it. For only then is it true that if every (atomic) proposition attributes a property to a thing, then the set of all (atomic) propositions that are true of a thing is the same as the set of propositions that give its analysis. But such an assumption, Griffin goes on to argue, makes all such propositions come out as ‘analytic’ – at least, on the traditional definition of an ‘analytic’ proposition as one in which the predicate is contained in the subject – and this cannot have been Russell’s view. Indeed, Russell had himself criticized this view in his book on Leibniz. So how can he have maintained the assumption? Griffin’s answer is that Russell did not, in fact, accept that all – or even most – propositions that are apparently of subject–predicate form are actually of that form; many should be construed instead as relational. Russell rejected, in other words, what he saw as the Hegelian principle that every proposition attributes a predicate to a subject.

As Griffin notes, however, such a defence of Russell’s early decompositional conception of analysis is not completely successful, for it does not solve the problem of simple terms (things). By definition, simple terms have no parts, and so cannot be analysed; in which case, it would seem, they cannot have properties. Griffin states the options for Russell here, but does not attempt to resolve the problem. He concludes his paper by highlighting the importance that the question of relational propositions had in the development of Russell’s early philosophy and the extent to which Russell’s break with Hegelianism was gradual: it took him several years to think through the implications of his rejection of the doctrine of internal relations in the context of his decompositional conception of analysis. That conception was not new; what was new was the use he made of it.

At the core of Griffin’s account of the defensibility of Russell’s early decompositional conception of analysis is the claim that many apparently subject–predicate propositions are implicitly relational. This is not a claim that Russell would have made at the beginning of the 1900s. In *The Principles of Mathematics*, for example, he wrote: ‘On the whole, grammar seems to me to bring us much nearer to a correct logic than the current opinions of philosophers; and in what follows, grammar, though not our master, will

yet be taken as our guide' (Russell 1903: 42). Russell's debate with Joachim, however, occurs around the time of 'On Denoting', when Russell was developing the theory of descriptions, and the claim is certainly characteristic of his views then. Central to the theory of descriptions is the idea that a sentence may need to be transformed – and indeed, radically transformed – to adequately represent the relevant thought or proposition. This idea of transformation is discussed by Peter Hylton in "On Denoting" and the idea of a logically perfect language'.

Hylton begins by clarifying Russell's idea of a logically perfect language, a language which mirrors the structure of both the world and the thoughts that represent that world, and in which each ultimate element (simple object) of the world is denoted by one and only one word. Given that our ordinary language is not such a language, associated with the idea is a certain conception of analysis, the aim of which is to transform our ordinary sentences into sentences of the logically perfect language. But what constraints are there on such transformations? Hylton identifies what he calls Russell's 'Principle of Acquaintance' as the key principle, which Russell himself formulates at the end of 'On Denoting' as follows: 'in every proposition that we can apprehend . . . all the constituents are really entities with which we have immediate acquaintance'. Although this principle was not new in 1905, Hylton argues, it did not impose any significant constraint on analysis up to that point. In the immediate aftermath of his break with idealism, Russell allowed acquaintance with all sorts of entities; and during the period in which he held his theory of denoting concepts (from 1900/1901 to early 1905), any constraint that such a principle might have imposed was negated, since that theory allowed propositions to have constituents, namely, denoting concepts, that could denote things with which we were not acquainted. It was only when that theory was rejected in favour of the theory of descriptions that the principle finally came to impose a real constraint on analysis.

As far as Russell was concerned, what was crucial about the theory of descriptions was that it enabled him to maintain, in an unqualified form, the view that he had first adopted in rejecting idealism – that a proposition quite literally *contains* the objects which it is about. That view had been restricted by the theory of denoting concepts, which had provided a way of dealing with what were accepted as counterexamples. But that theory had also left mysterious the relation of denoting itself – the relation that was taken to obtain between denoting concepts and the things denoted. Russell's theory of descriptions dispensed with this relation (except, perhaps, in the one case of the variable), but its development came at a cost: the cost of admitting that ordinary sentences need to be radically transformed to yield their 'real' logical form, a form that can only be fully revealed in the logically perfect language. In other words, the theory of descriptions allowed Russell to retain his early decompositional conception of analysis, in all its original simplicity, but only by supplementing it with a *different* conception of analysis – the idea of analysis as transformation.

Hylton goes on to consider the further development of this idea in Russell's later conception of a logical construction and in the work of W.V.O. Quine (1908–2000). In the case of the former (which I will just say something about here), this was reflected in Russell's 'supreme maxim in scientific philosophizing': 'Wherever possible, logical constructions are to be substituted for inferred entities' (Russell 1917: 115; quoted on p. 5 above, in discussing Carnap's *Aufbau*). The role that the Principle of Acquaintance plays in Russell's philosophy might seem to make the need for inferred entities particularly acute. For if we are (apparently) able to talk about a lot of things with which we are not acquainted, then must we not *infer* their existence to explain how our talk can be *about* such things? Russell denies, however, that such talk is indeed about such things (even if they do exist), and has no way of making sense of entities that are different in kind from those with which we are acquainted. Instead, he suggests, we have to construct *analogues* of those entities out of the entities with which we are acquainted (i.e. out of our sense data). But this only reinforces Hylton's central point – that 'Russell is committed to the possibility, in principle, of an extremely far-reaching programme of philosophical analysis' (p. 102 below). Virtually nothing is what it seems, on Russell's philosophy after 1905, and it requires extensive analysis to show what the sentences we use are really about.

Russell's conception of logical construction forms the topic of the final paper in Part I, 'Logical analysis and logical construction', in which Bernard Linsky sheds light on the source of this conception in Russell's philosophy of mathematics, and argues against two influential interpretations of it. Linsky takes as his starting-point Russell's famous remark in *Introduction to Mathematical Philosophy*: 'The method of "postulating" what we want has many advantages; they are the same as the advantages of theft over honest toil. Let us leave them to others and proceed with our honest toil' (Russell 1919: 71) Russell had in mind here the 'postulation' by Richard Dedekind (1831–1916) of the irrational numbers as limits of a series of ratios, whereas Russell saw himself as actually 'constructing' them by defining them as classes. The Dedekind–Peano axioms in the theory of the natural numbers also count as 'postulates' which in Russell's (and Frege's) logicist project are derived as (supposed) theorems of logic. The logicist definitions of the numbers thus provide the model of logical construction.

In his essay 'Logical Atomism', Russell offers a further formulation of the maxim quoted above: 'Wherever possible, substitute constructions out of known entities for inference to unknown entities.' He then immediately suggests that an instance of this maxim is what he has called 'the principle of abstraction' or 'the principle which dispenses with abstraction' (Russell 1924: 326). As we have seen in considering Levine's paper, this is the principle that Russell saw as governing his treatment of abstract objects such as numbers. So the message would seem to be that the appeal to abstract objects as inferred entities is to be replaced by the logical construction of

analogues that have the same (or at least analogous) formal properties. This message lies at the heart of Linsky's criticisms of two particular interpretations of Russellian logical construction. On the first, developed during the early 1930s in the work of the Cambridge School of Analysis, logical constructions provide metaphysical reductions, showing how entities of one kind (such as numbers) can be 'reduced' to entities of another kind (such as classes). On the second, based on the more recent work of William Demopoulos and Michael Friedman, logical constructions exhibit the mathematical structures that can be taken as applicable to the empirical world (with the help of appropriate representation theorems). I will focus here on the first interpretation, since (as indicated above) the Cambridge School of Analysis itself forms part of the early history of analytic philosophy.

A paradigm example of logical construction, on the first interpretation, is the 'reduction' of committees to their members: a committee is nothing over and above the individual people that make up that committee and their relevant activities. The idea was extended to the case of material objects (which Russell had himself considered in *The Analysis of Matter* of 1927): tables and chairs, for example, were seen as logical constructions out of sense data. On such an interpretation, Russell's position comes out as similar to traditional phenomenalism. But on Linsky's account, Russell is not claiming that material objects 'really are' bundles of sense data. Rather, he is attempting to define entities that have the same (or analogous) formal properties as material objects, by means of which all the fundamental claims about the material world, such as that no two material objects can be in the same place at the same time, can be proved as theorems.

On Linsky's view, then, logical construction is not a form of reductive analysis but exemplifies what Carnap came to call 'explication'; and it is significant in this respect that Carnap did indeed have Russellian logical construction in mind here (cf. p. 5 above). Linsky is reluctant to call it 'analysis' at all, or at least 'analysis proper', which he characterizes as 'the process of finding those ultimate constituents of reality out of which the world in so far as we directly know it through acquaintance is constructed' (p. 114 below). But this is just decompositional analysis, and there are many other uses of the term 'analysis', not least in Russell's own writings, as Linsky recognizes. When Russell talks of 'the analysis of matter', for example, he is indeed referring to logical construction and not just decompositional analysis. The important point, though, is that the conceptions (whatever they are called) are distinguished and their relationships clarified; and Linsky is right to suggest that the interpretation of logical construction within the Cambridge School of Analysis was distorted by the influence of Wittgenstein's *Tractatus*. Russell did not take himself to be analysing ordinary language, and saw no methodological difficulty in offering 'analogues' or 'substitutes' or 'explications' of our ordinary notions. For him, the type of analysis exemplified in logical construction did not involve reducing entities of one kind to entities of another kind but, rather, replacing postulated

entities by constructed entities that do analogous work within the relevant theoretical system.

Although I have suggested that the appearance of the theory of descriptions in 1905 is the single most important event in the development of analytic philosophy, then, the analytic turn itself was a far more complex event. Even in the particular case of Russell's philosophy, there were several key stages. Russell's and Moore's rebellion against idealism may have accorded pride of place to decompositional analysis, but this became supplemented by transformative analysis, made possible by the quantificational logic that Frege invented and utilized in offering his own analyses. But Russell's use of transformative analysis was different from Frege's, and has itself given rise to different interpretations and developments. All this is part of the complex methodological inheritance that continues to shape analytic philosophy today.

2 Wittgenstein and other philosophers: connective and explicatory analysis

As mentioned above, the first phase of analytic philosophy culminated in Wittgenstein's *Tractatus*, and in the late 1920s and early 1930s the conception (or conceptions) of analysis involved in the programme of logical atomism were subjected to increasing critique, with the result that new conceptions of analysis emerged, which might be broadly characterized as connective or explicatory rather than reductive conceptions. This development is the main theme of the papers in Part II.

In the paper that opens Part II, 'Analytic philosophy: beyond the linguistic turn and back again', Peter Hacker offers an overview of the history of analytic philosophy and the conceptions of analysis it involves. In the first section, he divides analytic philosophy into four phases. The first is the one with which we have mainly been concerned so far, inaugurated by Russell's and Moore's rebellion against idealism and culminating in Wittgenstein's *Tractatus* (though I would wish to accord a greater role to Frege in the story than Hacker acknowledges here); the second involved the Cambridge School of Analysis active in the 1920s and early 1930s; the third was the heyday of the Vienna Circle in the 1930s; and the fourth combined post-war Oxford philosophy, led by Ryle and Austin, with the later philosophy of Wittgenstein and his pupils. Whether we are now witnessing a fifth phase or the death of analytic philosophy, Hacker leaves as an open question.

In the second section, he notes the conceptions of analysis involved in each phase, from the decompositional conception of Russell and Moore, through Russell's later reductive conception and the differing views of logical analysis of the early Wittgenstein and Carnap, to the connective conception of the later Wittgenstein, Ryle and Strawson. Although he denies that analytic philosophy can be defined by reference to any methods of analysis, he nevertheless suggests that it can be broadly characterized by its

concern, first, with formal logic, and second, with language and its uses. But this characterization permits widespread disagreement within the analytic tradition about the relationship between formal logic and natural language. Indeed, Hacker suggests that there has been polarization on the issue throughout its history.

In the final section of his paper, Hacker takes issue with Timothy Williamson's recent suggestion that analytic philosophy has now taken a 'representational turn', repudiating the earlier 'linguistic turn'. Hacker clarifies what was involved in the linguistic turn and defends its essential achievement, which was to make the meticulous examination of language a central method of philosophy. He criticizes Williamson's claim that the goal of philosophy is the analysis of representation, and indicates why he thinks that the revival of metaphysics that Williamson associates with the representational turn is a retrograde step. The aim of philosophy, Hacker concludes, 'is the clarification of the forms of sense that, in one way or another, are conceptually puzzling – for they are legion' (p. 139 below). Although Hacker may be cautious in characterizing the state of analytic philosophy today, it seems to me that, whether or not there is now a new strand that has taken a representational turn, analytic philosophy is alive and well in the work of Hacker and all those for whom connective analysis continues to play a central role.

In 'Kant, Wittgenstein, and the fate of analysis', Robert Hanna traces what he sees as the main development in conceptions of analysis from Kant to the later Wittgenstein via the *Tractatus*. He begins by outlining what he calls Kant's 'conceptual-decompositional' theory of analysis, though stressing its subservience to Kant's transcendental idealist project. He then suggests that in rejecting both Kantian and Hegelian idealism, early analytic philosophy replaced this theory by the 'logical-decompositional' theory, which found its definitive statement in the logical atomism of Wittgenstein's *Tractatus*. As Hanna explains the Tractarian conception, logical analysis is concerned both to offer a critique of language and to reveal the deep structure of our language and thought; and it is in the latter respect that it differs from Kantian analysis. In Kantian jargon, Hanna remarks, 'Tractarian logical-decompositional analysis is *noumenal* analysis of *things-in-themselves*', aimed at establishing contact with the simple objects that make up the substance of the world (p. 152 below).

Hanna goes on to discuss Wittgenstein's later conception of analysis, which he sees as dropping the noumenalism. More specifically, Hanna argues, it emerged from Wittgenstein's rejection of his earlier direct-referentialist semantics and picture theory of meaning, and from his elaboration of the idea that logic is 'grammar'. Hanna calls Wittgenstein's later conception 'dialectical conceptual analysis', which '(a) displays and diagnoses the dialectical structure of philosophical problems, (b) describes, unpacks, compares, and contrasts the concepts implicit in our various ordinary uses of language and states truisms about them, and then (c) stops' (p. 158

below). This brings us back to Kant, Hanna suggests, the main difference being the explicit recognition on Wittgenstein's part of the role that linguistic behaviour plays in our cognitive activities. Philosophical analysis, Hanna concludes, 'is ultimately rational anthropology in a wide sense that includes the theory of language: *the logically-guided universal normative theory of human rationality*' (p. 160 below).

According to Hanna, Tractarian logical analysis had two main aims – to offer a critique of language and to reveal the deep structure of our language and thought. In 'Complete analysis and clarificatory analysis in Wittgenstein's *Tractatus*', Dawn Phillips looks at the relationship between these two aims in more detail, although she prefers to talk of two conceptions of analysis being involved here. She begins by explaining why a critique of language is necessary – because of our misunderstanding of the logic of our language, reflected in our failing to recognize how the linguistic signs we use symbolize. She argues, however, that there is a problem in Wittgenstein's conception of how to correct this misunderstanding. For 'in order to recognize the symbol in the sign', Wittgenstein writes, 'we must consider the significant use [*den sinnvollen Gebrauch*]' (3.326), that is, we must consider when the sign is used in accord with the rules of logical syntax. But if we can do this, then it would seem that we must already recognize the symbol in the sign; i.e. already understand the logic of our language. What we have here is a version of the paradox of analysis, and to solve this problem, Phillips suggests, we need to distinguish between complete analysis and clarificatory analysis. The complete analysis of a proposition reveals its ultimate logical form (exhibiting it as a truth-function of elementary propositions); clarificatory analysis merely removes a misunderstanding, and does not require full elucidation of the logical syntax. It is clarificatory analysis that Wittgenstein has in mind in talking of the 'correct method' in philosophy (cf. 6.53), Phillips argues, and which avoids the paradox of analysis.

Of course, on Wittgenstein's early view, the possibility of complete analysis *underpins* clarificatory analysis. But Phillips makes the further point that, even if it were possible, the complete analysis of a proposition can only in fact be undertaken *after* clarificatory analysis, clearing away confusions that may surround the use of the proposition. And the importance of clarificatory analysis is reinforced when we consider the transition to Wittgenstein's later philosophy. For what we find here is clarificatory analysis (understood as elucidating the 'grammar' of our concepts) *without* an assumption that complete analysis is possible; indeed, the latter is now explicitly rejected. Phillips and Hanna are thus in agreement on the central development in Wittgenstein's conception of analysis from his early to his later work.

Wittgenstein is not the only philosopher who came to reject decompositional or reductive conceptions of analysis from the late 1920s onwards. In 'C.I. Lewis: pragmatism and analysis', Thomas Baldwin discusses the work of C.I. Lewis, who was Quine's predecessor as Edgar Pierce Professor of

Philosophy at Harvard from 1930 to 1953, and who might reasonably be regarded as the most significant American analytic philosopher in the period prior to the Second World War. Baldwin notes Lewis's work on modal logic, for which he is most well known, but concentrates on his book *Mind and the World Order*, which was published in 1929. Baldwin starts by discussing Lewis's problematic account of 'the given', which he argues is an incoherent hybrid of two different conceptions of sense-experience, being viewed by Lewis as both indescribable and yet infallibly identifiable. Despite this account of the given, however, empirical knowledge is determined, according to Lewis, not by the 'qualia' of individual experiences but by the intersubjective patterns among them. As Lewis puts it, 'it is relation which constitutes that *intelligibility* which is essential to knowledge' (quoted on p. 183 below).

Baldwin goes on to show how this emphasis on relation was reflected in rejection of a decompositional conception of analysis and endorsement of a holistic one, although traces of the decompositional conception can still be found. On Lewis's official view, analysis is not the 'dissection' of a complex concept into simple concepts that directly apply to qualia but the identification of the relations between concepts: 'logical analysis is not dissection but relation' (quoted on pp. 183–4 below). The results of analyses are analytic a priori propositions, according to Lewis, and this leads to the question of what determines our choice of such propositions as the governing principles in the realms of logic, mathematics and science. It is here that Lewis's pragmatism comes out: our choice of principles is made on pragmatic grounds, and hence pragmatic values infuse the very foundations of knowledge and truth.

In the final section, Baldwin compares Lewis's views with those of Carnap and Quine. In the case of Carnap, he considers *The Logical Syntax of Language* (1937), where Carnap famously advocated his principle of tolerance: 'In logic, there are no morals.' Here the similarities are striking, the main difference lying in Carnap's having taken the linguistic turn. Baldwin criticizes the relativist implications of both their positions, however, although he remarks that Carnap's linguistic approach at least 'has the merit of removing the logical space for a conception of the given' (p. 190 below). In the case of Quine, Baldwin considers why Lewis did not follow his pragmatism through and, like Quine, reject the analytic/synthetic distinction; the answer is that Lewis remained wedded to a Platonist conception of meaning. Baldwin suggests, though, that Lewis's influence on Quine was far greater than has generally been recognized (and than Quine himself acknowledged).

The final paper in Part II is my own contribution to the volume. Entitled 'Conceptions of analysis in the early analytic and phenomenological traditions: some comparisons and relationships', it can be seen as drawing together some of the threads in the previous papers and filling in further elements in the overall story of analysis in early twentieth-century philosophy.

In exploring some of the methodological connections between the analytic and phenomenological traditions, it also serves to introduce some of the themes in Part III.¹⁹ In the first section of the paper, I outline the conceptual framework that I have developed to explore conceptions of analysis in the history of philosophy. In particular, I distinguish between three main modes of analysis, which I call the regressive, the decompositional and the transformative (as mentioned on p. 6 above, and alluded to in a number of the other papers in this volume). The relationship between the latter two has been one of the main themes in the overview I have been offering in the present introduction.

In the main body of the paper, I explore three comparisons – between Frege and Russell, between Moore and Franz Brentano (1838–1917), and between Carnap and Husserl. With regard to the first, I argue that while Frege and Russell both used transformative analysis, they did so for different philosophical purposes. Frege did not share the eliminativist motivations of Russell. The contrast I draw thus complements the explanation of the differences between Frege and Russell given by Levine and the account of the relationship between decompositional and transformative analysis in Russell’s philosophy offered by Griffin and Hylton. In the case of Moore and Brentano, I show how they both shared a decompositional conception of analysis, and consider the question of Brentano’s influence on Moore. With regard to Carnap and Husserl, I sketch Husserl’s relationship to early analytic philosophy and his rejection of crude decompositional forms of analysis, and compare Husserl’s development of a richer conception with Carnap’s method of ‘quasi-analysis’ in his *Aufbau* of 1928. I end by clarifying their ideas of ‘explication’, a term which they both used in their later work. Carnap’s conception of explication has already been mentioned, in introducing the papers by Reck and Linsky, in particular. Husserl’s conception, though related, is rooted in his appeal to ‘intuition’, which anticipates issues discussed in the papers in Part III.

3 Bolzano and Husserl: semantic, conceptual and phenomenological analysis

As the papers in Part I confirm, analytic philosophy as we understand it today has its origins in the work of Frege, Russell and Moore around the turn of the twentieth century, and as the papers in Part II show, that work was developed in various ways as analytic philosophy blossomed in the period that followed. As we have also seen, however, the founders of analytic philosophy were not operating in a vacuum. They were both reacting against earlier forms of philosophy and yet at the same time subtly transforming certain key conceptions that they inherited, such as the decompositional conception of analysis associated with Kant, in particular. A proper understanding of the nature and development of analytic philosophy thus requires situating it in the broader historical context. One important

philosopher active in the period between Kant and early analytic philosophy is Bolzano, who was born in the year that the *Critique of Pure Reason* was published and died in the year that Frege was born. Although Bolzano had no direct influence on the founders of analytic philosophy, many of his ideas anticipated ideas that we now treat as characteristic of analytic philosophy, and he offered a powerful critique of Kant's philosophy, as Sandra Lapointe shows in 'Bolzano's semantics and his critique of the decompositional conception of analysis'.

Lapointe begins by elucidating the decompositional conception of analysis that can be found in Kant's discussion of analyticity, and identifies what Bolzano took to be responsible for the inadequacies of this conception, namely, the deficient understanding of the distinction between the properties of objects and the constituents of concepts. Bolzano's critique of Kant is grounded in his own semantic theory, and Lapointe goes on to explain some of the main elements of this theory, focusing, in particular, on his conceptions of 'Proposition' ('*Satz an sich*') and 'Idea' ('*Vorstellung an sich*') and his account of analyticity. In the case of the former, there are instructive comparisons to be made with Frege's conception of sense (*Sinn*), and Lapointe clarifies the process of analysis that Bolzano saw as required to exhibit the Proposition expressed by an ordinary sentence as used on a given occasion. Such a process of analysis Bolzano called '*Auslegung*', involving the paraphrasing of the ordinary sentence into a sentence of a semi-formal canonical language that expresses its meaning completely and unambiguously. Here, too, we see a similarity to Russell's idea of analysis (after 1905) as involving the transformation of ordinary sentences into sentences of a logically perfect language which mirror the reality they represent. In the case of analyticity, Lapointe shows how Bolzano's account made use of the method of substitution, which was later to play a role in the work of both Alfred Tarski (1901–83) and Quine – although neither was directly influenced by Bolzano.

While Bolzano may have had no direct influence on the development of analytic philosophy, however, he did have an important influence on Husserl, as Lapointe notes in the final section of her paper. Bolzano's influence on Husserl is also mentioned by Dermot Moran in 'Edmund Husserl's methodology of concept clarification', Bolzano being seen as having inspired Husserl to investigate our knowledge of ideal objects such as numbers and universals (e.g. Redness). Traditional empiricism went wrong, according to Husserl, by failing to provide an adequate account of such knowledge, and one of the purposes of his new method of phenomenological analysis was to offer a better account. Moran notes Husserl's apparent agreement with the empiricist in claiming that 'no concept can be thought without a foundation in a concrete intuition' (quoted on p. 238 below), and explains Husserl's construal of knowledge as the 'fulfilment of intuition', but emphasizes that Husserl's concern was to expand the range of what counts as 'fulfilment'. (As suggested above, it is instructive to compare

Husserl's views here with Russell's early assumption that we can be 'acquainted' with universals and the role that the principle of acquaintance plays in Russell's philosophy.)

In his paper, Moran offers an account of the development of Husserl's conception of phenomenological analysis from 1891, when his *Philosophy of Arithmetic* was published, to 1907, when Husserl started to see his philosophy as a new kind of transcendental philosophy. From the very beginning, Moran argues, Husserl was concerned with identifying certain subjective conditions of objective cognition, which he came to call 'phenomenological' conditions, and distinguishing these from merely 'psychological' conditions. Moran illustrates this in section 5 of his paper, in discussing Husserl's early account of our grasp of the concept of number. Husserl distinguishes the psychic acts that he regards as essential in our coming to grasp the concept of number, such as the intellectual synthesis he calls 'collective combination', from the psychic acts that may be involved on particular occasions but are not essential, such as our ability to order things in space and time.

After the *Philosophy of Arithmetic*, Husserl's attention shifted to the foundations of logic and epistemology, and Moran explains the development of Husserl's method in the two volumes of his *Logical Investigations* (1900–1). Husserl described this work himself as 'the result of ten-year long efforts for a clarification of the pure idea of logic by a return to the bestowing of sense or the performance of cognition which occurs in the nexus of lived experiences of logical thinking' (quoted on p. 251 below). Such a search for clarification can be found illustrated in Husserl's discussion of the sense in which we talk of mathematical objects 'existing'. Moran ends by addressing the question of the relationship between phenomenological analysis and linguistic analysis. According to Husserl, the latter is at best only a preliminary to the former, the aim of which is to uncover the a priori forms of consciousness – the necessary conditions of our apprehension of objects.

Husserl's method of phenomenological analysis is also discussed in the final two papers of Part III, Leila Haaparanta comparing it with ancient Greek geometrical analysis and Amie Thomasson comparing it with the form of conceptual analysis found in the later ordinary language tradition of analytic philosophy. In 'The method of analysis and the idea of pure philosophy in Husserl's transcendental phenomenology', Haaparanta begins by offering a characterization of 'pure' philosophy, in terms of the exclusion of argumentation based on empirical beliefs, and then clarifies the process of 'phenomenological reduction', understood as the movement from the 'natural attitude' to the 'philosophical attitude' whereby the various assumptions and commitments of everyday life and science are 'bracketed' in order to find the underlying logical forms and essential concepts. In section 4 she explains Husserl's distinction between three elements of cognition – noesis (the cognitive act), noema (the cognized as cognized) and the object itself (towards which the cognitive act is directed), and outlines

the debate that there has been over how these are related. She then highlights what she sees as the key issue here, which concerns the relationship between the objects of the natural attitude and the objects (noemata) of the philosophical attitude. Must the latter not be the same as the former if phenomenological analysis is to be correct, but if this is so, then what does analysis achieve? What we have here, of course, is yet a further version of the paradox of analysis.

Haaparanta does not confront this paradox directly, but instead elucidates the process of phenomenological analysis by comparing it with problem-solving analysis in ancient Greek geometry (though not as understood by Husserl himself). Just as the geometer starts by taking the figure to be constructed as 'given', in order to 'analyse' it to identify the parts and their relationships, and the relevant principles, by means of which to show exactly *how* it can be constructed (in accord with the terms of the problem), so too, Haaparanta suggests, the phenomenologist takes the objects of the natural attitude as given and seeks to understand their formation. Like geometrical analysis, she writes, 'phenomenological analysis is stepping backwards, researching into how experience is structured. The phenomenological description is the phase of construction. Phenomenologists construct in the peculiar sense that they articulate or make the constitution of the world of the natural attitude explicit' (p. 266 below). She concludes by noting the analogy that can also be seen with Russell's theory of descriptions, where expressions, too, are transformed in yielding a deeper understanding of what is (supposedly) meant.

In the final paper, 'Conceptual analysis in phenomenology and ordinary Language philosophy', Amie Thomasson argues that both phenomenology and the ordinary language tradition of analytic philosophy can be seen as offering the same response to the crisis that reached its head at the end of the nineteenth century regarding the proper methods and role of philosophy. In particular, she suggests, they were both responding to psychologism in taking philosophy to be concerned with the analysis of meanings or concepts. In the first two sections she counters some misconceptions about the differences between analytic philosophy and phenomenology, and in the final two sections clarifies the fundamental method that she sees them as sharing.

In the first section she argues against the view that while phenomenology is concerned with analysing meanings of our mental states, analytic philosophy is concerned with analysing meanings in language. Husserl, too, stressed that we must begin with linguistic discussions while keeping in mind that grammatical form can be misleading. On the other side, within ordinary language philosophy, the aim is not insight into words for their own sake but understanding of the concepts they express. Indeed, as Thomasson notes, Austin himself at one point suggested that his method might be called 'linguistic phenomenology'. In the second section, she rebuts the charge that Husserl's phenomenology invoked a baroque ontology of

essences and a mysterious epistemology of ‘intuiting’ them. What Husserl meant by ‘inspection of essences’ (*Wesensschau*), she writes, was ‘nothing more than beginning from a presentation of an object of a certain kind and imaginatively varying the presentation in various ways to yield general truths about what changes can and cannot be tolerated if we are to be presented with an object of that kind’ (p. 277 below). It is thus comparable to the method of considering imagined cases employed so extensively by analytic philosophers. And talk of ‘essences’, she goes on, is no more than the linguistic hypostatization of general truths about concepts. As she sums it up, ‘Husserl’s essences seem more properly understood as pleonastic than as Platonistic’ (p. 279 below).

In the final two sections, Thomasson suggests how Husserl’s method of ‘eidetic variation’ can be seen as a form of conceptual analysis, via the transformations effected by hypostatization, which at the same time yields ‘ontological’ results. But ‘ontology’ must here be interpreted as similar to the ‘descriptive metaphysics’ that Strawson advocated, Thomasson writes, which ‘differs from conceptual analysis only in “scope and generality”, by its concern with interconnections among our most general and basic concepts’ (p. 282 below). We have seen how one strand in analytic philosophy culminates in connective analysis; if Thomasson is right, then a similar strand can be discerned in phenomenology. Certainly, the similarities in methodology between certain strands in analytic philosophy and phenomenology are striking, and elucidation of one can be used to throw light on the other.

4 Conclusion: the varieties of analysis

What conclusions can be drawn from these studies of analysis in early analytic philosophy and phenomenology? At the very least, they should correct some common misunderstandings. It is frequently assumed that ‘analysis’ just means decomposition, and that it is analysis in this sense, particularly in the form of conceptual analysis, that is characteristic of analytic philosophy. But as we have seen, there are many other forms of analysis in play, even if they combine with decompositional analysis in intricate ways in actual practices of analysis. Moreover, the decompositional conception and its centrality in reductive projects was subjected to criticism at just the time that analytic philosophy began to establish itself as a tradition in the early 1930s.

Distinctive forms of analysis did indeed emerge in analytic philosophy and phenomenology. In my view, the most important of these was Frege’s introduction of quantificational logical analysis (a type of transformative analysis, extending function-argument analysis from mathematics to logic), which was further developed and pursued by Russell, most notably, in the theory of descriptions. Not only did this open up new possibilities of philosophical analysis (reductive, eliminative and explicatory) but the issues

raised by its use also set much of the agenda in the development of analytic philosophy. As far as phenomenology is concerned, the introduction of the method of reduction was what Husserl himself saw as his breakthrough. Aimed at identifying and clarifying the presuppositions in our everyday and scientific thinking, this can be regarded as the central characteristic of the parallel analytic turn that took place in giving rise to phenomenology.

Moore's and Russell's rebellion against British idealism was a significant moment in the development of analytic philosophy, but it was not significant because it introduced a new form of analysis. On the contrary, it simply took over an existing, decompositional conception, in a particularly crude form. It was significant because it marked the start of a sustained attempt to follow through the implications of putting that conception to work, in the context of rejecting idealism. Russell was far more successful than Moore in this regard, most importantly, because he was able to draw on and develop quantificational logic, driven by his aim of demonstrating logicism. This led to the more complex form of analysis exemplified by the theory of descriptions, combining transformative logical analysis with decompositional metaphysical analysis. What characterizes the analytic turn in giving rise to analytic philosophy, then, was this *synthesis* of two forms of analysis, and what has characterized analytic philosophy ever since is the continually developing syntheses of forms of analysis that have their roots in the work of the early analytic philosophers. Those forms have evolved in response to the changing epistemological and metaphysical environments.

As I said above, this volume focuses on certain key figures in early analytic philosophy and phenomenology in the period prior to the Second World War. As I have tried to bring out, a revealing picture of the development of philosophical analysis emerges. But even in the period concerned, there are many other significant figures and relationships, consideration of which would shed further light on this development. A fuller story would have to include, for example, the debate about analysis among those connected with the Cambridge School of Analysis,²⁰ the interaction between Wittgenstein and the various members of the Vienna Circle,²¹ the impact of Carnap and other logical empiricists on the American scene,²² the transformation of phenomenology by Martin Heidegger (1889–1976),²³ and Ryle's early engagement with phenomenology.²⁴

In the wider context, there are also relationships between philosophers within and without the two traditions that are important in understanding the differing conceptions of analysis. The debate between Russell and Joachim is discussed by Griffin, but Russell also sparred, for example, with Henri Bergson (1859–1941), who was a very influential figure in the first half of the twentieth century and whose ideas on the superiority of 'intuition' over analysis Russell criticized.²⁵ Sigmund Freud (1856–1939) was even more important, and the influence of psychoanalysis on philosophical methodology and on Wittgenstein's method, in particular, has frequently been discussed.²⁶ There are also other philosophers who wrote on methodology

and who developed conceptions of analysis in direct opposition to those of analytic philosophers, most notably, R.G. Collingwood (1889–1943), who was concerned to combat both Moorean philosophy and the logical positivism of A.J. Ayer (1910–89).²⁷

All of this is part of the complex story that is the history of twentieth-century philosophical analysis. At a time when the history of analytic philosophy has come of age, I hope that the papers brought together in the present volume will provide the basis for further investigations of philosophical analysis and the relationships between the analytic and phenomenological traditions. At a time, too, when philosophical methodology is once again high on the agenda, I also hope that the volume will encourage greater self-consciousness about methodology and appreciation of the varieties of analysis and of the value of understanding the historical roots of the conceptions and methods that we all too often take for granted.²⁸

Notes

- 1 For detailed accounts of the development of Russell's early philosophy in the context of British idealism, see Griffin 1991 and Hylton 1990. For an account of Moore's philosophy, see Baldwin 1990.
- 2 For an outline of the history of the decompositional conception of analysis, see Beaney 2003a.
- 3 Again, for an outline of the history of the transformative conception of analysis, see Beaney 2003a.
- 4 Wisdom 1931. Cf. Hacker 1996: 72, 281. I mention Bentham's conception in talking of 'paraphrastic analysis' in §1 of my paper (p. 200) below.
- 5 This requires qualification, since Frege also came to think that phrases of the form 'The concept *F*' are misleading. So further analysis is needed. But I ignore these complications here. I say more in §2 of my paper below.
- 6 For details, see Beaney 2003a: §6.5, where further references can be found; Beaney 2003b, which focuses on the central role played in the debate by Susan Stebbing (1885–1943). Cf. §1 of my paper below.
- 7 On Carnap's conception of explication, as it developed from the idea of rational reconstruction in the *Aufbau*, see also Beaney 2004.
- 8 Reference to the '*phänomenologische Reduktion*' occurs in the so-called 'Seefeld' manuscripts of 1905; cf. Schuhmann 1977: 92. The first public mention occurs in lectures given in 1906–7 (Husserl 1906–7). Cf. Mohanty 1995: 57; Moran 2000: 138, 146, 493.
- 9 See, for example, the papers published in Horgan *et al.* 2002.
- 10 Once again, for an outline of the history of the regressive conception of analysis, see Beaney 2003a. Let me clarify my use of the terms 'mode' and 'conception' at this point (cf. §1 of my paper, p. 197 below). As I see it, in actual practices of analysis, all three of the modes I have distinguished are typically involved, as illustrated by Frege's logicist project (cf. §2 of Reck's paper below). But one of those modes may be privileged in a certain conception, and then we may speak, e.g., of the decompositional conception (such as the early Moore undoubtedly had).
- 11 For an account of Husserl's 'discovery' of reduction, see Moran 2000: ch. 4.
- 12 See Burge 2005, especially the introduction and the papers in Part III.
- 13 See Frege 1914; cf. Frege 2004. I discuss the relationship between Frege and Carnap on the issue of explication in Beaney 2004.

- 14 This has frequently been referred to as just ‘Hume’s Principle’; but this does not do justice to Georg Cantor’s role in the story of the use of this principle. Cf. Reck and Beaney 2005: 1.
- 15 In Levine’s account, these are formulated slightly differently, as (Num₁) and (Num₂); cf. p. 59 below.
- 16 Admittedly, in the *Grundlagen* (1884), Frege went on to raise some doubts about the use of contextual definition, but his subsequent introduction in the *Grundgesetze* (1893) of Axiom V, which asserts an analogous equivalence, did not indicate any change in his underlying view of the status of such equivalences, and hence of his conception of numbers as objects.
- 17 Levine notes that Russell introduced logicist definitions of numbers in the spring of 1901, but as late as May 1902 was still hesitant about *identifying* numbers with equivalence classes (see pp. 61, 64 below).
- 18 See especially Griffin 1991 and Hylton 1990, 2005.
- 19 It is based on a paper I gave at a conference on the common sources of the two traditions in Memphis in 2001, and which was subsequently published as Beaney 2002. I have substantially shortened it for the present volume. I also drew on this paper in my entry on analysis for the *Stanford Encyclopedia of Philosophy* (Beaney 2003a), where further details can be found, as well as an extensive bibliography on conceptions of analysis in the history of philosophy.
- 20 Cf. Beaney 2003b; Urmson 1956.
- 21 See, e.g. Baker 1988.
- 22 See, e.g. Hylton 2001.
- 23 See, e.g. Moran 2000: ch. 6.
- 24 See, e.g. the debate between Thomasson 2002 and Brandl 2002.
- 25 See Russell 1912, 1913.
- 26 See, e.g. Baker 2004: chs 8–10.
- 27 Collingwood 1933, 1940. Cf. Beaney 2001, 2005.
- 28 I am grateful to the contributors to this volume, and especially Peter Hacker and Erich Reck, for comments on the first draft of this introduction.

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For an extensive bibliography on analysis in the history of philosophy, see Beaney 2003a.

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Part I

Frege and Russell: decompositional and transformative analysis

2 Frege–Russell numbers

Analysis or explication?

Erich H. Reck

For both Gottlob Frege and Bertrand Russell, providing a philosophical account of the concept of number was a central goal, pursued along similar logicist lines. In the present paper, I want to focus on a particular aspect of their accounts: their definitions, or re-constructions, of the natural numbers as equivalence classes of equinumerous classes. In other words, I want to examine what is often called the ‘Frege–Russell conception of the natural numbers’ or, more briefly, the *Frege–Russell numbers*. My main concern will be to determine the precise sense in which this conception was, or could be, meant to constitute an *analysis*.¹ I will be mostly concerned with Frege’s views on the matter; but Russell will come up along the way, for illustration and comparison, as will some recent neo-Fregean suggestions.

The structure of the paper is as follows. In the first section, I sketch Frege’s general approach. Next, I differentiate several kinds, or modes, of analysis, as further background. In the third section, I zero in on the equivalence class construction, raising the question of why it might, from a Fregean point of view, be seen as ‘the right’ construction, thus as *an analysis in a strong sense*. In the fourth section, I provide a contrasting, more conventionalist view of the matter, often associated with the Carnapian notion of *explication*, and expressed in some remarks by Russell. I then discuss the motivation for the Frege–Russell numbers in more depth. In the sixth section, I introduce a neo-Fregean alternative, to be examined along similar lines. I conclude with a general observation concerning the significance of the kinds of arguments available in this connection.

1 Frege’s general approach

In providing a philosophical account of the concept of number, especially with respect to the natural numbers, Frege had four general goals. First, he wanted to account for the mathematical theory of the natural numbers, i.e. provide conceptual foundations for ‘pure arithmetic’. Second, he wanted to account for the main applications of the natural numbers, thus providing foundations for ‘applied arithmetic’ as well. Third, these two accounts were meant to form parts of an integrated, systematic approach, based only on a

small number of core concepts and applicable beyond arithmetic. And fourth, the treatment of arithmetic was to proceed along logicist lines, in the sense of relying exclusively on logical resources.

The basic form of Frege's resulting proposal, first sketched in *Die Grundlagen der Arithmetik* (1884) and spelled out in more detail in *Grundgesetze der Arithmetik* (1893/1903), is well known. But let me remind the reader of some important ingredients. Frege's fourth goal, his logicism, was motivated in two ways: by his dissatisfaction with the views about the foundations of arithmetic he found in the literature of his time, including various Kantian, psychologistic, empiricist and formalist ideas; by an insight that suggested a close relationship between logic and arithmetic, namely recognition of their shared generality, i.e. of the fact that both are applicable, not just to everything observable or intuitable, but to everything thinkable. This two-fold motivation was reinforced by Frege's success in developing a new, more powerful logic, first presented in *Begriffsschrift* (1879). It was used right away to analyse a part of arithmetic hitherto assumed to depend on extra-logical foundations: the successor relation and, with it, the principle of mathematical induction.

With his new logic in place, including the initial successes in its application, Frege could turn to a more comprehensive investigation of both pure and applied arithmetic. On the applied side, he argued that all ascriptions of number should be analysed as statements about concepts. He also analysed the assignment of the same number to two concepts in terms of the existence of a 1–1 correspondence between them, or between the corresponding classes. On the pure side, Frege argued that an analysis of the natural numbers 0, 1, 2, ... reveals them to be objects, or the corresponding expressions to have the logical form of object names, in contrast to numerical functions and concepts, or their corresponding expressions. And given what he had already achieved in *Begriffsschrift*, all that had to be added, then, were definitions of the number 0, as a certain logical object, and of the successor function (from n to $n + 1$), as a function from logical objects to logical objects. Finally, if the latter could be formulated using only notions already employed, such as those of concept, class and 1–1 mappability, Frege's approach would have the systematic unity he sought.

Frege's particular definitions of the natural numbers 0, 1, 2, ..., against that background, amount to introducing the Frege–Russell numbers. That is to say, he constructed them in terms of a succession of classes of equinumerous classes (or at first, of equinumerous concepts). Before considering that construction in more detail, let me make some general observations about the considerations leading up to it. In summarizing the corresponding steps, I have already used the term 'analyse' several times. What kind, or kinds, of analysis are involved in them, and then also in the introduction of the Frege–Russell numbers? Following a recent suggestion by Michael Beaney, it will be helpful to make several distinctions in this connection.

2 Kinds, or modes, of analysis

Generally speaking, to analyse something means to work our way back to something more fundamental, something by means of which what we started with is accounted for. Probing further into what can be involved in it, i.e. in such ‘working back’ and ‘accounting for’, Beaney distinguishes between three kinds, or modes, of analysis: an ‘interpretive’, a ‘regressive’ and a ‘resolutive’ mode. As he notes, typically several of these modes are involved at once in a particular analysis.² Let me explain these distinctions further and give some examples, so as then to come back to Frege.

The *resolutive* mode, or the resolutive sense, of analysis is probably the most familiar. When we say that something – a material, a thing, a concept, a proposition, a truth, etc. – is subjected to analysis in this sense, what we mean is that its constitutive components, together with its underlying structure, are identified and made explicit. This often takes the form of decomposing a whole into parts, as exemplified by the chemical analysis of some material in terms of the basic elements it contains. Sometimes the resolution is not decompositional in such a narrow sense, but involves the identification of different kinds of underlying structure, e.g. in the function-argument analysis of the content of a sentence.

While chemistry provides the paradigm example of resolutive, or even decompositional, analysis, the clearest example for *regressive* analysis comes from mathematics. This kind of analysis, or this sense in which something is accounted for in terms of something more fundamental, involves the going back to basic premises, principles or causes. Thus, a truth of Euclidean geometry or Peano arithmetic can be analysed by deriving it from the corresponding fundamental axioms. A somewhat different example is the way in which a physical phenomenon is analysed by explaining its generation in terms of fundamental forces and causal processes.

Cases of resolutive and of regressive analyses usually involve another aspect, or another mode of analysis, as well: the *interpretive* mode. Both in a chemical and in a mathematical analysis, as just described, what happens is that something is interpreted, i.e. investigated and made sense of, against the background of a systematic, more general and often innovative framework – the periodic table of elements and the relevant axiomatic system. This framework provides the means for the resolution or regression, or for both. (Instead of an ‘interpretive’ mode of analysis, one could also talk about a ‘translational’ or ‘transformative’ mode.)

It is not hard to see that all three of these modes of analysis are involved in Frege’s logicist project. His new logical system provides him with the systematic background and framework for analysing arithmetic truths; and analysis is here meant both in the resolutive and in the regressive sense. It is as interpreted within Frege’s new logic that the structure of propositions of applied and of pure arithmetic as well as the nature of numbers appear in a new light; and it is as translated into that framework that Frege can attempt

to derive all pure arithmetic truths from logical principles alone, both tasks that were hopeless within Aristotelian logic.

With our later discussion in mind, let me introduce one more distinction, also suggested by Beaney. It will apply to all three modes of analysis identified so far. Beginning with the third, an interpretive analysis may be meant in a weak sense, as providing merely a useful *rephrasal*; or it may be meant in a strong sense, as providing a substantive *reduction*. Considering resolutive and regressive analyses helps to clarify further what is involved. The aim of a resolutive analysis in the reductive sense is to identify ontologically basic elements and structures; the aim of a regressive analysis in the reductive sense is to identify epistemologically basic truths. In both, so far hidden, but fundamental, and metaphysically significant commitments are revealed. Analysis in the sense of mere rephrasal is not meant to have such metaphysical import. Its goal is to be useful in other ways, e.g. by helping to avoid misunderstandings and by opening up new avenues of inquiry.

3 Frege, platonism and reductive analysis

Returning to Frege, above we were led to his construction of the natural numbers as equivalence classes of classes. Specifically, he defines the number 0 as the class of all classes equinumerous to $\{x \mid x \neq x\}$; the number 1 becomes the class of all classes equinumerous to $\{x \mid x = 0\}$; the number 2, the class of all classes equinumerous to $\{x \mid x = 0 \text{ or } x = 1\}$; and so on. Without going into further detail about the ‘and so on’ (spelled out in terms of a logicized successor function and the notion of following in a series), I now want to raise my main question: what precisely is the status of these definitions? Using the distinctions introduced in the previous section: are Frege’s definitions meant to involve one or several of our three modes of analysis: resolutive, regressive and interpretive? And are they meant as substantive reductions or as mere rephrasals?

We already noted the general interpretive dimension of Frege’s project: the introduction of his new logic as the novel framework. To acknowledge that much is uncontroversial, I think. Controversies start when we ask: was this interpretative move meant to result in a substantive reduction or not? In the rest of this section, I want to consider a strong affirmative answer to this question. According to that answer, Frege’s logicism has reductive significance along specific regressive and resolutive lines. On the regressive side, the claim is that arithmetic truths ‘really’ are based on the logical truths identified by Frege, in the sense that their derivations from them accords with the ‘natural order’ of truths. On the resolutive side, the claim is that the underlying structure of the natural numbers ‘really’ is that of the corresponding equivalence classes. The latter may also be expressed by saying that Frege’s particular definitions, far from being mere stipulations, are meant to get at ‘the fact of the matter’; they should be taken as ‘correct’ or ‘the right ones’, i.e. as veridical with respect to the nature of numbers.

What might lead a reader of Frege's works in this direction, towards saddling him with such strong views about analysis? This is not just a hypothetical question, as such a reading is probably the majority view, especially among his critics. Indeed, it seems not so far-fetched, at least on the surface. After all, doesn't one get the sense, from reading either *Grundlagen* or *Grundgesetze*, that Frege thought he had provided the definitive account of the foundations of arithmetic? And doesn't providing such an account require having hit upon 'the fact of the matter', including the 'real nature' of numbers? As such statements are still rather vague, let me consider two ways of spelling them out further. Both appeal to Frege's alleged platonism, in different ways.

Frege is often classified as an archetypical platonist with respect to mathematics. A first way of arriving at such a classification is by taking certain Fregean remarks from *Grundlagen* very seriously and, in a sense, literally, including the following: 'For number is no whit more an object of psychology or a product of mental process than, let us say, the North Sea is ... It is something objective' (Frege 1884: 34); '[E]ven the mathematician cannot create things at will, any more than the geographer can; he too can only discover what is there and give it a name' (ibid.: 107–8). Adding to these Frege's later comments, in the article 'The Thought', about a 'third realm' in which, presumably, numbers are to be located (Frege 1997: 337), how could he be interpreted as anything other than a platonist in the strongest possible sense?

Especially when taken out of context, Fregean remarks such as these conjure up the picture of a 'platonic heaven' of mathematical and other abstract objects, parallel to the spatio-temporal and empirically accessible universe, a realm by comparison with which our arithmetic statements are adjudicated. Elsewhere I have argued against such a reading of Frege.³ But assuming for the moment that this is Frege's position, how does it lead to taking the Frege–Russell numbers as more than mere stipulations? Well, if it is a matter for the mathematician to 'discover what is there', this means, presumably, not just to discover that propositions such as $2 + 3 = 5$ are true, but also what the 'real nature' of the natural numbers is. And how do we discover the latter? Basically the same way in which a chemist discovers the constitution of water as H_2O : we just look and see.

The problem is, of course, that it is not clear what such 'looking and seeing' amounts to in the present case. According to a widespread understanding of platonism, it involves a kind of quasi-perceptual access, parallel to the sense perception involved in the chemistry case – a sixth sense, as it were, or a 'mathematical intuition'. Apart from the general implausibility of such a view, this is problematic as a reading of Frege because he does not appeal to such a sixth sense anywhere in his writings. Moreover, even if one grants the possibility of a platonic sixth sense, there remain questions about how exactly it could reveal numbers to be composed in some specific way. After all, in chemistry it is also not a matter of mere 'looking and seeing'.

A more charitable and more sophisticated interpretation of Frege as a platonist has recently been presented by Tyler Burge.⁴ His interpretation is not so much based on the quotations above, but on passages such as the following, also from *Grundlagen*: according to Frege, it took ‘immense intellectual effort’ to get clear about the concept of number; and this involved ‘stripping off the irrelevant accretions which veil it from the eyes of the mind’ (Frege 1884: vii). Or as Frege puts it in notes for ‘Logic in Mathematics’ (1914), it took a long time for us to arrive at a ‘clear grasp’ of the senses of certain signs, including numerical signs; since ‘[their] outlines [were for us] confused as if we saw [them] through a mist’ (Frege 1979: 211).

According to Burge, Frege was after ‘the fact of the matter’ concerning the natural number. However, this is now not thought of in terms of some platonic sixth sense. Rather, it is a matter of reasoning and theory construction – so not of empiricist or quasi-empiricist observation, but of rationalist inquiry. And what exactly is supposed to be the result of such inquiry? We are, to use Frege’s words again, ‘getting clear about the concept of number’; or we are grasping the corresponding ‘senses of numerical signs’. In Burge’s paraphrase, we are acquiring a full understanding of those concepts or senses. Once such understanding is achieved, both Frege’s basic logical laws and his logicist definitions are meant to become ‘self-evident’.⁵

What happens in Burge’s reading of Frege is that the attribution of a ‘robust platonism’ is combined with the attribution of a sophisticated rationalist epistemology to him. The former amounts to the view that what successful rationalist inquiry reveals are conceptual facts that are independent of us as inquirers; or again, what we come to understand are the relevant senses of signs as something existing ‘out there’, determinate in itself. At this point, the question arises again how such inquiry can possibly lead to the particular definitions of the natural numbers proposed by Frege. Burge doesn’t offer much in that connection; he focuses on the general outlines of the position and its application to logical laws. I will attempt to fill that gap in later sections of this paper.

4 Russell, convention and Carnapian explication

According to both the simple platonism attributed to Frege by his critics and Burge’s sophisticated reading, Frege’s particular definitions of the natural numbers are more than mere stipulations – they are meant to correctly reflect the ‘real nature’ of numbers or the ‘fully understood’ senses of numerical signs. However, this is not a generally accepted position in the secondary literature. Even among readers who take Frege to be a platonist in a strong sense, some, like Michael Dummett, see these definitions as the point where a ‘conventionalist strain’ enters his views (Dummett 1991: 177). Understood as such, the definitions are only justified, or justifiable, in a weaker sense. What matters is simply that they allow for a systematic reconstruction of arithmetic on logical grounds. Any such reconstruction

will do, within certain general constraints. In that sense, there is no ‘uniquely correct’ one, much less a ‘fact of the matter’ that needs to be reflected.⁶

If we turn away from Frege briefly, it is essentially such a position that can be found in some of Bertrand Russell’s writings, connected with his own introduction of the Frege–Russell numbers. As he writes in *Introduction to Mathematical Philosophy*:

So far we have not suggested anything in the slightest degree paradoxical. But when we come to the actual definitions of the numbers we cannot avoid what must at first sight seem a paradox, though this perception will soon wear off. We naturally think that the class of couples (for example) is something different from the number 2. But there is no doubt about the class of couples. It is indubitable and not difficult to define, whereas the number 2, in any other sense, is a metaphysical entity about which we can never feel sure that it exists or that we have tracked it down. It is therefore more prudent to content ourselves with the class of couples, which we are sure of, than to hunt for a problematic number 2, which must always remain elusive. Accordingly we set up the following definitions: . . . At the expense of a little oddity, this definition secures definiteness and indubitability; and it is not difficult to prove that numbers so defined have all the properties that we expect numbers to have.

(Russell 1919: 14)

Note Russell’s denial that he has captured, or even aimed at capturing, the ‘real nature’ of the number 2; he has no interest in getting hold of ‘a metaphysical entity about which we can never feel sure that it exists or that we have tracked it down’. What matters, instead, is ‘definiteness and indubitability’, as well as having an approach that allows us ‘to prove that numbers so defined have all the properties that we expect numbers to have’.⁷

Attributing to either Frege or Russell a ‘conventionalist strain’ in this connection means – in terms of our earlier distinctions – that the Frege–Russell numbers are not meant as a resolute analysis in the reductive sense. But this raises additional questions: if we deny a reductive sense to this part of their proposals, what follows for the rest, including the regressive and interpretive parts; do we have to conclude that they, too, cannot be meant in a reductive sense? And if so, isn’t that in tension with the usual understanding of their goals; isn’t it usually assumed that logicism involves a claim about what arithmetic truths are ultimately based on, and isn’t it assumed that it involves getting the overall logical framework right? It seems that, if we take the Frege–Russell numbers to be mere conventions, with no deeper claim at veridicality, there is pressure to take back such claims as well, since they are interrelated.

A philosopher who takes these issues head on is Rudolf Carnap. According to Carnap, the Frege–Russell numbers and similar constructions

should be seen as results of applying the method of *explication*. As he writes in *Meaning and Necessity* (1947):

The task of making more exact a vague or not quite exact concept used in everyday life or in an earlier stage of scientific or logical development, or rather of replacing it by a newly constructed, more exact concept, belongs among the most important tasks of logical analysis and logical construction. We call this the task of explicating, or of giving an *explication* for, the earlier concept; this earlier concept, or sometimes the term used for it, is called the *explicandum*; and the new concept, or its term, is called an *explicatum* of the old one. Thus, for instance, Frege and, later, Russell took as explicandum the term ‘two’ in the not quite exact meaning in which it is used in everyday life and in applied mathematics; they proposed as an explicatum for it an exactly defined concept, namely the class of pair-classes.

(Carnap 1947: 7–8).⁸

Note again that, from Carnap’s perspective, Frege’s and Russell’s logicist definitions of numbers are not meant to capture the earlier, ordinary meaning of terms such as ‘two’, since that meaning is, as Russell already remarked, inexact and hard to pin down. Rather, the new *explicatum* is meant to simply replace the old, vague *explicandum*.

Elsewhere, Carnap is also quite clear about two related points: the replacement of an *explicandum* by a corresponding *explicatum* usually involves providing a novel framework for talking about the latter; and the choice of both the framework and particular constructions within it can always only be justified pragmatically, in terms of how well they allows us to do what we want to do, not in some deeper metaphysical sense. In fact, already in Carnap’s *The Logical Syntax of Language* the question of what the ‘real nature’ of the natural numbers is, including whether or not the Frege–Russell definitions capture it, is presented as a prime example of a metaphysical pseudo-problem, thus as something to be overcome (Carnap 1934/37: 300ff.). Explication in Carnap’s sense is clearly not reductive analysis, in none of our three senses or modes.

Returning to Frege again, let me add one related observation. There is evidence that Carnap’s notion of explication actually has roots in Frege’s views, more precisely in what Carnap learned in a class taught by Frege at the University of Jena in 1914. In that class – ‘Logic in Mathematics’ – Frege expressed the following idea:

If we have managed in this way [by giving a definition for a new sign B] to construct a system for mathematics without any need for the [old] sign A, we can leave the matter there; there is no need at all to answer the question concerning the sense in which – whatever it may be – this sign had been used earlier . . . We must therefore explain that the sense

in which this sign was used before the new system was constructed is no longer of any concern for us.

(Frege 1979: 227–8)⁹

If we take the sign A to be ‘two’, as used in ordinary language, and the sign B to be ‘the class of all pair-classes’, as part of a logicist system, we are very close to Carnapian explication, aren’t we? In a recent paper, Michael Beaney has argued for this claim.¹⁰ Without going into any further detail, it is striking that his case is based on passages from the same texts used by Burge to support his interpretation. The two are led in diametrically opposed directions: Burge towards a reading of Frege as providing a reductive analysis; Beaney towards a reading of him as providing an explication.

5 Motivating the Frege–Russell construction further

We have arrived at some stark disagreements on how to interpret Frege, in general and concerning the status of the Frege–Russell numbers in particular. I will not attempt a final adjudication of these disagreements, as this would require a close, sustained textual analysis for which there is no room. Instead, I want to address a more systematic issue. But before doing that, let me at least make three brief observations concerning Frege’s writings. They all illustrate that the textual evidence is not as easy to assess as one might think.

First, consider a notorious footnote in *Grundlagen* in which Frege comments on his use of the phrase ‘extension of the concept’ (used interchangeably with ‘class determined by the concept’, at least in Frege’s later writings). He writes: ‘I believe that for “extension of the concept” we could write simply “concept”’ (Frege 1884: 80). As this remark occurs in direct connection with his definition of the natural numbers, the question arises: does it mean that using ‘concept’ instead of ‘extension of the concept’ would simply be a notational variant, i.e. leave the definition itself unchanged; or does it mean that Frege is allowing for an alternative definition, not using classes, which would work as well for his purposes?¹¹

Second, note that the definitions of the natural numbers given in *Grundlagen* and in the later *Grundgesetze* are not identical. In the former, Frege uses equivalence classes of equinumerous concepts; it is only in the latter that he switches over to equivalence classes of (corresponding) equinumerous classes. Does this switch constitute an implicit acknowledgment by Frege, now in a different way, that two alternative constructions are possible; or does he hold that the first construction is inferior to the second in some strong sense? And in the case of the latter, is it because the new definition gets more at ‘the fact of the matter’ or, rather, because of pragmatic advantages?

Answers to these two questions are not obvious. In connection with the second, Frege’s reasons for replacing the *Grundlagen* construction with that from *Grundgesetze* are crucial; but he is not very explicit about those reasons. The first question leads to thorny issues about the reference of

terms such as ‘the concept F’. The matter gets even murkier if we add a third question: do Frege’s seemingly Carnapian remarks in the relatively late notes for ‘Logic in Mathematics’ represent a stable view; or do they, instead, indicate a development or even a radical change in his position? If the latter (as Beaney argues), this complicates the interpretive task further.

I want to move on. Assume for the moment that Frege takes his definition of the natural numbers as equivalence classes of equinumerous classes to be ‘the right one’, or at least to be privileged in some strong sense. The question I want to address is this: how could he, or anyone, possibly argue for such a claim? Let me put aside right away the naïve platonist idea that we simply ‘look and see’, because saying so does not really help. Let us examine instead, along Burgean lines, which conceptual and theoretical considerations one could appeal to. Or put slightly differently, are there any such considerations that, taken as a whole, provide enough constraints on Frege’s project that they single out the Frege–Russell numbers?

Reformulating the question as indicated leads to a further question: what are the goals of Frege’s project? And this leads back to my brief sketch of that project above. One of the aims I attributed to Frege was that of providing a new foundation for pure arithmetic. In order to provide such a foundation, we need a system in which various basic arithmetic principles are provable. The most familiar set of such principles consists, of course, of the Dedekind–Peano Axioms. As Dedekind, Peano and others have taught us, these provide an axiomatic basis for arithmetic that is complete in the sense of categorical (and the latter is the best we can hope for, as follows from Gödel’s results).¹² Moreover, Frege knew of a variant of this axiomatic basis and, at least to some degree, its categoricity.¹³

Taking such results into account, an initial constraint on any definition of the natural numbers is this: the constructed sequence of objects needs to satisfy the Dedekind–Peano Axioms, or any equivalent system such as Frege’s. Put in metalogical language, it needs to form a model of the axioms. Frege had reason to believe that the Frege–Russell numbers do that. (I am putting aside the consistency question here; more on it later.) But any other model of the axioms will do so as well, as is often emphasized today. Thus, our first constraint is not strong enough to single out Frege’s construction as the one and only possible one, much less as ‘the right one’.

While any model of the Dedekind–Peano Axioms will, indeed, do for inner-mathematical purposes, this was not Frege’s only concern. Recall that he had three additional goals, as parts of his broader, more ambitious project: to account for the applications of the natural numbers; to account for pure and applied mathematics in an integrated, systematic way; and to provide these accounts using logicist means alone. This leads to a new question: do these three goals provide enough additional constraints to narrow the choice of a model down further, perhaps even to a single one? Let us see how one could possibly make a case for the latter.

As Frege wants to account not just for pure arithmetic, but also its applications, what does that add? Two points: applied statements of number are statements about concepts; the same number is assigned to two concepts, or corresponding classes, if the objects falling under them can be correlated 1–1. But what does that imply; or, more suggestively, what are the numbers themselves, then? Well, they are ways of correlating concepts, or classes, according to their size (cardinality).¹⁴ Russell puts the same point a bit more strongly: ‘[I]t is clear that number is a way of bringing together certain collections, namely those that have a given number of terms’ (Russell 1919: 14). This leads to the following additional constraint: if we want to construct the natural numbers as cardinal numbers, like Frege, we need to build the idea of correlating, or even of ‘bringing together’, equinumerous classes into their very nature.¹⁵

There is more. Frege’s analysis of the logical role of numerical expressions led him to the conclusion that numbers need to be seen as objects, not concepts. This rules out, among others, identifying them with second-order numerical concepts, which would have satisfied the previous constraint.¹⁶ Frege also wants to provide a unified account of pure and applied mathematics; and he wants to do so in a logicist way. Consequently, numbers have to be constructed by logicist means alone; and it has to be done in a manner that integrates the satisfaction of all our constraints. Now, logic – as conceived of by Frege and Russell – provides us with a theory of classes, which count as objects. More specifically, it allows (or seems to allow) for the formation of equivalence classes of equinumerous classes, thus for capturing Russell’s ‘bringing together’ very directly.

What the line of thought just rehearsed does, I would say, is to provide a very strong motivation for the Frege–Russell construction. But is it strong enough to single out one and only one construction, perhaps even as ‘the right one’? Here is a way to resist such conclusions: assume we keep working within a logicist system. How about constructing, not the Frege–Russell numbers, but the *von Neumann numbers* (finite von Neumann ordinals) within this framework? That is to say, let us define 0 as \emptyset (the empty or null set), 1 as $\{0\}$, 2 as $\{0, 1\}$, etc. These are certainly available as classes; and together they form a model of the Dedekind–Peano Axioms. But then, doesn’t this provide an alternative to the Frege–Russell numbers?

To counter this argument, one might respond as follows: yes, the von Neumann numbers suffice for inner-mathematical purposes; and yes, they can be constructed, not just in contemporary set theory, but also within a logicist system. Yet they fail to satisfy Frege’s other constraints. They do not have the required correlating of equinumerous classes built right into them, especially not in the form of a ‘bringing together’; and as a consequence, the approach lacks the unity and systematicity that recommends the Frege–Russell numbers. Then again, aren’t the von Neumann numbers still related to all the relevant classes in a rather direct way, namely by being equinumerous to them? And isn’t equinumerosity absolutely central to Frege’s

approach, so that one core concept integrates the various parts of this approach?¹⁷

At this point, the debate turns on whether or not the von Neumann way of correlating all the right classes, while quite direct and formulated in terms of a central Fregean notion, captures the cardinal application of numbers ‘as well as’ the equivalence class construction. It is not clear to me how to address such a question, vague as it is.¹⁸ Perhaps this is reason enough to deny that the Frege–Russell numbers have a privileged status, even taking into account all of Frege’s constraints? Actually, let me add a further consideration, one that will undercut the present dichotomy.

6 Consistency and a neo-Fregean alternative

Some readers may have the following response to our discussion so far: what is the point of considering the deeper motivation for the Frege–Russell numbers, or possible arguments for their privileged status; after all, doesn’t the inconsistency in Frege’s logic undermine the whole approach? In other words, the Frege–Russell numbers don’t have systematic interest any more; at best, they have minor historical interest.

Such a dismissive response is too quick; it overlooks that it might be possible to fix Frege’s logic so as to allow for the resurrection of the Frege–Russell numbers. Here I do not have in mind Whitehead and Russell’s *Principia Mathematica*, because the original equivalence class construction is not preserved in it (but splintered up into infinitely many levels and deformed in other ways as well). Rather, I would point in two other directions. First, consider W.V.O. Quine’s *New Foundation*, a system in which the Frege–Russell construction can be repeated in its original form. This system is known to be consistent (relative to set theory), at least in the form of NF with urelements, as needed if we want to provide a framework, not just for pure, but also for applied mathematics. Second, there are some recent results by George Boolos to the effect that the introduction of the Frege–Russell numbers in itself does not lead to contradiction, although its combination with standard class- or set-theoretic principles does.¹⁹

I do not mean to suggest that we have, at this point, a workable and attractive logicist system available, one in which both the von Neumann and the original Frege–Russell numbers can be constructed. There are various well-known problems with Quine’s NF; and Boolos’ results certainly don’t go that far. But what I mentioned indicates that it is not clear we will never be able to come up with such a system in the future, and perhaps that is enough for present purposes. Beyond that, there is other recent work motivated by concerns for consistency that is relevant for our purposes: the neo-Fregean or neo-logicist investigations by Crispin Wright, Bob Hale and others.²⁰

Wright’s and Hale’s neo-logicist programme has led to an intense, complex debate, including various technical investigations. I will focus on just

one aspect, of a more conceptual and metaphysical nature, and concerning their treatment of the natural numbers. The original insight in, and a main motivation for, that treatment is the following: if we look carefully at Frege’s works, it becomes apparent that the introduction of the Frege–Russell numbers plays one and only one role, namely to allow for a derivation of the Cantor–Hume Principle, ‘For all F and G, the number of Fs = the number of Gs if and only if F and G can be correlated 1–1.’ Everything else, including Frege’s version of the Dedekind–Peano Axioms, is derived from this principle within second-order logic. Moreover, and beyond Frege now, the system consisting of second-order logic and the Cantor–Hume principle is consistent (relative to set theory, indeed relative to second-order arithmetic). The suggestion is this, then: why not work with the latter directly, as it also gets us around the inconsistency in Frege’s original system?

Wright and Hale emphasize that their procedure allows us to achieve all of Frege’s goals; or at least it does so if we broaden our view of logicism slightly. (More on the latter in a moment.) Two aspects are especially noteworthy. On the one hand, their neo-logicist approach involves giving up the Frege–Russell numbers and, instead, treating expressions of the form ‘the number of Fs’ as primitive. Metaphysically speaking, numbers become basic objects; they are not constructed as classes any more, nor are they seen as composed of parts in any way.²¹ On the other hand, precisely because of their introduction as ‘the number of Fs’, for various concepts F, the natural numbers are still tightly bound to their cardinal applications.

This adds to our earlier discussion as follows: the *Wright–Hale numbers* – as I will call them – seem to provide another alternative to the Frege–Russell numbers. All our constraints are satisfied: we account for pure arithmetic; we account for applied arithmetic; we do so in an integrated, systematic form; and we use (presumably) only logicist means. To be sure, the way in which the application of arithmetic is incorporated is slightly different now. But the correlating of all relevant concepts or classes remains central to the very definitions of the numbers; and it is integrated well with how the other constraints are satisfied. Perhaps this shows, once again, that the Frege–Russell numbers are not so privileged after all.

Actually, there is another possible reaction here, as one may want to push such considerations towards a different conclusion. To do so, two additional points need to be added. First, consider again the passage from Russell’s *Introduction to Mathematical Philosophy* quoted at length above. It starts as follows:

So far we have not suggested anything in the slightest degree paradoxical. But when we come to the actual definitions of the numbers we cannot avoid what must at first sight seem a paradox, though this perception will soon wear off. We naturally think that the class of couples (for example) is something different from the number 2.

(Russell 1919: 14)

Note now ‘what at first sight [seems] a paradox’, namely that along Frege–Russell lines numbers are identified with certain classes, which seems odd. Russell tries to take the sting out of this oddity by remarking, right away, that any sense of it ‘will soon wear off’. But is that really convincing – especially if we have the Wright–Hale numbers as an alternative? The challenge is this: if at all possible, shouldn’t numbers be introduced *as numbers*, and not as something else (classes, etc.)?²² And if so, doesn’t that privilege the Wright–Hale numbers over both the Frege–Russell and the von Neumann numbers?

A second point adds to this challenge. Consider again the goal of constructing the natural numbers as cardinal numbers, by building the correlating of all relevant concepts or classes into their very nature. For the Frege–Russell numbers, this is achieved by forming corresponding equivalence classes; for the von Neumann numbers, by using classes of the right cardinality. In other words, in the first case we use the elementhood relation to do the correlating; in the second, the relation of being 1–1 mappable. But aren’t both ways somewhat indirect and loaded with unnecessary structure, thus less than fully satisfying – especially when compared to the Wright–Hale numbers? What does the correlating in the latter case is a direct functional relation, and nothing more. Once again, doesn’t that show it is the Wright–Hale numbers that are privileged?

I can see two ways of resisting such a singling out of the Wright–Hale numbers. First, perhaps the two points just presented are too weak, since based on notions that are hard to make precise and of dubious mathematical relevance. Second, in the end we have to face up to an issue postponed so far: does the Wright–Hale approach really work with a framework that should be classified as logicist? In particular, is the primitive nature of numbers, as assumed in it, really acceptable – are such objects really logical objects, if they are acceptable objects at all? And what about the status of the Cantor–Hume principle – is it really a logical principle, if it is acceptable as a basic principle at all? Both questions have certainly led to a lot of debate in the literature.²³

7 A concluding observation

My main goal in this paper was not to argue that the Frege–Russell numbers are privileged in some strong sense, or even that this definition of the natural numbers is ‘the right one’. Nor was it to establish that this holds, instead, for the Wright–Hale numbers. Two related goals were prior, and all I could pursue here. First, I wanted to clarify what is at issue in claiming, or denying, such a thing in the first place. I did so by distinguishing several kinds of analysis, including the contrast between reductive analysis, with strong metaphysical implications, and explication, conceived of in a more pragmatic way. Second, I wanted to explore what kinds of considerations could be adduced in a corresponding debate at all. Let me close with a general observation concerning both issues.

After quickly putting aside the idea of a naïve platonist ‘look and see’, what we explored were theoretical and conceptual considerations, the kind of considerations Tyler Burge could accept within his sophisticated platonist reading of Frege. In doing so, we were guided by the various goals underlying Frege’s project. However, putting the matter in terms of goals and their satisfaction reveals the following: while Burge’s platonism and Carnap’s anti-metaphysical viewpoint are in stark contrast in general, a Carnapian can very well find room for such considerations. Instead of seeing them as revealing the ‘deeper sense’ of our pre-systematic signs, or the ‘real nature’ of the corresponding objects, they become part of the pragmatic dimension of explication. After all, any *explicatum* has to be evaluated for whether it allows us to achieve our goals or not.

If so, then the only significant difference between these two perspectives appears to be this: the Burgean presupposes that the kind of considerations discussed must, at least in principle, lead to a uniquely privileged definition in the end; otherwise we still don’t understand the corresponding concepts or senses fully. For the Carnapian, it is an open question of whether there is a privileged definition or not. Perhaps it is even to be expected, from this point of view, that we will end up with various equally, or almost equally, useful alternatives. In any case, no intrinsic need is felt to find a best alternative, as several of them may allow us to reach our goals and as the search for a deeper ‘fact of the matter’ is explicitly abandoned.²⁴

Notes

- 1 The paper builds on Reck 1997, 2000/2005a, 2003a and 2005b.
- 2 See Beaney 2000 and 2002.
- 3 See Reck 2000/2005a, also Reck 1997; both were influenced strongly by Ricketts 1986.
- 4 See the parts on Frege’s ‘rationalism’ in Burge 2005, especially ‘Frege on Knowing the Foundations’.
- 5 In Jeshion 2001, the role of self-evidence for Frege – concerning fundamental logical laws but also, presumably, his central logicist definitions – is emphasized even more.
- 6 Besides Dummett 1991, see Wilson 1992 and Demopoulos 1998.
- 7 As Russell’s views are often a moving target, one may wonder whether this is a relatively late stance; but compare Russell 1903: 115–16, where a similar position is already taken.
- 8 For further elaborations concerning the notion of explication, see Carnap 1950: ch. 1.
- 9 In Carnap’s own notes from this class similar passages occur; see Frege 2004: 140.
- 10 Beaney 2004.
- 11 Compare the following remark from later in *Grundlagen*: ‘I attach no decisive importance even to bringing in the extensions of concepts at all’ (Frege 1884: 117). Note, in addition, Frege’s reference to ‘fruitfulness’ as what counts for definitions (*ibid.*: §§69–70).
- 12 See Awodey and Reck (2002) for a related historical and philosophical discussion.
- 13 See the discussion of some little-known passages from *Grundgesetze* in Heck 1993.

- 14 Here the use of the natural numbers as cardinal numbers is made central. Focusing instead on their ordinal use leads in a different direction; see Dedekind's views as discussed in Reck 2003b.
- 15 See Dummett 1991: ch. 20; compare also the discussion of 'Frege's Constraint' in Wright 2000.
- 16 For more on these second-order concepts, see Reck 2003a and 2005b.
- 17 The last three paragraphs summarize a debate between Michael Dummett and W.W. Tait; see Dummett 1991: ch.5 and the response, or corresponding challenge, in Tait 1997: 228–30.
- 18 A vague intuition may be that only the Frege–Russell numbers, but not the von Neumann numbers, are composed of all the relevant classes. But this misrepresents Frege's logical conception of class (or, more generally, of value range), developed in direct opposition to mereological ideas. Compare note 21.
- 19 See Reck 2005b, also for references. For the result that NF with urelements is relatively consistent, see Jensen 1969. I am grateful to Jamie Tappenden for pointing out to me that, for present purposes, such a version of NF is the relevant one.
- 20 See Hale and Wright 2001, as well as the references in it.
- 21 One may think that we have, thus, replaced a decompositional by a mere resolutive analysis. However, neither the Frege–Russell, nor the von Neumann, nor the Wright–Hale numbers exemplify decompositional analysis; all are cases of resolutive (function–argument) analysis more generally. Compare note 18.
- 22 The basic idea is that classes, of any kind, seem to have inappropriate (non-numerical) properties, such as having elements. Compare Dedekind's views as discussed in Reck 2003b.
- 23 A third question is how far, and in what precise way, the Wright–Hale approach can be generalized. As my focus in the present paper is on the natural numbers, I have put this important issue aside throughout.
- 24 I would like to thank my audience at the conference 'The Varieties of Analysis', St Catherine's College, Oxford, March 2005, for feedback on a first version of this paper, Michael Beaney and Teri Merrick for comments on later drafts, and Bill Demopoulos for helpful exchanges on related topics.

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3 Analysis and abstraction principles in Russell and Frege

James Levine

In his 1903 *Principles of Mathematics* (PoM), Russell endorses essentially the same account of cardinal numbers that Frege had introduced in his 1884 *Foundations of Arithmetic* (G1) and developed in his 1893 *Basic Laws of Arithmetic* (Gg). On so-called ‘Frege–Russell’ logicism, the cardinal number of a given class a is the class of classes equinumerous with a , and the cardinal number n is the class of n -membered classes.¹ However, although Russell and Frege accept the same account of numbers, they do not share the same philosophical interpretation of that account. Whereas Frege introduces this account in the context of defending the view that numbers are ‘self-subsistent objects’ (G1 §57), Russell takes it as enabling him to dispense with numbers as distinct from classes of equinumerous classes as unnecessary ‘metaphysical lumber’ (see, for example, Russell 1915: 42, 125–6; PoM, 116).

My purpose in this paper is to show that these different interpretations by Frege and Russell of the same technical account of numbers are closely related to basic differences in their views of propositional contents. I proceed in four parts. First, I argue that because Russell holds that each propositional content admits of a unique ultimate analysis into simple constituents while Frege does not, Russell and Frege have different conceptions of analysis. Second, I discuss how Russell’s views of analysis are related to his philosophical understanding of logicism and more generally of what have come to be called ‘abstraction principles’, in the course of which I compare Russell’s pre-logicist views with his logicist position. Third, I discuss how Frege’s differing views of analysis are related to his different philosophical interpretation of logicism and of abstraction principles. I conclude by broaching some issues regarding the status of classes in Frege and Russell.

1 The analysis of propositional contents

I argue first that while Russell accepts the following principle of ‘unique ultimate analysis’:

(UUA) Each propositional content admits of a unique analysis revealing its ultimate (simple) constituents,

Frege does not. I argue further that because of this, Russell adheres to an ideal of ‘privileged’ representation that is foreign to Frege, while Frege allows greater latitude than does Russell in the analysis of a propositional content into entities it may be regarded as being about and assertions it may be regarded as making of those entities.

1.1 Russell and Frege on unique, ultimate analysis

Russell’s acceptance of (UUA) is closely connected to his rejection of Idealism. On the version of Hegelian or ‘monistic’ Idealism against which Russell was reacting, the universe is an ‘organic unity’, which may not be coherently understood as composed of parts that are simpler than the whole they constitute. On this view, there is a mutual dependence between a whole and its parts, according to which whatever ‘parts’ we find in a ‘whole’ will be as complex as the original whole itself, in which case ‘analysis’ – the breaking down of a whole into parts – ‘is falsification’.²

Once he breaks with Idealism, Russell holds, on the contrary, that the being of a whole depends on the being of its parts but not vice versa, that the parts of a whole are simpler than that whole, and that where the parts of a whole are themselves complex, analysis can be carried ‘as far as possible’ until we reach ‘simple terms’, terms which have no parts (PoM 466). Further, for Russell, the analysis of a whole into simple parts will be unique: only where analysis is incomplete – only where ‘analysis is not pushed as far as possible’ and we have not divided a whole into its simple parts – will it be possible to divide a whole into parts ‘in a plurality of ways’ (ibid.: 77; 1899–1900: 47). Hence, in rejecting Absolute Idealism, Russell holds that every whole admits of a unique analysis into its ultimate (simple) parts. Since he regards propositions as wholes (see, for example, PoM 140), his acceptance of (UUA) follows from the atomistic mereology he adopts in rejecting Idealism.

Like Russell, Frege holds that the propositional content (thought) expressed by a given sentence is a whole and that the words in that sentence contribute entities (senses) which are parts of that whole. As Frege writes:

As the thought is the sense of the whole sentence, so a part of the thought is the sense of part of the sentence.

(Frege 1906a: 192)

However, unlike Russell, Frege does not hold generally that each whole admits of a unique ultimate analysis into simple parts. Hence he writes:

[I]f we are given a whole, it is not yet determined what we are to envisage as its parts. As parts of a regiment I can regard the battalions, the

companies or the individual soldiers, and as parts of a sand pile, the grains of sand or the silicon And oxygen atoms.

(PMC 140)

And again:

Divisibility can be imagined as going on *ad infinitum*. ...[W]e have no need at all to assume that there are parts unsusceptible of further division.

(Frege 1895: 211)

Thus, unlike Russell, Frege does not accept an atomistic mereology: he denies that a whole need be composed ultimately of simple parts and that each whole admits of a unique ultimate analysis. And, consistent with his general rejection of an atomistic mereology, Frege holds, as against (UUA), that like other wholes, thoughts do not admit of unique ultimate analyses into simple parts. As he writes:

[O]ne and the same thought can be split up in different ways and so can be seen as put together out of parts in different ways. The word ‘singular’ does not apply to the thought in itself but only with respect to a particular way of splitting it up.

(Frege 1906b: 201–2)

For Frege, just as there is, in general, no intrinsically privileged way to divide a given whole into parts, neither is there any intrinsically privileged way to divide a thought into parts.³

Given his atomistic mereology, Russell holds that a central task of philosophy is to identify the simple (or indefinable) ultimate constituents of the universe, a task that, Russell holds, we can carry out only by means of what he calls ‘immediate perception’, or, in his later terminology, ‘acquaintance’. As he writes in PoM:

[T]he recognition of indefinable entities, and the distinguishing between such entities, are the business of philosophy. Philosophy is, in fact, mainly a question of insight and perception. ... A certain body of indefinable entities and indemonstrable propositions must form the starting-point for any mathematical reasoning; and it is this starting-point that concerns the philosopher. ... All depends, in the end, upon immediate perception; and philosophical argument, strictly speaking, consists mainly of an endeavour to cause the reader to perceive what has been perceived by the author.

(129–30)

I argue below that by rejecting Russell’s atomistic mereology, Frege understands the claim that numbers are ‘self-subsistent objects’ differently from

how Russell understands the claim that numbers are ‘ultimate constituents of the universe’ and further that in contrast to Russell’s view that the only way to recognize ultimate constituents of the universe is through acquaintance, one central feature of Frege’s logicism is to explain how we can recognize numbers as ‘self-subsistent objects’ without requiring anything like Russell’s acquaintance with them.

1.2 *Two standards of analysis*

I introduce now two standards of analysis that a given sentence may or may not meet. The first presumes (UUA), and is a standard that Russell, but not Frege, applies. The second does not presume (UUA), and both Russell and Frege apply it; however, because Russell accepts (UUA) while Frege does not, they do so in different ways.

First, if we stipulate

(Priv) Sentence *S* is a privileged representation if and only if each word in *S* contributes a simple (ultimate) constituent to the propositional content expressed by *S*,

then to accept (UUA) is to accept (Priv) as incorporating the ideal of what it is for a sentence to provide a full analysis of the propositional content it expresses. For by (UUA), a sentence *S* meeting the standard of (Priv) will mirror the propositional content *P* it expresses: each word in *S* will correspond to an ultimate constituent of *P*, and given that *S* expresses *P*, the order of the words in *S* will correspond to the order of the constituents of *P*. Moreover, accepting (Priv) commits one to

(Priv*) All privileged representations of a given propositional content are word-for-word translations of each other.

For if sentences expressing the same content meet the standard of (Priv), they will have the same number of words (namely, the number of simple constituents of that content) and the same structure (corresponding to the structure of that content); and corresponding words in those sentences will contribute the same (simple) entities to that content. In the terminology of Carnap (1947: §14), those sentences will be intensionally isomorphic.

Writing in 1899, Russell suggests a programme of analysis whose outcome will be sentences that are privileged by the standard of (Priv):

Philosophically, a term is defined when we are told its *meaning* . . . What it means is either complex or simple. That is to say, the meaning is either a compound of other meanings, or is itself one of those ultimate constituents out of which other meanings are built up. In the former case, the term is philosophically defined by enumerating its simple

constituents. But when it is itself simple, no philosophical definition is possible.

(Russell 1899: 410)

For Russell, where a word in sentence S_1 stands for a complex entity, the task of analysis is to replace it by words, ‘enumerating [the] the simple constituents’ of that complex entity. Hence, where analysis is complete, S_1 will be transformed into S_2 , all of whose words stand for simple constituents of the proposition expressed by S_1 . Thus, S_2 will be a privileged representation of the same proposition expressed, albeit not perspicuously, by S_1 .

By rejecting (UUA), Frege denies that there is any intrinsically privileged way of analysing a given propositional content into parts, and so rejects the ideal of full analysis incorporated in (Priv). However, while Frege rejects the Russellian conception of analysis as revealing the ‘ultimate constituents’ of a given propositional content, he holds with Russell that analysing a propositional content into parts enables one to identify an entity, or entities – a logical subject or subjects – that a given content may be regarded as being *about* as well as a claim or assertion (one who affirms⁴) that content may be regarded as making of that entity (or entities). Hence, if we stipulate

(Trans) Sentence S is a *transparent* representation of the content it expresses if and only if it contains an expression (or expressions) designating an entity (or entities) that that content may be regarded as being about as well as an expression designating an attribute (property or relation) that that content may be regarded as asserting of the entity (or entities) it may be regarded as being about,

then both Russell and Frege are concerned to distinguish sentences that are transparent by the standard of (Trans) from those that are not.⁵ However, given his rejection of (UUA), Frege allows more leeway than does Russell in recognizing alternative subject/assertion analyses of the same propositional content.

For Russell, a privileged representation of a given proposition reveals the ultimate constituents and structure of that proposition and thereby reveals the entities that proposition may be regarded as being about (and the constitution of those entities, where they are complex) as well as what that proposition may be regarded as asserting of those entities. On this view, a transparent representation of a given proposition need not be a privileged representation, for it need not analyse the constitution of a complex entity that that proposition is about; but if we stipulate

Two sentences are *part-for-part translations* of each other if and only if they have the same grammatical form and their corresponding grammatical units have the same meaning,

then for Russell, a transparent representation of a given proposition must be a part-for-part translation of a privileged representation of that proposition, in which case

(Trans*) All transparent representations of a given propositional content are part-for-part translations of each other.

In contrast, as I turn to illustrate now, by rejecting (UUA), Frege holds, as against (Trans*), that sentences that fail to be part-for-part translations of each other may be transparent representations of the same propositional content.

1.3 *Some examples*

By accepting (UUA) along (Trans*), Russell faces a challenge if he is to recognize cases in which sentences that fail to be intensionally isomorphic or part-for-part translations express the same content – the challenge of distinguishing privileged from non-privileged, and transparent from non-transparent, representations of that content. In contrast, by rejecting (UUA) and (Trans*), Frege can hold in such cases that the sentences in question are simply different ways of representing that content as ‘split up’ into parts, none of which is privileged over the other, each of which is transparent. Hence, it is not surprising that Frege finds it easier than does Russell to recognize cases in which different sentences express the same propositional content.

Thus, although both Russell and Frege accept

(Trans[‡]) A sentence of the form ‘ $\Phi(a_1, a_2, \dots, a_n)$ ’, where ‘ a_1 ’, ‘ a_2 ’, ..., and ‘ a_n ’ are to be replaced by proper names or definite descriptions and ‘ Φ ’ by an n -place predicate, is *transparent* if and only the propositional content it expresses may be regarded as being about the objects designated by the expressions replacing ‘ a_1 ’, ‘ a_2 ’, ..., and ‘ a_n ’ and may be regarded as claiming of those objects that they stand to one another in the relation signified by the predicate replacing ‘ Φ ’,

Russell applies this principle in a way that is consistent with (Trans*), while Frege does not. For example, for Frege

(1) M gave document A to N

and

(2) N received document A from M

‘express exactly the same thought’ (Frege 1897: 141; see similarly Bg §3; 1918: 357). These sentences are not intensionally isomorphic, nor part-for-part

translations of each other; for, while they have the same number of words and the same grammatical structure, ‘gave’ and ‘received’ are not synonyms. For Frege, holding that such sentences express the same content does not initiate the task – as it would for one who accepts (UUA) – of identifying a ‘privileged’ representation of that content; rather, it shows that there are different ways to express the same thought, none of which is intrinsically privileged over the others. Nor does Frege have to decide whether the relation being predicated in the thought expressed is ‘really’ that of *giving* or *receiving*; consistent with (Trans[‡]), but as against (Trans*), he holds that the thought may be regarded in either way.

In contrast, when Russell considers

(3) *A* is greater than *B*

and

(4) *B* is less than *A*

he acknowledges that ‘when we consider these two propositions as wholes, there is much appearance of identity’, but his commitment to (UUA) leads him to deny that they express the same proposition (Russell 1901a: 300; see also PoM 228). By holding that the same content may be ‘split up’ into parts in ‘different ways’, Frege can hold that one may regard ‘greater’ (in (3)) and ‘less’ (in (4)) as both contributing constituents to the content that is expressed by both (3) and (4). In contrast, by accepting (UUA), Russell holds it as ‘obviously false’ that ‘both *greater* and *less* enter into’ (1901a: 300) any one proposition expressed by both sentences. And finding no basis by which to privilege either (3) or (4) over the other and finding no third sentence capable of serving as a privileged representation of the proposition expressed by both, Russell concludes, consistent with (Priv*) and (Trans*), that these sentences express distinct propositions that assert different relations of the entities involved.

Again, in Bg (§3), Frege writes that ‘we may imagine a language’ which ‘would have only a single predicate for all judgments, namely, “is a fact”’, so that, for example, the propositional content expressed by

(5) Socrates is human

would be expressed by

(6) The humanity of Socrates is a fact.

For Frege, as expressed by (5), that content may, by (Trans[‡]), be regarded as being about Socrates and as asserting of him that he is human, while as expressed by (6) that same content, may, again by (Trans[‡]), be regarded

as being about whatever is designated by ‘the humanity of Socrates’ and as asserting of it that it is a fact. As against (Trans*), Frege holds that these are different subject/assertion analyses of the same content, both of which are fully acceptable.

In contrast, Russell writes:

Truth and falsehood ... are properties attaching to propositions as wholes, and are not themselves, in general, parts of propositions. The proposition ‘It is true that $2 + 2 = 4$ ’ contains the notion of truth, but is not identical with ‘ $2 + 2 = 4$ ’.

(Russell 1905a: 504)⁶

By this sort of reasoning, (5) and

(6*) The proposition that Socrates is human is true

express distinct propositions. By (Trans[†]), Russell holds, like Frege, that (5) may be regarded as being about Socrates and as asserting that he is human; and similarly to how Frege views (6), Russell holds, again in accord with (Trans[†]), that (6*) may be regarded as being about the proposition designated by the phrase ‘the proposition that Socrates is human’ and asserting of it that it is true (that it has the property of truth).⁷ But, unlike Frege, and in accord with (Trans*), Russell holds that while these sentences are both transparent, they do not express the same proposition.

This is not to say that Russell never holds that sentences that fail to be part-for-part translations or intensionally isomorphic express the same propositions; only that, given (UUA) and (Trans*), recognizing such cases requires him to find some basis for privileging one sort of representation of a given proposition over others. In the examples I have just considered, he finds no such basis and thereby regards the sentences in question as expressing ‘equivalent’ but distinct propositions, in contrast with Frege, who, by rejecting (UUA) and (Trans*), can regard those sentences as transparent expressions of the same content, neither of which is privileged over the other. However, in other examples,⁸ including those involving abstraction principles, Russell recognizes cases in which sentences failing to be intensionally isomorphic or part-for-part translations express the same proposition; and I argue now that adhering to such principles as (UUA) and (Trans*) precludes Russell from interpreting these cases in the same way Frege does.

Analysis, logicism and abstraction principles: introduction to 2 and 3

Both Frege and Russell present their views of numbers as one instance of their views regarding the relations among sentences of certain forms. In particular, in *Gl* (§§64–68) Frege presents his views of numbers as one case of his views regarding sentences of the following three forms:

(Ab₁) $E(a, \beta)$,

(Ab₂) $f(a) = f(\beta)$,

and

(Ab₃) $\{x: E(x, a)\} = \{x: E(x, \beta)\}$,

where E is a symmetric, transitive relation and f an appropriate function. In the case of numbers, the relevant forms are:

(Num₁) Class a is equinumerous with class β ,

(Num₂) The number of a = the number of β ,

and

(Num₃) $\{\omega: \omega \text{ is equinumerous with } a\} = \{\omega: \omega \text{ is equinumerous with } \beta\}$.

However, Frege motivates his views regarding relations among sentences of these forms by focusing on

(Dir₁) Line a is parallel to line β ,

(Dir₂) The direction of a = the direction of β ,

and

(Dir₃) $\{x: x \text{ is parallel to } a\} = \{x: x \text{ is parallel to } \beta\}$.

And he indicates that his reasoning applies to other cases, including those involving such notions as shape, length and colour.

Independently of Frege, and both before and after becoming a logicist, Russell also presents his views concerning the status of numbers as one case of his views concerning relations among such sentences. However, although he considers sentences of forms (Ab₁) and (Ab₃), instead of focusing on sentences of the form (Ab₂), which invoke functions, Russell typically focuses on corresponding sentences that invoke relations. If we associate a given function f with relation R such that $f(x) = y$ if and only if $R(x, y)$, then relation R will be many-one.⁹ Further, if $f(x) = f(y)$, then, stated in terms of the associated relation R , there is a z such that $R(x, z)$ and $R(y, z)$. Hence, instead of considering instances of sentences of the form (Ab₂), Russell typically focuses on instances of

(Ab₂*) $(\exists x)(R(a, x) \ \& \ R(\beta, x))$,

where R is an appropriate many–one relation. Thus, he considers relations among such sentences as

(Time₁) Event a is simultaneous with event β ,

(Time₂*) There is a moment t such that a occurs at t and β occurs at t ,

(Time₃) $\{x: x \text{ is simultaneous with } a\} = \{x: x \text{ is simultaneous with } \beta\}$,

as well as

(Mag₁) Quantity a is equal in magnitude to quantity β ,

(Mag₂*) There is a magnitude m such that a has magnitude m and β has magnitude m ,

(Mag₃) $\{x: x \text{ is equal in magnitude to } a\} = \{x: x \text{ is equal in magnitude to } \beta\}$,

and also (Num₁),

(Num₂*) There is a cardinal number n such that a has cardinal number n and β possesses cardinal number n ,

and (Num₃).

Principles to the effect that from a sentence of the form (Ab₁) we may derive a corresponding sentence of the form (Ab₂) or (Ab₂*), have come to be known as ‘abstraction principles’. If corresponding instances of (Ab₁) and (Ab₂) or (Ab₂*) are transparent representations (by the standard of (Trans[‡])), and if from an instance of (Ab₁) we may derive a corresponding instance of (Ab₂) or (Ab₂*), then from a sentence asserting of two (relative) ‘concreta’ (such as lines, quantities, events or classes) that they bear a transitive, symmetrical relation to each other, one may derive that there is a further, more abstract, entity (such as a direction, magnitude, moment or number) that the two entities standing in that transitive, symmetrical relation have in common.

As I have indicated above, central to ‘Frege–Russell’ logicism is the following definition

(Num_{df}) The number of $a =_{df} \{\omega: \omega \text{ is equinumerous with } a\}$.

By this definition, corresponding sentences of the forms (Num₂) and (Num₃), while not intensionally isomorphic, are, consistent with (Trans*), part-for-part translations of each other that are both transparent: since the number of a just *is* the class of classes equinumerous with a , such statements are (by (Trans[‡])) about the number of a and the number of β and are

claiming of these entities that they are identical. Further, for both Frege and Russell, introducing definitions of the form

$$(Ab_{df}) f(a) =_{df} \{x: E(x, a)\},$$

enables them to hold that corresponding sentences of forms (Ab_2) and (Ab_3) are part-for-part translations of each other that transparently represent the same content. However, although both Frege and (the post-logicist) Russell make use of such definitions, this shared technical device for defining ‘abstracta’ can serve the same philosophical understanding of abstraction principles only if Frege and Russell share the same understanding of the relation between corresponding instances of (Ab_1) and (Ab_2) (or (Ab_2^*)); and this, I argue, is what their different conceptions of analysis preclude.

2 Russell on logicism and abstraction principles

Russell broke with Idealism towards the end of 1898, but he later described his attending the International Congress of Philosophy in Paris in August 1900, at which he saw Peano, as ‘the most important event’ in ‘the most important year in my intellectual life’ (Russell 1944: 12). Russell’s concern with abstraction principles arises immediately upon his rejection of Idealism in the context of his general theory of serial order, of which his views of number, magnitude and time are all instances, and provides perhaps the clearest example of his post-Idealist concern with identifying the ‘indefinables’ or ‘simples’ that are the ‘ultimate constituents of the universe’. However, he did not introduce the logicist definitions of numbers until some time in the spring of 1901.¹⁰ I argue now that differences between Russell’s pre-logicist view of abstraction principles and his post-logicist view of them are reflected in his changing view as to which sentences of the forms (Ab_1) - (Ab_3) are privileged representations and which are not, and that understanding Russell’s logicism in this context helps make clear why he interprets his post-logicist view of abstraction principles as enabling him to dispense with unnecessary ‘metaphysical lumber’.

2.1 *Abstraction principles and absolute theories of order*

For Russell, given any serial order, there are two opposing theories one may provide of it: a relational (or relative) theory, or an absolute theory (see, for example, Russell 1900: 222–5; 1901b: 241–2). These theories are differentiated from one another by the indefinables they recognize. Thus, in introducing the distinction between relative and absolute theories of time, Russell writes:

Does an event occur at a time, or does it merely occur before certain events, simultaneously with others, and after a third set? The relational theory of time holds the latter view ... The absolute theory, on the

contrary, holds that events occur *at* times, that times are before and after each other, and that events are simultaneous or successive according as they occur at the same or different times.

(Russell 1900: 222)

Hence, on the relational theory, the only indefinable terms to be related are events, so that ‘times do not really exist’ (1901b: 242), and there are three primitive temporal relations that may obtain between events – *before*, *after* and the symmetric, transitive relation *simultaneity*. On the absolute theory, in contrast, there are both events and absolute moments among the ultimate constituents of the universe. Here, moments have an ‘intrinsic order’ to one another, while events acquire a temporal order only ‘by correlation’ with the ‘independent’ series of moments in absolute time. Here too there are three primitive relations – *before* and *after* (now understood as relations between moments not events) and *occurring at*, which relates each event to the moment at which it occurs. Since moments *are* temporal positions, distinct moments are distinct temporal positions, and there is no need for a primitive relation of *simultaneity*.

Thus, on the relative theory,

(Time₁) Event *a* is simultaneous with event *β*

is a privileged representation, expressing a proposition that has three ultimate constituents – the events *a* and *β* and the (indefinable) relation *simultaneity*. In contrast, as Russell writes, on the absolute theory

‘*A* is simultaneous with *B*’ requires analysis into ‘*A* and *B* are both at one time’,

(1899–1900: 147)

so that, consistent with (Priv*) and (Trans*), while (Time₁) and

(Time₂*) There is a moment *t* such that *a* occurs at *t* and *β* occurs at *t*,

express the same proposition, (Time₂*), but not (Time₁), is a privileged and transparent representation of that proposition. On this theory, the proposition expressed by (Time₁) is not attributing a primitive relation of *simultaneity* to *a* and *β*, but is rather claiming of those events that they bear the relation of *occurring at* to the same indefinable moment.

More generally, on relative theories of order, symmetrical transitive relations, including *simultaneity*, *equality in magnitude* and *equinumerosity*, are indefinable and instances of (Ab₁), including (Time₁), (Mag₁) and (Num₁), are privileged representations; in contrast, on absolute theories, those transitive symmetrical relations are defined in terms of (many–one) relations (such as *occurring at*, *having* or *possessing*) to indefinable positions (such as

moments, magnitudes or numbers), and instances of (Ab_2^*) , such as $(Time_2^*)$, (Mag_2^*) and (Num_2^*) , are thus privileged representations of the propositions expressed non-perspicuously by corresponding instances of (Ab_1) . For Russell, determining which sort of theory is correct is a fundamental philosophical issue. As he writes in discussing theories of magnitude:

It does not lie with us to choose what terms are to be undefinable; on the contrary, it is the business of philosophy to discover these terms. We have to decide whether the undefinable term is the relation of equality, or a common property [namely, a magnitude] of equal quantities.

(1899–1900: 57–8)

Following his break with Idealism until his acceptance of logicism, Russell accepts absolute theories of order. Consistent with his view that when it comes to determining what is undefinable, one can ultimately appeal only to ‘immediate perception’, not to argument, Russell often indicates that ‘inspection’ alone favours absolute theories,¹¹ suggesting that he takes himself to have had acquaintance with abstracta such as numbers, moments and magnitudes. In particular, he regards the absolute theory of number as ‘plainly correct’ (1900: 226), and, more generally, adopts what he calls the ‘axiom of abstraction’, according to which the full analysis of an instance of (Ab_1) is given by the corresponding instance of (Ab_2^*) .¹²

Russell’s early absolute theory of number is not logicism and does not incorporate (Num_{df}) . On this theory, numbers are undefinables, distinct from and ontologically prior to the classes to which those numbers are assigned (so that the being of a number does not depend on there being a class with that number of terms), just as on the absolute theory of time, moments are distinct from, and ontologically prior to, events (so that the being of a moment does not depend upon there being an event occurring at that moment).¹³ Accordingly, on the absolute theory of number, while (Num_2^*) is a privileged representation of the proposition expressed non-perspicuously by (Num_1) , (Num_3) expresses a distinct, albeit equivalent, proposition. On this theory, (Num_2^*) and (Num_3) are making different claims about different entities and so express different propositions. The former is about the classes a and β and is asserting of them that they possess the same undefinable number; the latter is about the different classes $\{\omega: \omega$ is equinumerous with $a\}$ and $\{\omega: \omega$ is equinumerous with $\beta\}$ and is asserting of them that they are identical. And likewise on other absolute theories: while an instance of (Ab_2^*) is a privileged representation of the proposition expressed non-perspicuously by the corresponding instance of (Ab_1) , the corresponding instance of (Ab_3) expresses a distinct, but equivalent proposition.

2.2 *Abstraction principles and Russell's logicism*

Russell embraces (Num_{df}) as a philosophically correct account of the cardinal numbers only late in the composition of PoM. As late as May 1902, he claims that ‘for formal purposes, numbers may be taken to be classes of similar classes’, but then provides an argument intended to show that

Numbers, it would seem, are ... philosophically, not formally indefinable ... [T]hese indefinable entities are different from the classes of classes which it is convenient to call numbers in mathematics.

(Byrd 1987: 69)

And it is only during his copyediting of page proofs, some time after June 1902, that Russell changes this passage to read:

Numbers are classes of classes, namely of all classes similar to a given class ... [N]o philosophical argument could overthrow the mathematical theory of cardinal numbers set forth [above].

(PoM 136)

As should be clear, by accepting (Num_{df}) as providing a ‘philosophically’ adequate account of numbers, Russell has dramatically changed his position from the absolute theory of number – which he previously took as obviously correct – to a relative theory. No longer are numbers indefinable entities in terms of which the relation of *similarity* between classes is defined; now, the relation of *similarity* is used to define numbers. No longer are numbers ultimate constituents of the universe constituting a domain separate from, and ontologically prior to, classes; now they are classes of similar classes. No longer does Russell take himself to be acquainted with indefinable numbers; now, he writes: ‘[P]ersonally, I do not perceive such entities as cardinal numbers, unless as classes of similar classes’ (1905b: 151) While he continues to hold that it is only by means of acquaintance that we should countenance indefinables, Russell no longer takes himself to be acquainted with numbers, regarded as distinct from classes of similar classes.

Further, Russell no longer holds that corresponding instances of (Num₁) and (Num₂*) express the same proposition (where the latter but not the former are privileged representations), while those of (Num₃) express equivalent but distinct propositions; instead, he now holds that corresponding instances of (Num₂*) and (Num₃) express the same proposition (where the latter are more perspicuous¹⁴ than the former), while those of (Num₁) express distinct but equivalent propositions. Rather than holding that to say that two classes are similar is really to say that they have the same indefinable cardinal number, he now holds that to say that classes α and β have the same cardinal number is really to say that $\{\omega: \omega \text{ is equinumerous with } \alpha\}$ and $\{\omega: \omega \text{ is equinumerous with } \beta\}$ are identical.

Likewise, by introducing other instances of (Ab_{df}) , he can hold that moments are no longer indefinables distinct from events, but are rather classes of simultaneous events, while magnitudes are longer indefinables distinct from quantities, but are rather classes of quantities equal in magnitude to each other.¹⁵ And by doing so, he holds, against his earlier absolute theories of order that instances of (Ab_3) are privileged representations of propositions expressed non-perspicuously by corresponding instances of (Ab_2^*) , while corresponding instances of (Ab_1) are privileged representations of distinct, but equivalent propositions.¹⁶ While he still accepts (UUA), (Priv*) and (Trans*), he has changed his view as to the proper analysis of the propositions involved, as to which sentences of these forms express the same propositions, and as to which of those sentences are privileged and transparent representations.

Accordingly, when the post-logicist Russell discusses the ‘principle of abstraction’ he writes:

The principle, which might equally well be called ‘the principle which dispenses with abstraction’, ... is one which clears away incredible accumulations of metaphysical lumber ... When a group of objects have that kind of similarity which we are inclined to attribute to possession of a common quality, the principle in question shows that membership of the group will serve all the purposes of the supposed common quality, and that therefore, unless some common quality is actually known, the group or class of similar objects may be used to replace the common quality, which need not be assumed to exist.

(1915: 42)

And later he adds that the principle thereby ‘avoids the risk of introducing fictitious metaphysical entities’ (126). The ‘principle of abstraction’ that Russell characterizes here is not his earlier ‘axiom of abstraction’, which provided the basis for his pre-logicist defence of absolute theories of order, but rather his post-logicist use of definitions of the form (Ab_{df}) that enable him to dispense with his earlier indefinable moments, magnitudes and numbers and to defend relative theories of order.¹⁷

3 Frege on logicism and abstraction principles

The philosophical context in which Frege considers issues regarding numbers and other abstracta is fundamentally different from that in which Russell considers such issues. Since he rejects an atomistic mereology, Frege does not regard himself as engaging in the Russellian project of attempting to identify the ultimate (simple) constituents of the universe. Since he rejects (UUA) and the conception of a privileged representation that goes with it, then whatever Frege’s concern with examining instances of (Ab_1) , (Ab_2) and (Ab_3) , it is not to determine which of them are privileged representations by

the standard of (Priv). Since he rejects (Trans*), Frege can hold, unlike Russell, that corresponding instances of (Ab₁) and (Ab₂) are transparent representations of the same propositional content.

I argue now that, by rejecting views such as (UUA) and (Trans*), Frege defends a position that Russell could never accept – a position that incorporates the view that numbers, as well as other ‘abstracta’, are both ‘self-subsistent objects’ as well as definable, and that we can be guaranteed that such objects exist even though we have no ‘intuition’ of them. To do so, I discuss three aspects of Frege’s position: his argument that numbers are ‘self-subsistent objects’; his views concerning relations between corresponding instances of (Ab₁) and (Ab₂); and his reason for introducing definitions of the form (Ab_{df}).

3.1 Numbers as ‘self-subsistent objects’

In Gl, Frege takes himself to establish (in §§55–61) that numbers are ‘self-subsistent objects’ before he considers (in §§62–69) relations among (Num₁), (Num₂) and (Num₃). In particular, he indicates that to establish that claim, it is sufficient to point out, for example, that

(7) Two is a prime number

or ‘The number of moons of Jupiter is four’ are of forms ‘ $\Phi(a)$ ’ or ‘ $\Psi(a, \beta)$ ’, where ‘ a ’ and ‘ β ’ are replaced by ‘number words’; and, by doing so, he assumes that such sentences are transparent by the standard of (Trans[‡]).

In particular, for Frege, whatever replaces ‘ a ’ and ‘ β ’ in transparent sentences of such forms as ‘ $\Phi(a)$ ’ and ‘ $\Psi(a, \beta)$ ’, be they names or definite descriptions, serve to designate objects, not concepts. Thus by assuming that (7) is transparent by the standard of (Trans[‡]), he holds that that sentence is about an object (the number 2 itself) designated by ‘two’. Moreover, for Frege, in claiming that numbers are ‘self-subsistent’, he is claiming no more than that they are objects – the sort of entity designated by names and definite descriptions – not concepts – the sort of entity designated by predicates. As he writes in Gl §60: ‘The self-subsistence which I am claiming for number is . . . only to preclude the use of [number words] as predicates or attributes, which appreciably alters their meaning.’

Given his atomistic mereology, and with it his distinction between privileged and non-privileged representations, Russell could not accept this grammatical argument for the view that numbers are ‘self-subsistent’. For Russell, to be ‘self-subsistent’ is to be mereologically independent of all other beings; hence, for Russell, since a complex entity depends for its being on its parts, but not vice versa, to be self-subsistent is to be simple.¹⁸ Thus, for Russell, establishing that ‘two’ designates a ‘self-subsistent’ entity requires establishing not merely that (7) is transparent, but further that it is a privileged representation; one would have to show, not merely that (7) is

about an entity designated by ‘two’, but further that ‘two’ designates a simple entity. Thus in PoM, while Russell agrees that sentences containing numerical expressions are transparent, by defining numbers in terms of classes of equinumerous classes, he denies that such sentences are privileged representations and that numbers are ‘self-subsistent’ entities.¹⁹

3.2 *How are numbers given to us, if we cannot have any ideas or intuitions of them?*

Having ‘settled that number words are to be understood as standing for self-subsistent objects’, Frege addresses in §§62–69 the question as to how numbers are ‘to be given to us, if we cannot have any ideas or intuitions of them’. In Russellian terminology, Frege wants to explain how we can come to recognize the self-subsistent objects that are numbers given that we have no acquaintance with them. It is in this context that Frege uses (Dir_1) and (Dir_2) to illustrate the points he wishes to make regarding (Num_1) and (Num_2); and it is at this point that rejecting (Trans^*) becomes crucial to his argument.

Frege introduces his view by writing:

The judgment ‘line a is parallel to line b ’, or using symbols,

$$a // b,$$

can be taken as an identity. If we do this, we obtain the concept of direction, and say: ‘the direction of line a is identical with the direction of line b ’. Thus we replace the symbol $//$ by the more generic symbol $=$, through removing what is specific in the content of the former and dividing it between a and b . We carve up the content in a way different from the original way, and this yields us a new concept.

(Gl 74–5)

For Frege, while (Dir_1) and (Dir_2) express the same content, they ‘carve up’ that content into parts in different ways, and so represent it as making different claims about different entities; indeed, Frege’s philosophical purposes are served only if he holds, contrary to (Trans^*), that (Dir_1) and (Dir_2) are transparent representations of the same content.

If he held that (Dir_1) but not (Dir_2) is a transparent representation of the content they both express, he would hold that that content is ‘really’ about lines not directions. Thus he would be undermining his view that directions are ‘self-subsistent objects’ – a view he uses the assumed transparency of (Dir_2) to defend (see Gl §66). Nor can he hold that (Dir_2) but not (Dir_1) is a transparent representation of the content they both express. For to do so would be to hold that no one could understand (Dir_1) without understanding it as a claim about directions, in which case understanding (Dir_1) would require

having a prior ‘idea’ or ‘intuition’ of directions – a view that Frege argues is to ‘reverse the true order of things’ (ibid.: §64).

Thus, for Frege, the way to maintain both that directions are ‘self-subsistent objects’ and that we can recognize them without having ‘ideas or intuitions’ of them is by holding, as against (Trans*), that (Dir₁) and (Dir₂) are transparent representations of the same content. First, we apprehend the content as represented transparently by (Dir₁) – that is, as a content asserting of lines that they are parallel. Apprehending that content in that way requires no ‘intuition’ of directions, but neither does it commit us to recognizing objects that are directions. However, for Frege, once we recognize that that content may also be represented by (Dir₂) and we further take (Dir₂) as transparent, we thereby commit ourselves to recognizing objects that are directions; and we have achieved this not by ‘intuiting’ such abstracta but rather by recognizing that a content that we did not first take to be about such objects may be ‘carved up’ in a new way.²⁰ And, for Frege, what applies in the case of directions likewise applies in cases of other abstracta. By holding, as against (Trans*), that corresponding instances of (Ab₁) and (Ab₂) are transparent representations of the same content, he has in place an account as to how we may come to recognize abstracta such as numbers, directions and lengths without having to appeal to any primitive ‘intuitions’ of such entities.

Frege’s view here is not only incompatible with Russell’s commitment to (UUA) and (Trans*); it is foreign to Russell’s post-Idealist conception of ‘the business of philosophy’. Frege’s purpose in arguing, against (UUA) and (Trans*), that corresponding instances of (Ab₁) and (Ab₂) transparently represent the same content is to explain how we can recognize abstracta as self-subsistent objects without having to intuit them; but for Russell, the only philosophically legitimate reason for countenancing abstracta as self-subsistent entities is precisely if one has become acquainted with them.

3.3 *The definitions introduced*

Not only is Frege’s understanding of the relation between corresponding instances of (Ab₁) and (Ab₂) different from Russell’s; so too is his reason for introducing definitions of the form (Ab_{dir}).

For Frege, holding that (Dir₂) re-carves the content expressed by (Dir₁) enables us to know (without intuition) that there is an object that is the direction of *a* and determines the truth-value of instances of (Dir₂); but it does not thereby determine the truth-value of ‘the direction of line *a* = *q*’, if ‘*q*’ is not of the form ‘the direction of line *b*’ (but is rather, for example, ‘Julius Caesar’ or ‘England’ – see Gl §§56, 66). In Frege’s terminology, if *x* and *y* are ‘given to us’ as directions of lines *a* and *b*, then, holding that (Dir₁) and (Dir₂) transparently express the same content determines that *x* = *y* if and only if *a* and *b* are parallel; however, if *x* is given to us as the direction of a line, while *y* is not, holding that (Dir₁) and (Dir₂) transparently

represent the same content does not thereby determine whether or not $x = y$ (even if, unbeknownst to us, y is, in fact, the direction of a line). But for Frege, determining what object is designated by ‘the direction of line a ’ should determine the truth-value of ‘the direction of line $a = q$ ’ (assuming that the object designated by ‘ q ’ is also determined), whether or not q is ‘given to us’ as the direction of a line (see Gl §66–7). Thus, for Frege, while recognizing that (Dir_1) and (Dir_2) transparently represent the same content enables us to know *that* there is an object designated by ‘the direction of a ’ it does not determine *what* object is designated by that expression. And it is in order to do so that Frege introduces the definitions of the form (Ab_{df}) associated with logicism – definitions in virtue of which corresponding instances of (Ab_2) and (Ab_3) are transparent representations of the same content.

Russell, in contrast, introduces definitions of the form (Ab_{df}) once he holds that he can do without abstracta among the ultimate constituents of the universe. For Russell, the purpose is not to determine what objects are designated by expressions for abstracta that he knows, without ‘intuition’, stand for ‘self-subsistent objects’, but rather to provide a designation for such expressions, given that he has no acquaintance with any indefinables they might be taken to stand for. Given his conception of analysis, the choice for Russell is between holding that abstracta are ‘self-subsistent’ and undefinable or that they are definable but not self-subsistent; the Fregean view, which depends upon rejecting (UUA), that they are both ‘self-subsistent’ and definable is not an option.

4 Classes and abstraction principles

I conclude by discussing how Russell and Frege approach an issue regarding the status of classes that illustrates further how, given their different background assumptions, they interpret a shared technical issue in different ways.

Although

$$(\text{Class}_1) (\forall x)(Fx \leftrightarrow Gx)$$

and

$$(\text{Class}_2) \{x: Fx\} = \{x: Gx\}$$

or

(Class_2^*) There is a class c such that Fx determines c and Gx determines c .

are instances of (Ab_1) , (Ab_2) and (Ab_2^*) , respectively, with classes regarded as the ‘abstracta’ common to co-extensive predicates (understood non-linguistically as properties or concepts), neither Frege nor Russell can, in

this case, introduce a definition of the form (Ab_{df}) , as they do in other cases where there are corresponding instances of (Ab_1) , and (Ab_2) , or (Ab_2^*) . For to do so would be to define the class determined by predicate F as the class of predicates co-extensive with F , thereby employing the very notion to be defined in its own definition. Thus Russell writes:

We cannot of course attempt an intensional definition of a class as the class of predicates attaching to the terms in question and to no others, for this would involve a vicious circle.

(PoM 66; see also 515)

Accordingly, for Russell of PoM and Frege of Gg, individual classes as well as the concept *class* are indefinable. However, just as their philosophical differences lead them to interpret in different ways their common acceptance of definitions of the form (Ab_{df}) , so too these differences lead them to interpret in different ways their common inability to define classes by means of definitions of the form (Ab_{df}) .

For Russell in PoM, this inability to define classes marks them as a genuine anomaly. By introducing definitions of the form (Ab_{df}) , Russell dispenses with abstracta that he had previously regarded as among the ultimate constituents of the universe and had previously indicated he was acquainted with and rejects his earlier view of the relation between corresponding instances of (Ab_2^*) and (Ab_1) . Since the one method available to Russell in PoM for dispensing with abstracta – namely, the use of definitions of the form (Ab_{df}) – does not apply to classes, he is forced to regard classes as he had previously regarded other abstracta. Thus, he regards them as philosophically indefinable and as entities he should countenance only if he is acquainted with them; but he also admits that he finds it ‘exceedingly difficult’ (PoM 516) to become acquainted with classes or with the notion *class* (ibid.: xxi). Further, in PoM instances of $(Class_2^*)$ are privileged representations of propositions expressed by corresponding instances of $(Class_1)$ – that is, they obey his old view, not his post-logicist view, of the relation between corresponding instances of (Ab_2^*) and (Ab_1) . Thus, for Russell in PoM, classes are the one exception – and, given his paradox, an extremely problematic exception – to his post-logicist view of abstracta as unnecessary ‘metaphysical lumber’.²¹

In contrast, for Frege, the inability to apply definitions of the form (Ab_{df}) to classes does not mean that they are fundamentally different from other abstracta, with regard either to their metaphysical status or to our knowledge of them. Since the arguments Frege provides for regarding abstracta other than classes as ‘self-subsistent objects’ as well as his account as to how we may recognize such abstracta without ‘intuition’ are independent of, and prior to, his use of definitions of the form (Ab_{df}) , these aspects of his view apply also to classes. Thus, by holding that expressions of the form ‘the extension of concept F ’, like other expressions of the form ‘the f of a ’,

occur as subject-terms in transparent sentences, Frege can hold that classes, like other abstracta, are ‘self-subsistent objects’. And by holding that corresponding instances of (Class₁) and (Class₂), like other corresponding instances of (Ab₁) and (Ab₂), transparently represent the same content, Frege can hold of classes, as he holds of other abstracta that recognizing them as ‘self-subsistent objects’ does not depend upon ‘intuiting’ them. There still remains for Frege the problem of determining exactly what objects are designated by expressions of the form ‘the extension of concept *F*’, a problem he cannot address, as he addresses it for other abstracta, by introducing definitions of the form (Ab_{df}), and he attempts an alternative solution of this problem in Gg §10.

My point here, however, is that because Frege, unlike Russell, does not introduce such definitions in order to address fundamental questions regarding the metaphysical status of abstracta or our knowledge of them, Frege, unlike Russell (in PoM), is in a position to hold that with regard to those fundamental questions, classes are no different from other abstracta.²² Again, given their basic differences in outlook, reflected, for example, in their contrary views of such principles as (UUA) and (Trans*), Frege and Russell interpret the same technical point – here, that definitions of the form (Ab_{df}) cannot be applied non-circularly to classes – in very different ways.²³

Notes

- 1 Here, ‘class’ should be read, in considering Frege, as ‘extension of a concept’; also this characterization of ‘Frege–Russell’ logicism applies more straightforwardly to Frege’s Gg definitions of numbers (§§40ff.), than to his G1 definitions, according to which numbers are classes of concepts (G1 §§68ff.). For the sake of brevity, I do not here consider issues regarding these different formulations.
- 2 For this Russellian characterization of Absolute Idealism, see, for example, Russell 1899–1900: 39, 96; PoM 466.
- 3 The interpretation I present here of Frege is opposed, in many respects, to that of Dummett, who attributes (UUA) to Frege (see, for example, Dummett 1981: chs 15–17). I do not address Dummett’s interpretation here, but I have done so in Levine 2002.
- 4 This qualification is hereafter omitted.
- 5 Thus, for example, Russell denies in ‘On Denoting’ that sentences of the form ‘The *F* is *G*’ are transparent (since he denies that they are about entities designated by the phrases of the form ‘the *F*’) and Frege denies in Bg §8 that identity statements are transparent (since he holds that they are about the expressions themselves flanking the identity-sign, not the entities those expressions designate).
- 6 Compare Frege: ‘[T]he sentence “The thought that 5 is a prime number is true” contains . . . the same thought as the simple “5 is a prime number”’ (Frege 1892a: 164). See also, for example, Frege 1897: 141; 1906a: 194.
- 7 Here assuming Russell’s pre-‘On Denoting’ account of sentences containing definite descriptions (see note 5); while Russell would analyse the proposition expressed by (6*) differently after ‘On Denoting’, he would still regard it as distinct from that expressed by (5).
- 8 Perhaps most famously in ‘On Denoting’ where Russell indicates that a sentence of the form ‘(∃*x*)(*Fx* & (∀*y*)(*Fy* → *y* = *x*) & *Gx*)’ provides a privileged and transparent

- representation of the proposition expressed non-perspicuously by the corresponding sentence ‘The F is G .’
- 9 Each function f is such that it takes a given entity x to only one entity y ; that is, $(\forall x)(\forall y)(\forall z)((f(x) = y \ \& \ f(x) = z) \rightarrow y = z)$. Hence, the relation R associated with f will be such that $(\forall x)(\forall y)(\forall z)(R(x, y) \ \& \ R(x, z) \rightarrow y = z)$, which is to say that R is many-one.
 - 10 See G.H. Moore’s ‘Introduction’ to Russell 1993: xxvi– xxvii.
 - 11 See, for example, Russell 1900: 225, 227; 1899–1900: 58.
 - 12 See PoM 220, as correlated with Byrd 1996: 165–6.
 - 13 See, for example, 1899–1900: 146, for the priority of moments to events; see Byrd 1994: 78, for the priority of numbers to classes.
 - 14 ‘More perspicuous’ but not privileged representations, because Russell defines *similarity* (as Frege defines *equinumerosity*) in terms of 1–1 correspondence, so that, strictly speaking, instances of neither (Num₁) nor (Num₃) are privileged representations.
 - 15 See, for example, PoM 167, footnote (added in final proofs); 1915: 125–6; 1924: 326–7.
 - 16 In the general case, as opposed to that concerning numbers, the relevant symmetrical transitive relation (for example, *simultaneity*, *equality in magnitude*) will be regarded as undefinable. Compare note 14 above.
 - 17 Nor is this an understanding of the ‘principle of abstraction’ that Russell developed only well after PoM; for as early as December 1903, Russell wrote to Couturat that once he proves his earlier ‘axiom of abstraction’ by substituting an equivalence class of objects for the ‘hypothetical quality common to all these objects’ (*‘substituer la classe même des objets dont il est question à la qualité hypothétique commune à tous ces objets’*), it would be better to call the ‘principle of abstraction’ the ‘principle replacing abstraction’ (*‘principe remplaçant l’abstraction’*). See Schmid 2001: 346.
 - 18 See, for example, 1899–1900: 35–6, where Russell indicates that only simple entities do not presuppose the being of any other entities.
 - 19 Moreover, although Russell’s distinction between ‘thing’ and ‘predicate’ is comparable to Frege’s distinction between object and concept, he holds that any entity, including any predicate, may function ‘as subject’ in a singular proposition (see PoM 43–4). Thus, for Russell, regarding ‘Two is a prime number’ as transparent does not suffice for holding that two is a thing rather than a predicate. In fact, prior to becoming a logicist, Russell regarded numbers as predicates, not as things. Thus, in PoM 116, Russell defends his logicist definition of number by rejecting the view that numbers are undefinable predicates.
 - 20 Mark Wilson (1992) has argued convincingly that Frege’s view that (Dir₁) and (Dir₂) ‘carve up’ the same content should be understood in the context of the view (held by some mathematicians including von Staudt) that the Euclidean plane includes ‘hidden elements’ that, while not accessible to intuition, are not ‘fictions’. Among these hidden elements are ‘points at infinity’, which Frege (1873: 1) identifies with directions.
 - 21 Only after ‘On Denoting’, and with the notion of ‘incomplete symbol’ that has its source there, is Russell able to find a way to dispense with classes. In doing so, he comes to deny not only that instances of (Class₂*) are privileged representations but also that they are transparent. For some discussion of this point, see Levine 2005: 55.
 - 22 Hence, whereas the discovery of the paradox gives Frege reason to reconsider his whole method of introducing abstracta, it gives Russell a reason for finding a method to avoid assuming classes as he had previously avoided assuming other abstracta.

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4 Some remarks on Russell's early decompositional style of analysis

Nicholas Griffin

Analysis takes many forms in analytic philosophy, and several even in Russell's philosophy. Though Russell claimed analysis as his philosophical method ever since he broke with the neo-Hegelians in 1898 (*MPD*, p. 11), this should not be taken to imply that his concept of analysis remained constant through his subsequent philosophical development. It underwent a number of significant changes, the most important (as is generally recognized) was inaugurated with his theory of descriptions in 1905, though there were others which are less widely appreciated. Confusion about Russell's conception of analysis, however, depends less on the fact that it changed than that he said relatively little about it. In part, this was the result of authorial accident: he never got round to writing an account of analysis. After completing *Principia Mathematica*, he intended to write a book on logic which would clarify the foundations of the *Principia* system. References to this projected work in 1904 (*CPBR4*, p. 255) indicate that it would have included a discussion of analysis.¹ By 1913, he thought the task could be left to Wittgenstein: the *Tractatus* is the disappointment of that hope. But while the work Russell envisaged in 1904 might have helped us understand his notion of the analysis of propositions, it would have been unlikely to provide a broad account of his idea of analysis as the appropriate method for philosophy as a whole. Unlike Wittgenstein, Russell was not greatly interested in metaphilosophical issues and did not always write well about them when he tried. His methodology was often clearer in the application than in the exposition. There's a point of comparison here to Einstein's two theories of relativity, each of which was methodologically interesting in quite different ways, though Einstein's own comments on methodological matters were usually casual and inexact. The achievements, of both Russell and Einstein, lay in finding really good solutions to problems; in doing so, they broke new ground methodologically, but sustained reflection on the methodology which produced the breakthrough was not a task which attracted either man.

The lack of a detailed account from Russell himself of his concept of analysis has given rise to the idea that he was confused about the concept, or even that the concept he employed was incoherent. This, I believe, is

false, and it is a main purpose of this paper to show that it is false in connection with Russell's earliest concept of analysis, which he used in the period 1898–1905. Because Russell's comments on the concept are brief and scattered it is difficult to tell how (if at all) it developed during this period. The remarks, however, are sufficient to allow us to outline a relatively cohesive account of analysis (though with inevitable gaps and vague spots) which Russell held during this period and which he applied far more consistently than we might have expected, often with surprising results.

1 Russell's decompositional conception of analysis

During the period 1898–1905 Russell and Moore shared a philosophical position that J.O. Nelson (1967: 373) aptly called 'Absolute Realism' to mark its divergence from F.H. Bradley's Absolute Idealism, the philosophy it most saliently rejected. Against Bradley's unique, relationless Absolute, Russell proposed a metaphysics of multifarious, related terms. Terms were anything that could occur as the subject of a proposition; some terms (things) could occur in a proposition only in a subject position; others (concepts or universals) could occur either as a subject or as a predicate or (in the case where there was more than one subject) as a relation. All terms had being, though only some existed. (From 1898 onwards, Russell was a realist about universals.) In standard cases, a term which occurred as a subject of a proposition was a term that the proposition was about; but in some cases, where the term was what Russell called a denoting concept, the proposition was not about the denoting concept it contained but about what (if anything) the denoting concept denoted. Propositions were themselves complex terms, made up of the terms occurring in them as subjects, predicates and relations. Importantly, unless the subject term were a denoting concept, the proposition contained the term(s) it was about – a direct realist doctrine that famously shocked Frege (cf. Frege 1980: 163, 169). Propositions were thus (in general) not mental or linguistic items, but mind-independent constituents of the world, best regarded as possible combinations of objects. A concept which occurred in a proposition in a subject position was said to occur in it as a term. Every proposition contained at least one concept, and among the concepts occurring in a proposition one was responsible for the unity of the proposition, this concept was said to occur as a concept rather than as a term. It is important to distinguish complexes that were unified in this way by concepts (typically relations), and which thus form unities, from complexes (which Russell early on called 'aggregates' and later 'classes') which had no unifying relations and which are thus (as Russell put it) wholes but not unities. *All* complex unities were propositions.²

Russell and Moore's style of analysis during their Absolute Realist phase was what Beany (2002: 55; 2003: §1.1) usefully calls 'decompositional analysis': the breaking down of complex items into their simpler constituents. The process is akin to chemical analysis in which molecules are broken

down into their constituent atoms but, while the complexes Russell seeks to analyse are as real as molecules, philosophical analysis – obviously – cannot actually break them up into their constituents: what nature has joined together, mere philosophical analysis cannot rend asunder. Philosophical analysis, rather, is concerned to identify the constituents of complex unities (i.e. Russellian propositions); that is, to identify the parts of which a given whole consists and to identify the way in which they are combined to form the whole.³

Wholes which are not unities can also be analysed, but in such cases there is no manner of combination to be identified, and the whole is completely specified once its parts are identified (POM/D, pp. 36–7). Russell states the method in a number of early works:

In any complex, it is essential to a complete analysis to mention the function as well as the constituents. There are two questions to be asked in regard to a complex, i.e.

- (1) Of what elements is it composed?
- (2) How are these elements combined?

... Theoretically, a complete analysis into function and arguments ought to leave no constant elements in the function, but only variable arguments combined in a constant manner.

(FN, p. 129)

In the outline of his proposed book on logic mentioned above, the second section of the book was to deal with complexity and in it the first subsection was given as ‘Constituents of a complex: analysis’ (FN, p. 255). Brief comments in earlier works clearly presuppose the same notion: ‘if the parts have been analyzed as far as possible, they must be simple terms’ (POM/D, p. 161).⁴ And again: ‘In every case of analysis, there is a whole consisting of parts with relations; it is only the nature of the parts and the relations which distinguishes different cases’ (POM/D, p. 161).

It was Moore who put the doctrine into print for the first time, in ‘The Nature of Judgment’, a paper (derived from his Cambridge Fellowship dissertation of 1898) which Russell described as ‘the first published account of the new philosophy’ (MPD, p. 54): ‘A thing becomes intelligible first when it is analysed into its constituent concepts’ (Moore 1899: 67). Russell was a good deal more sweeping in his *Philosophy of Leibniz* where he said: ‘That all sound philosophy should begin with an analysis of propositions is a truth too evident, perhaps, to demand a proof’ (POL, p. 8). On its own, this must have left the unhappy reader uncertain as to what he meant either by ‘proposition’ or by ‘analysis’, though he clarified the latter a few pages later:

Definition, as is evident, is only possible in respect of complex ideas. It consists, broadly speaking, in the analysis of complex ideas into their simple constituents.

(POL, p. 18)⁵

And, at the beginning of *The Principles of Mathematics*, he says that his task is analysis, ‘that is to say, that we seek to pass from the complex to the simple’ (*POM*, p. 3).

This method was not original to Russell and Moore. It was appealed to, a few years before they adopted it, by the Cambridge logician W.E. Johnson, who applied it both to the analysis of systems of propositions into propositions and to the analysis of propositions into their sub-propositional constituents:

The proper procedure of Logic is throughout *analytical*. We must begin with an analysis of system, and determine how a synthesis of propositions yields a totality of interrelated elements. This primary analysis must be carried so far as to resolve any complex into *propositions* as constituents. It precedes the analysis of propositions into those elements which are not themselves propositions, just as the Physical analysis of a substance into molecules precedes the Chemical analysis of the molecule into atoms.

(Johnson 1892: 6)⁶

2 Analysis and neo-Hegelianism

In understanding Russell’s earliest work in philosophical analysis it is important to keep in mind the philosophical tradition of neo-Hegelianism that he was rejecting. For example, there is a serious worry in Russell’s early analytical writings that analysis involves falsification, since the collection of constituents of a complex unity after analysis lacks the unity of the original complex. (This is a special case of what later became known as the paradox of analysis.) In his very first ventures in analysis, Russell took this as a constraint on analysis, which he said was ‘strictly speaking, *only* possible’ where the complex to be analysed did not form a unity (*FIAM*, p. 299). In these pre-logicist days, however, this was not a constraint on his attempt to find a philosophically perspicuous account of number. This required an analysis of sets, and sets could be analysed without qualms since they lacked the unity that was distinctive of propositions. After Russell embraced logicism, he could not so easily ignore the analysis of propositions, even within the limited project of giving an account of number. Russell’s response was to continue to use analysis, despite the degree of falsification it introduced. It gives us, he said, ‘the truth, and nothing but the truth, yet it can never give us the whole truth, except where what is in question is a mere collection’ (*POM/D*, p. 39). It appears in this light in the published version of the *Principles* (*POM*, pp. 51, 141, 466–7) and it gave rise to the vexed problem of the unity of Russellian propositions.⁷ It also highlighted – and this is the point at which it is relevant to my present concerns – the special role of relations in Russell’s philosophy, for it was relations, occurring as concepts

(i.e. as relating relations in Russell's usage), which turned a mere collection into a unity. Russell had rejected neo-Hegelianism in 1898 because it failed to provide an adequate account of relations, which, Russell thought, was essential for an adequate account of mathematics (see Griffin 1991: ch. 8). It turns out, as I shall show, that in addition to their familiar role at the source of unity in complexes, relations were in other ways, not hitherto recognized, to be distinguished from properties in Russellian analyses of complexes.

Since one of Russell's most fundamental differences with the neo-Hegelians was over the legitimacy of analysis, it is not perhaps surprising that some of his most informative comments about analysis were made to neo-Hegelians. One in particular, which it is very easy to overlook, occurs in his debate about truth with the Oxford neo-Hegelian philosopher, Harold Joachim. In 1906 Joachim published *The Nature of Truth*, a defence of a coherence theory of truth. Chapter 2 of the book is an attack on the account of truth 'as a quality of independent entities' that Russell and Moore had been advocating (Joachim 1906: 31–63); it was the most sustained criticism that the fledgling analytic philosophy of Russell and Moore had received to that point, and it came from the still dominant neo-Hegelian tradition. Both Russell and Moore replied to it – Russell three times (Russell RJ, NT, ONT; Moore 1907). Joachim had sent Russell copies of the first two chapters of his book ahead of publication, and on 1 February 1905 Russell sent Joachim some detailed comments on his draft.⁸ A good deal of the debate between Russell and Joachim, both in the private notes Russell sent and in print, concerned the nature of relations, a point on which they had considerable difficulty understanding each other. Joachim maintained that all relations were internal; Russell that they were all external. In his most extended reply to Joachim, Russell argued that the doctrine that all relations were internal both implied and was implied by Joachim's version of the coherence theory of truth (ONT).⁹

But what did it mean to say that a relation was internal? One formulation that Joachim gave was that in order for a relation R to relate a and b it had to enter into their 'natures' and that a and b must form 'a whole such that the determinate natures of its constituents reciprocally involve one another' (Joachim 1906: 42).¹⁰ Russell paraphrased this, not unfairly, as the view that relations are grounded in the natures of their terms, a doctrine that he called the 'axiom of internal relations' (ONT, p. 37). Unfortunately, this does not make the matter as transparent as one might wish, and it raises unanswered questions about the 'nature' of a thing. Is it the same as the thing itself or is it something else? In print, Russell said derisively that the nature of a term seemed to be 'the ghost of the scholastic essence' (NT, p. 530). But in his private notes to Joachim he tried to get clear about it, though he noted it was 'a phrase which I should not use myself except in following an opponent'. He went on to suggest two possible meanings: it could mean 'all the prop[osition]s that are true of the thing' or it could

mean 'the adequate analysis of the thing'. A definition, he explained, should give an adequate analysis, but would not give all the propositions that are true of the thing defined. 'Hegelians,' he went on, 'consider ... that these two notions are indistinguishable. *They* give no reason for this view; but it follows from the principle that every proposition consists in the attribution of a predicate to a subject. I deny this principle, and maintain my distinction' (Connelly and Rabin 1996: 137).

The remark about the Hegelians is very surprising. But it tells us, I think, more about Russell's notion of analysis at this time than anything else he said about it. What it tells us, however, is so surprising that one wonders at first whether we are correct in taking the remark seriously. It should be assumed, to begin with, that Russell is here talking only about atomic propositions. That is the only assumption under which what he says makes sense and Russell might well have assumed that this restriction was sufficiently indicated by his talking about propositions 'which are true of the thing'. In any case, both he and Joachim knew well that Hegelians like Bradley did not treat propositions involving logical connectives (including quantifiers) as straightforwardly attributing a predicate to a subject. There was a sense, which Russell on numerous occasions emphasized,¹¹ in which Bradley held that all propositions, even molecular ones, attributed a property to a subject, where the subject was the Absolute itself and the property predicated was the whole proposition. But it was obviously not this sense that Russell had in mind here, where the natures of quite ordinary things were in question. Here Russell is obviously talking about propositions which are subject-predicate in a quite straightforward way: the subject is the ordinary object whose nature is in question and the predicate ascribes some property to it. The relevant contrast to these subject-predicate propositions that he has in mind are not molecular propositions but relational propositions.

With this restriction henceforth assumed, let us consider Russell's claim that it follows from the principle that every proposition attributes a predicate to a subject that there is no difference between the set of propositions true of a thing and the set of propositions required for an adequate analysis of it. Under what conditions would this inference hold? It would hold *only* if it is assumed that *all* the properties of a thing (but not its relations) are to be included in an adequate analysis of the thing. The argument is by transitivity of identity. Let A be the set of propositions which give an adequate analysis of a thing; let P be the set of true propositions attributing properties to it; and let T be the set of true propositions about it. If, as Hegelians suppose, every proposition attributes a property to a thing, then $T = P$. From this, Russell can show that $T = A$, only if he assumes $P = A$.

This is a very surprising result. Obviously it involves a sharp and important distinction between a term's relations and its properties, i.e. its intrinsic properties, those properties which make no reference to any other term (what Russell, following Bradley, often referred to as its adjectives). That a

term's relations should not in general be part of its analysis, at least when analysis is taken to be decompositional analysis, is straightforward enough: each term is related to every other term and thus its relations bring in terms which evidently have nothing to do with its analysis. (Russell is not, of course, saying that *none* of a thing's relations are to be included in its analysis; on the decompositional model, its relations to its parts obviously are.) What surprises is that Russell thought *all* a thing's properties are part of its analysis. Maybe the surprise is merely the result of not thinking too clearly about the issue. After all, we expect Russell to endorse a major metaphysical distinction between properties and relations and we expect him *not* to endorse a distinction anything like the distinction between essential properties and accidental ones. Quite how these two expectations were to be met, without treating all a thing's properties as part of its analysis, had never I think been clearly considered. But Russell's early notion of analysis was left in sufficient obscurity that we could hope it would provide the necessary slack. Russell's remark to Joachim eliminates the slack.

3 Analysis and analyticity

Nonetheless, the claim that all a thing's properties are part of its analysis is more than surprising: it seems to be obviously false. For it follows from it that all propositions which attribute a property to a thing are analytic. One might claim that this follows immediately, for what does analysis reveal if not analytic truths? Though I think this is ultimately correct, an argument from pure etymology is hardly convincing. To be sure of the conclusion we need to consider how analytic truths were defined. There were two traditional definitions: one is that an analytic truth follows from the law of non-contradiction alone. Russell rejected this on the ground that no proposition (except the proposition that some proposition is true) can follow from the law of non-contradiction alone (*POL*, p. 22). The second definition, and the one relevant here, is that an analytic proposition is one in which the predicate is contained in the subject. (It follows, obviously, from this definition that *no* relational proposition is analytic.) Given Russell's decompositional style of analysis, it follows that if analysis reveals that something has a particular property then that property must be part of that thing. Accordingly, by the second definition of 'analytic', a proposition ascribing that property to that thing must be an analytic proposition. If *all* a thing's properties are part of its analysis, then *all* of them are parts of the thing, and *all* the propositions ascribing them to the thing are analytic.

But this is surely absurd. 'The traffic light is red' is not an analytic truth – though waiting in Toronto traffic it might seem so. Moreover, Russell is clearly aware of the absurdity, though he makes no mention of it in his notes to Joachim. He recognizes it, for example, as a consequence of Leibniz's account of subject-predicate propositions, of which he writes:

In any [subject-predicate] proposition, unless existence be the predicate in question, the predicate is somehow contained in the subject. The subject is defined by its predicates, and would be a different subject if these were different. Thus every true judgment of subject and predicate is analytic – i.e. the predicate forms part of the notion of the subject – unless actual existence is asserted.

(*POL*, p. 9)¹²

He remarks, a few pages later, on the ‘obvious untenability’ of this position (*POL*, p. 16) and, a few pages after that, explains what he thinks is wrong with it:

What I wish to show is, that Leibniz’s theory of definition, as consisting of analysis into indefinable simple ideas, is inconsistent with the doctrine that the ‘primary principles’ are identical or analytic; and that the former is correct, while the latter is erroneous.

(*POL*, p. 19)

His argument for this is that a proposition can only be analytic when one of its terms (the subject) is complex (since only then can the other term, the predicate, be contained within it), and thus all relations holding between the simple terms which result from (complete) analysis must be synthetic (*POL*, p. 20).

He had made the same point earlier in a discussion of predication:¹³

The peculiarity of the relation of predication, which makes it scarcely a relation, is that the second concept does not occur as term, but only as meaning. In relations of other kinds, both concepts occur as terms, and only the relation occurs as meaning. This seems to be one of the grounds for regarding such propositions as analytic, since it might seem as if the second concept gave part of the meaning of the first. This however is obviously false: for number and 1 [as in the judgment ‘1 is a number’] are both simple.

(*FIAM*, p. 276)

So *not all* subject-predicate propositions can be analytic. But this hardly makes things better – indeed, it makes them considerably worse. For the traffic light is certainly complex and, if all its properties are constituents of it, then that it is red remains an analytic truth. That 1 is a number, by contrast, would seem a very plausible candidate for an analytic truth. Yet Russell argues that it cannot be one because 1, in these pre-logicist days, is a simple term and thus cannot contain the property of being a number, nor indeed any property.

Russell’s treatment of Leibniz’s position is different. He distinguishes (*POL*, p. 18) two types of subject-predicate proposition, those which involve a relation of genus and species (e.g. ‘red is a colour’) and those which

involve a relation of species to individual (e.g. 'Socrates is mortal'). He goes on to note that, for Leibniz at any rate, all propositions in the second group are contingent, since they assert the existence of the subject and all assertions of existence are contingent; while all analytic propositions are of the first type. This may help Leibniz, but it seems, at first sight, to do little good for Russell, since there is no evident basis for the distinction in Russell's own philosophy where species and individuals are both terms. Nor is Russell in a position to accord existence the special status it has in Leibniz's philosophy – he says Leibniz comes close to denying that existence is a predicate at all (*POL*, p. 27). For Russell existence is a predicate like any other – some terms have it, some don't (*POM*, p. 449).

At this point it might seem as if Russell's remark to Joachim was simply a mistake. It is after all an isolated remark and therefore easy for tidy commentators to dismiss. However, if we ignore it and decide that Russell did not hold that all a term's properties were part of its analysis, we still have to face the question: If not all of its properties, then which? Russell's complete silence on this point becomes even more puzzling than his remark to Joachim. Given his antipathy to any type of essence/accident distinction, just how did he expect to draw the line and where did he think it could be drawn? At this point one might adopt the attitude of idle condescension that dominated commentary on Russell for most of the last century and conclude that he was muddled. Yet Russell is rarely as muddled as his commentators suppose, and in this case, at any rate, a defeatist attitude is both unwise and, in fact, unnecessary.

It is possible to preserve Russell's decompositional view of analysis and the implication of his remark to Joachim that all true subject-predicate propositions about a term are part of the term's analysis and yet retain the view that most true propositions about the term are synthetic. The obvious solution is that most of the true propositions about a term – far more of them, at any rate, than one might expect – are not of subject-predicate form. Most of them, in fact, are relational. We even get clues to this solution from Leibniz, despite the fact that Russell famously lambastes Leibniz for holding that all propositions are subject-predicate in form. Contrasting those propositions in which predication relates species and genus and those in which it relates individuals and species, Leibniz writes:

The notion of a species involves only eternal or necessary truths, but the notion of an individual involves, *sub ratione possibilitatis*, what is of fact, or related to the existence of things and to time.

(Leibniz 1875: vol. 2, p. 39; quoted *POL*, p. 26)

Adapting this idea to Russell's system, we can say that 'The traffic light is red' is not a subject-predicate proposition, but asserts a relation between the traffic light, redness and certain moments of time. The same will be true of the vast majority of other apparently subject-predicate propositions. An

analysis of the proposition that the traffic light is red will involve the identification of all these relata and of the relation(s) that they have to one another. These will be parts of the complex term which is the proposition, but they are obviously not properties of the proposition. An analysis of the traffic light, on the other hand, will reveal (perhaps) certain properties and (certainly) various other terms in relations to one another, but redness will not be among the properties. Redness is a term (a concept) to which the traffic light is related in a certain way, but is not among the terms which make up the traffic light, as it is among the terms which make up the proposition that the traffic light is red.

Though this solves the problem of synthetic propositions, it does nothing to help with the problem of simple terms. Simple terms by definition have no parts and are incapable of analysis. But how then can they have properties? If we consider the most obvious cases of simple terms in Russell's Absolute Realist ontology – points of space, instants of time and simple universals – it is clear enough that they have very few properties. Points and instants are distinguishable only by their relations; whatever properties they have, they all share. It was this fact that Russell, while he was under the sway of neo-Hegelianism, thought gave rise to antinomies in geometry, and which eventually caused him to give up his neo-Hegelian theory of relations in order to eliminate the antinomies (see Griffin 1991). And simple universals, such as redness, *are* properties. Nonetheless, terms of all three types must surely have some properties: if only the properties of being a point, an instant or a universal. In addition, points have the property of being spatial, instants of being temporal, and all three have the property of being a term. What is objectionable here is not that Russell's account of predication would render analytic any proposition ascribing these properties to their respective terms – the propositions in question all have good claim to be regarded as analytic. The problem is that Russell's decompositional style of analysis seems to leave no scope for simple terms to have properties at all. The properties cannot be part of the terms which have them, for then the terms would not be simple. I am not at all sure how Russell dealt with this problem. The broad options are these:

- (1) There are no simple terms. Analysis may be continued indefinitely, but never breaks below a minimum complexity of terms which 'analytically contain' whatever predicate(s) attend all terms. Though Russell does not endorse this option he explicitly does not exclude it (*POM*, p. 145).
- (2) There are simple terms, but they have no properties. The most elementary complexes are all of them relational; simple terms have relations to other terms (simple and complex) including relations to terms that are properties. Thus points, for example, do not have the property of being points, though they have a certain special relation to *pointhood*, and simple terms have a relation to *termhood*. This is odd, but it is not obviously incoherent.

- (3) There are simple terms, and they have properties, but in such a way that their simplicity is not compromised. There are two options here: it may be that simple terms have a different sort of property to complex terms, or it may be that they have their properties in a different sort of way to complex terms. What is crucial, on either option, is that the properties of simple terms cannot be constituents of the term.

The choice between these options is not obvious and won't be pursued further here.

4 The status of relational propositions

Let me end with some regrettably speculative reflections on the distinction between properties and relations as Russell drew it from 1899 to 1903, and in particular on the status of relational propositions. It is obvious that relational propositions cannot be analytic according to the second traditional definition of 'analytic', because 'analytic' in that sense is defined only for subject-predicate propositions. But this is, as it were, to exclude them on a technicality. As Russell ceaselessly complains, previous philosophers had thought all atomic propositions were of subject-predicate form; not surprisingly they tailored their definition of 'analytic' to fit the propositional forms they admitted. Once new forms of proposition are admitted, the question of the definition of 'analytic' needs to be reconsidered. In particular, it needs to be asked whether the concept of analyticity is so specifically tied to the notion of a subject-predicate proposition that all other types of proposition are necessarily excluded; or whether the notion deserves to be extended to apply to propositions of other sorts, in particular to relational propositions. The second approach is surely a reasonable one, for the usual properties associated with analytic propositions – certainty, necessity, apriority, etc. – are certainly features which, in principle, some relational propositions might have. Defining 'analytic' in terms of the relation of subject to predicate results surely from the accidental fact that other sorts of propositions were not recognized.

There are, moreover, ways in which the definition could be quite naturally extended to include relational propositions. We have already noted in passing that while Russellian decompositional analysis will reveal all a term's properties it will also reveal some of its relations – for example, it will reveal the relations of the term to its parts. It will also reveal the relations of the parts among themselves. We could preserve the connection, exploited by the traditional definition of 'analytic', between analyticity and the inclusion of parts in wholes, and yet extend the definition to include these relational propositions. The definition would be along the lines that an analytic proposition was one the truth of which was revealed by decompositional analysis. Such an approach would have been available to Russell as soon as he started to employ decompositional analysis.

There is little evidence, however, that when Russell simultaneously embraced analysis and external relations in 1898, he had any interest in identifying any relational propositions as analytic. He seems, for a while at any rate, to have regarded all relational propositions as synthetic. Obviously they are not according to the second traditional definition that we have just tried to extend, but neither did he think that any of them could be established as analytic because they followed from the law of non-contradiction. In 1899, for example, he says ‘it can never be self-contradictory to deny a relation’ (FIAM, p. 279). It would seem then that, at least during his first years as an analytic philosopher, he held that subject-predicate propositions were all analytic (though there were far fewer of them than might be expected) while all relational propositions were synthetic. Apart from its pleasing simplicity, this idea brings together two long-standing themes from nineteenth-century philosophy. The first, which we have already discussed, is the idea that predicates are contained in the subject, where they may be discovered by analysis. The second is the view that relations are responsible for the discursive nature of thought; that is, that in thought things are brought together (i.e. synthesized) by means of relations. The first closely links the analytic to analysis, and the second links the synthetic to synthesis. It is surprising how much of these traditional lines of thought Russell initially kept. What was new with him was his realism: relations were no longer the work of the mind, as so many previous philosophers had supposed.

Russell’s contention that it is never self-contradictory to deny a relation faces obvious counter-examples: ‘ $A = A$ ’, for example. Bradley had treated such propositions as tautologies which say nothing and are thus not propositions at all (Bradley 1883: vol. i, p. 141) and Russell, through 1899 at any rate, seems to have agreed with him (*POL*, p. 17). But Russell in 1899 had other reasons for rejecting this example: he believed that nothing could be related to itself (FIAM, p. 278; *COR*, p. 142). Obviously Russell could not long persist in the view that nothing could be related to itself. Once it was rejected, the way was open to admit some relational propositions as analytic. Nonetheless, Russell seems to have continued to hold, at least until his remark to Joachim in 1905, that relational propositions in general were synthetic. This casts a new light on why, at least during his early logicist stage, he regarded mathematics and logic as synthetic (cf. *POM/D*, p. 22; *POL*, p. 16; *POM*, p. 457). The usual explanation of this has been that he saw the propositions of logic and mathematics as truths about the most general features of the world. This remains true, but offers no substantive account of why such truths may not be regarded as analytic. After all, the law of self-identity is surely a truth about one of the most general features of the world, but remains a good candidate for an analytic proposition. The remark to Joachim offers a much better explanation. As is well known, Russell thought that relations were absolutely central to all branches of mathematics – it was this discovery and the failure of neo-Hegelianism to provide a usable account of relations that led him to abandon neo-Hegelianism.

If all parts of mathematics depended upon relations and if almost all relational propositions were synthetic then obviously mathematics itself will be synthetic.

Among several surprises in our account of Russell's very earliest conception of analysis, one is how comparatively slowly Russell came to the modern notion of relation and how much he continued to take from Bradley and the neo-Hegelians even after he had rejected their philosophy. True, his actual break with neo-Hegelianism seems to have been in the nature of a sudden gestalt shift in his view of relations (Griffin 1991: 364), but though this shift was fundamental and crucial it left a number of neo-Hegelian views still in place. Their elimination was a much slower evolution. In an interview in his old age, Russell said of his politics that he hadn't wanted to be a revolutionary but had found himself pushed by events and against his desire into increasingly revolutionary positions. The same might well be true of his philosophy.

Notes

- 1 The fact that this book was never written needs to be borne in mind in considering Gödel's well-known complaint about the lack of formal precision in the foundations of *Principia*, 'a considerable step backwards as compared with Frege' (Gödel 1944: 120). Russell here was being criticized for failing in a task he had not seriously attempted. In *The Principles of Mathematics* Russell noted explicitly that a complete treatment of the philosophical difficulties involved in the analysis of the fundamental logical concepts used in his analysis of mathematics 'would involve a treatise on Logic, which will not be found in the following pages' (*POM*, p. 4). Following the 'regressive method', Russell always worked backwards to the foundations: he never did get quite to the beginning. This, of course, is not to prejudge whether adequately precise foundations could have been found, which remains, I think, an open question.
- 2 The doctrine of Absolute Realism is most fully developed in *POM* (see especially, pp. 42–56, 137–42, 449–50, 466–7), though elements of it occur in unpublished papers from 1898 on (now available in *CPBR2*). Details of the theory changed throughout the period; more frustratingly, Russell's terminology changed continuously from work to work, whether or not there was a motivating change in the theory. The theory of denoting concepts seems to have been a late addition; my interpretation of it is not shared by everyone, but is defended in Griffin 1996. For commentary see Hylton 1990: chs 4 and 5. Russell wavers on whether predication is a relation between two terms occurring as terms, or the result of certain terms occurring as concepts (cf. *FIAM*, p. 299; *POM*, p. 49). Moore's early writings contain sketchier accounts of a similar position (expressed in somewhat different terminology): cf. Moore 1903 and 1986, especially papers 3, 4, 6. For commentary see Baldwin 1990: ch. 2.
- 3 In replying to an imagined Bradleian objection to analysis along the lines that analysis could never be real but only conceptual, in the sense that parts were isolated from the whole only in the mind of the analyst, Russell wrote: 'There is only one kind of complexity, which is conceptual in the sense that it is due to a whole capable of logical analysis, but is real in the sense that it has no dependence upon the mind, but only upon the nature of the object' (*POM/D*, p. 161).
- 4 Cf. also, *POM/D*, pp. 36, 30; *ONF*, p. 265.

- 5 As Moore did in *Principia Ethica* (Moore 1903: 58–60), Russell here identifies analysis with definition. But as he makes clear elsewhere (e.g. AOG, p. 410; POM/DPI, p. 203; *POM*, p. 27), Russell distinguished what he called ‘philosophical definition’ (or analysis) from ‘mathematical definition’. Mathematical definition ‘consists in pointing out a fixed relation to a fixed term, of which one term only is capable: this term is then defined by means of the fixed relation and the fixed term’ (*POM*, p. 27). Simple terms (e.g. points) may be mathematically defined, but not analysed.
- 6 The method did not originate with Johnson either. It can be found in Locke’s *Essay*, II, xxii, 9 and in Hobbes’s *De Corpore*, I, vi (*English Works*, vol. i, pp. 66–7). It goes back to the Renaissance method of resolution which was transmitted to Hobbes via Galileo and Harvey (for whom it meant physical dissection). See Randall 1961: ch. 1. The key early influence for Russell, however, was Leibniz; in particular, his *praedicatum inest subjecto* doctrine found, for example, in his letter to Arnauld 14 July 1686 (Leibniz 1956: i, p. 517). (See Beaney 2003: §4, Supplement 4; Broad 1949.) Russell presents a different statement of the same doctrine as the first of his ‘leading passages’ in the appendix to his book on Leibniz (*POL*, p. 205).
- 7 Not surprisingly, Bradley fell upon it as the fatal flaw in Russell’s philosophy. Cf. Bradley 1914: 288–309. On the problem of the unity of the proposition, as it evolved throughout Russell’s career, see Stevens 2005. I have discussed its earlier forms in Griffin 1993. See also Candlish 1996.
- 8 The notes are published in Connelly and Rabin 1996. The original, along with Russell’s surviving letters to Joachim, is in the Bodleian Library MS ENG C20.26 Fols. 43–101 (copies in the Russell Archives).
- 9 I have discussed the exchange in Griffin (forthcoming). Here only one small point is of concern.
- 10 One consequence that Joachim explicitly draws from this is that relations cannot hold between simple terms because they had no complex natures in which the relation could be grounded (Joachim 1906: 11–12, 43). Cf. also Bradley 1883: vol. i, p. 289n.
- 11 See e.g. AMR, p. 168; COR, p. 142; *POL*, p. 50n; *OKEW*, p. 48; *OOP*, p. 262.
- 12 Cf. also: ‘An analytic judgment is one in which the predicate is contained in the subject. The subject is supposed defined by a number of predicates, one or more of which are singled out for predication in an analytic judgment’ (*POL*, p. 17).
- 13 Russell uses slightly different terminology here: he uses ‘concept’ (following Moore’s Fellowship dissertation) for what in *POM* he called ‘terms’; and speaks of concepts occurring as terms or as meanings, instead of terms occurring as subjects or as concepts.

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5 ‘On Denoting’ and the idea of a logically perfect language

Peter Hylton

We can get a good sense of the idea of a logically perfect language, as I am interested in it here, by looking at a passage from the second of Russell’s ‘Lectures on the Philosophy of Logical Atomism’:

In a logically perfect language the words in a proposition would correspond one by one with the components of the corresponding fact, with the exception of such words as ‘or’, ‘not’, ‘if’, ‘then’, which have a different function. In a logically perfect language, there will be one word and no more for every simple object, and everything that is not simple will be expressed by a combination of words, by a combination derived, of course, from the words for the simple things that enter in, one word for each simple component. A language of that sort will be completely analytic, and will show at a glance the logical structure of the facts asserted or denied. The language that is set forth in *Principia Mathematica* is intended to be a language of that sort . . . It aims at being that sort of language that, if you add a vocabulary, would be a logically perfect language. Actual languages are not logically perfect in this sense, and they cannot possibly be, if they are to serve the purposes of daily life. A logically perfect language, if it could be constructed, would not only be intolerably prolix, but, as regards its vocabulary, would be very largely private to one speaker.

(CP8, p. 176)

Two terminological notes are in order right away. The first is straightforward: when Russell speaks of his logically perfect language as ‘completely analytic’ he is not saying that its sentences will be analytically true (or false) rather than synthetic. He is saying, rather, that its sentences will be fully analysed. The second is more complex, and concerns Russell’s use of the word ‘proposition’. Before 1907 he used this word to refer to (supposed) non-linguistic non-mental entities. After 1909 he no longer believes that there are any such entities. (Exactly when the change took place is not entirely clear.) In the later period he often says that he is using the word simply to mean ‘a sentence in the indicative’ (CP8, p. 165). On this account,

propositions are linguistic items. But in practice his usage often conflicts with this. Thus, for example, he speaks of the constituents of propositions not meaning the words (and punctuation marks, and spaces) that make up a sentence but rather meaning the things that the proposition is about: ‘constituents of propositions, of course, are the same as the constituents of the corresponding facts’ (CP8, p. 217). And he also denies his old (pre-1907) view by saying ‘obviously propositions are nothing’ (CP8, p. 196) but he is not here saying that *sentences* are nothing. (Although, in a certain sense, this is also a thing that he accepts.) Most of his uses of the word at this period in fact refer to sentences, but to sentences in the logically perfect language, not to ordinary sentences. Often he does not make it explicit that he is talking about sentences in the logically perfect language, and sometimes superficially confusing remarks result. (Thus he says that ‘the author of *Waverley*’ is ‘not a constituent of’ the proposition ‘Scott is the author of *Waverley*’; CP8, p. 217. But of course the phrase *is* a constituent of the sentence; his point here is that when that sentence is analysed it will not contain that phrase, or anything like it.) In the passage quoted above, however, he says explicitly that he is talking about a logically perfect language, so his use of the word ‘proposition’ there is consistent with his official story, that the word simply refers to linguistic entities – although, it must be said, linguistic entities in a language that does not exist.

With these terminological points out of the way, let us consider the passage. One feature which it makes salient is that a logically perfect language, in Russell’s conception, has metaphysical implications. It is a language whose structure reflects the structure of the world. Linguistic distinctions and categories in the logically perfect language are also distinctions and categories of reality, ontological categories. You can read the structure of the world off the structure of the logically perfect language. (This holds at least of those aspects of reality about which it is possible for us to talk or think.¹)

Another feature which is clear from this passage is that the logically perfect language will be quite different from the ordinary language which serves ‘the purposes of daily life’. (For Russell the difference would be dramatic: the logically perfect language would be one in which communication from one speaker to another would be impossible except, as we shall see, about logic; lecturing amidst the madness of the First World War he calls this ‘a not wholly undesirable result’; CP8, p. 174.) Going along with the sharp difference between ordinary language and the logically perfect language is a certain idea of philosophical analysis: since ordinary language is *not* logically perfect, the philosopher who wishes to uncover the true logical form of what is asserted will have to analyse the sentence that is ordinarily uttered, and is likely to come up with something very different. This gives philosophical analysis a goal – to transform sentences of our ordinary language into sentences in the logically perfect language, presumably equivalent to those we began with. It also gives analysis a purpose – to reveal to us the nature of reality, at least insofar as our sentences are about that reality.

A further point, which does not emerge explicitly in the passage quoted, is that the fully analysed sentence corresponds to the thought which is expressed by the ordinary, unanalysed sentence. In *Problems of Philosophy*, speaking of definite descriptions, Russell says: ‘the thought in the mind of a person using a proper name correctly can generally only be expressed explicitly if we replace the name by a description’ (1912: 54). (This part of *Problems* overlaps word-for-word with ‘Knowledge By Acquaintance and Knowledge By Description’; in that essay, the passage occurs at CP6, p. 152.) So the fully analysed sentence has a structural correspondence with something which is psychologically real. In other places he is not so explicit, but I think his underlying view must be the same. Russell is committed to the view that the fully analysed sentence has the same structure as the thought which is expressed both by that sentence and by its unanalysed version. His account of the logically perfect language is also an account of what makes language quite generally function as it does. In particular, as we shall see, it is an account of what makes it possible for language to be about the world. Since our thoughts are (sometimes) about the world, presumably they share the relevant features of the logically perfect language. Indeed, this way of putting the matter gets it backwards, for Russell’s account is one that gives priority to thought over language. Our thoughts, or some of them, are about the world. Our ordinary sentences imperfectly express our thoughts. The complete analysis of a sentence, if could be carried out, would yield a sentence whose structure corresponds to that of the thought which the original sentence imperfectly expresses; or at least the fully analysed sentence would explicitly express those features of the thought which are essential to its representing whatever it represents. Since the fully analysed form of a sentence is by no means evident to us, it follows that the real form of our thought is not transparent to us.

The idea of a logically perfect language, and related ideas, have, I think, been extremely influential in analytic philosophy of the last hundred years. I don’t mean by this that many philosophers have explicitly articulated and advocated such ideas. Some have certainly done so. But many more, I think, have advocated ideas or procedures which are most obviously justified by reference to something like the idea of a logically perfect language. In particular, I think that that idea underlies some – though certainly not all – of the emphasis that has been given to language and to philosophical analysis in analytic philosophy in the last century. I also think that many philosophers have held positions which are best understood as being opposed to those ideas. My concern here, however, is with the relation of ‘On Denoting’ to the idea of a logically perfect language so for the most part I shall not discuss other philosophers. I will focus on the idea of a logically perfect language in Russell’s thought, and with the role of ‘On Denoting’ in the development of that idea. At the end of this paper, however, I will say something very brief about two philosophers who are perhaps Russell’s greatest successors in the tradition of ‘scientific philosophy’: Carnap and Quine.

1 The role of the principle of acquaintance

It is worth noting that Russell, before ‘On Denoting’, seems inclined to think of ordinary language as having something like the first of the two features that I distinguished above. He seems to think that ordinary language has metaphysical implications – in particular, that we can, more or less, read the structure of the world off the structure of our ordinary language. It is not hard to see why this idea would have appealed to Russell in the years immediately after his rejection of Idealism. The extreme realism which he advocated in the first flush of his anti-Idealist enthusiasm attributed being to ‘[n]umbers, the Homeric gods, relations, chimeras’ (*Principles of Mathematics*, p. 449, section 427) among other things. In short, he came close to the view that every expression of ordinary language that functions as a noun names some object. More generally, he held that ordinary language is, to a considerable extent, a guide to reality. Thus in *The Principles of Mathematics* he says:

The study of grammar ... is capable of throwing far more light on philosophical questions than is commonly supposed by philosophers. Although a grammatical difference cannot be uncritically assumed to correspond to a genuine philosophical difference, yet the one is *prima facie* evidence of the other.

(1903: 42, section 46)

Such a view is, however, not easy to maintain. For one thing, ordinary language is so rich that a metaphysics which is based upon it is liable to come to seem implausibly extravagant. For another, almost any systematic view is going to want to make some departures from ordinary language before taking it as a guide to reality; Russell accepts this even in *Principles of Mathematics*. But then the question arises as to what departures we should accept, and why: if ordinary language is not an *unquestioned* guide to reality then we need some underlying principle which justifies our sticking to it when we do and departing from it when we do *that*. Even apart from philosophically motivated departures from ordinary language, many minor variations on it are readily conceivable: what could justify us in taking the language that we happen to speak as the guide to reality, rather than some variation which we might well have come to use instead?

The point here is that if we are to take a language – any language – as having metaphysical implications then we need an account of what constraints there are on the language. How do you know that you’ve got the *right* language? We cannot say, as Carnap did in his so-called ‘Principle of Tolerance’, that the choice of language is a matter of convention about which there is no right and wrong. Since the language is supposed to have metaphysical implications, the idea of getting it right must make sense here; but to what principle can we appeal to tell us which language is the right

one? In the pre-‘On Denoting’ period Russell seems to have no general guiding principle here. (This is one reason that, in spite of the point made in the previous paragraph, it would be very odd to speak of him, in that period, as taking ordinary language to be a logically perfect language.) In the period after ‘On Denoting’, however, he does have such a guiding principle. This principle, the constraint on what counts as the correct language, is epistemological.

The obvious place to look for an articulation of an epistemological constraint on the logically perfect language is the penultimate paragraph of ‘On Denoting’, where Russell sets out what I shall call ‘The Principle of Acquaintance’:

in every proposition that we can apprehend (i.e. not only in those whose truth or falsehood we can judge of, but in all that we can think about), all the constituents are really entities with which we have immediate acquaintance.

(CP4, p. 427)

A strikingly similar sentence occurs both in *Problems of Philosophy* (p. 58) and in ‘Knowledge by Acquaintance and Knowledge by Description’ (CP6, p. 154): ‘*Every proposition which we can understand must be composed wholly of constituents with which we are acquainted.*’ (The italics are in both originals.) In those places it is said to be ‘the fundamental principle in the analysis of propositions’ or, in ‘Knowledge by Acquaintance and Knowledge by Description’, ‘the fundamental epistemological principle in the analysis of propositions’.

The Principle of Acquaintance certainly plays a crucial role in providing the epistemological constraint for Russell’s logically perfect language. But it does not do so in isolation. A sign of this is that the principle, although clearly articulated in ‘On Denoting’ is not, I think, new to him at that point. That is to say, he would also have accepted the principle in the pre-‘On Denoting’ period, between 1900 and his development of the idea behind ‘On Denoting’ in the early summer of 1905. But in the earlier period the principle has no very evident effect on Russell’s general views about the structure of thought and language. The reason for this is to be found in two other features of Russell’s thought in the pre-‘On Denoting’ period, neither of which is present in his work after ‘On Denoting’.

First, during the pre-‘On Denoting’ period, or at least until near the end of that period, Russell does not use the idea of acquaintance to impose any real constraints. If, for whatever reasons, it was convenient for him to suppose that we are acquainted with a certain entity, then he simply accepted that we are. Thus, as we have seen, in *The Principles of Mathematics* and works written shortly after, he seems to countenance acquaintance with chimeras, the Homeric gods and, it sometimes seems, anything he can give a name to.

The second relevant feature of Russell's pre-'On Denoting' thought is somewhat more complicated but also, I think, more important. Russell during this period develops the theory of denoting concepts. According to that theory, a proposition which contains a denoting concept is, in virtue of that fact, about another object (or about other objects). As Russell puts it in *The Principles of Mathematics*: 'A concept *denotes* when, if it occurs in a proposition, the proposition is not *about* the concept, but about a term connected in a certain peculiar way with the concept' (1903: 52, section 56). This 'peculiar way' is, of course, simply that the concept denotes the term. That there are concepts and terms related in this way is fundamental; no explanation is possible of how it comes about.

The first of these two features of Russell's pre-'On Denoting' work is the one that has attracted most attention. His belief in the being of Homeric gods and non-existent kings of France, and so on, seems outrageous enough to demand notice, and his own accounts of the change effected in his thought by 'On Denoting' often emphasize the idea that it enabled him to give up this belief. As is now fairly widely known, however, this view of the matter is misleading. To put the matter schematically: the second of the two features of Russell's pre-'On Denoting' thought which I have emphasized makes the first feature largely or wholly redundant. Given the theory of denoting concepts, we do not need to explain the possibility of saying that the King of France is bald by claiming that we are expressing a proposition which contains that non-existent monarch, and that we must therefore be acquainted with him. We can, instead, say with far greater plausibility, that the proposition that we express contains the denoting concept, *the present King of France*, and that, as it happens, this denoting concept does not denote anything. This tactic can be repeated not only in those cases where we have a sentence containing a singular term which fails to refer but also in those cases where we have a sentence containing a singular term which *does* refer, but refers to an object with which we cannot plausibly claim to be acquainted. This possibility is open to Russell from the time he first develops the theory of denoting concepts. Moreover, he begins to appreciate this fact, and to exploit the theory of denoting concepts in the way suggested, before he comes across the central idea of 'On Denoting'. (See, in particular, 'The Existential Import of Propositions', *CP4*, pp. 486–9; note that this work was first published in *Mind* for July 1905, and was written before Russell came upon the central idea of 'On Denoting'.)

What I have been calling the second feature of Russell's pre-'On Denoting' thought – his theory of denoting concepts – is thus fundamental. With this theory in place, the Principle of Acquaintance imposes no significant constraints upon an account of thought, except that Russell must accept that we are acquainted with indefinitely many denoting concepts. Provided we accept that, limits on what other objects we are acquainted with will have little or no effect on what our propositions may be about. For our propositions do not need to contain the objects that they are about: they

may, rather, contain denoting concepts which denote those objects. Quite generally, the theory allows a proposition to be about an object not by containing that object but by containing an element – the denoting concept – which *represents* that object. Hence, given the theory of denoting concepts, limits on what we are acquainted with do not correspond to limits on what our propositions can be about.

The theory of denoting concepts is, of course, what Russell argues against, and abandons, in ‘On Denoting’. He abandons, we might say, the idea that there is a *representational* element in the propositions that we express. A proposition does not get to be about its subject by containing something else – a denoting concept – which stands to that subject in the unexplained relation of denoting. That idea was an anomaly in Russell’s thought even before ‘On Denoting’. His paradigmatic account of how a proposition can be about an object is that it is about the object in virtue of *containing* it; hence understanding a proposition requires acquaintance with the object it is about. Before ‘On Denoting’ this view had functioned as a paradigm for Russell, but before the summer of 1905 he thought that it could not be universally applied. The theory of denoting concepts was intended to take care of the exceptions, but at the cost of his having to accept that in some cases there is no explanation of how a proposition can be about the objects which it is about. A proposition which contains a denoting concept is about the denoted object, but Russell has no explanation of how this happens: he simply asserts that the relation of denoting has that effect.

The theory of descriptions gives Russell a way of avoiding anything like the ad hoc and unexplained relation of denoting. Having stated this, however, we must immediately qualify it. In ‘On Denoting’ Russell takes generality for granted – or, as he says, he ‘take[s] the notion of the *variable* as fundamental’ (CP4, p. 416). A proposition about all prime numbers is no longer explained by saying that it contains a denoting concept which denotes all the primes. But neither is it explained by saying that it contains all of those infinitely numerous objects. Rather, Russell says that it contains a variable ranging over all objects and says of each one that if it is a prime number then it is so-and-so. It might be said that in the one instance of the variable Russell does admit something very like the idea of denoting which he rejects in other cases – that his taking generality for granted retains a representational element in his thought after all. At times he comes close to admitting this, but still sees it as progress that we need only this one case of denoting, or something like denoting.

Given the variable, however, the theory of descriptions enables propositions to be about objects which they do not contain without there having to be any unexplained relation between constituents of the proposition and other objects. On the new account, the proposition expressed by the sentence ‘The President of the USA in 2004 was a Republican’, say, is about an object which it does not contain – George W. Bush – but not because it contains a concept which denotes him. Rather, it contains the property

served as President of the USA in 2004 which happens to be true of Bush and of no one else. But the relation between a property and the objects of which it is true is a relation which is required for other purposes; it is not ad hoc in the way in which the relation between a denoting concept and the denoted object is.

2 Analysis and the logically perfect language

The change that takes place with ‘On Denoting’ makes a great difference; in particular, it leads to quite a different view of philosophical analysis – one that fits with the idea of a logically perfect language, as I described it at the start of this paper. Consider the well-known sentence ‘Socrates is mortal.’ On the pre-‘On Denoting’ view there were two available accounts of how I could understand the first word of the sentence. First, I might be acquainted with Socrates; this is the answer that Russell favoured early in the pre-‘On Denoting’ period. Second, I might be acquainted with a denoting concept which denotes Socrates. After ‘On Denoting’, neither of these two accounts is acceptable to Russell. Even before ‘On Denoting’ he was becoming increasingly unhappy with the first kind of account, because it assumes, quite implausibly, that I can be acquainted with Socrates. And the rejection of the theory of denoting concepts in ‘On Denoting’ rules out the second kind of account. What we have instead, in ‘On Denoting’ and after, is the theory of descriptions.

Either of the two pre-‘On Denoting’ accounts leads almost immediately to a complete account of the proposition expressed by the sentence ‘Socrates is mortal’, and on either account the proposition is of subject-predicate form. In the one case Socrates himself occurs in subject-position in my proposition; in the other case a denoting concept denoting him occurs in that position. In neither case is any further analysis required; this case, at least, seems to bear out the idea that the surface structure of the sentence in ordinary language will reflect the structure of the reality corresponding to the sentence if it is true.

The account called for by ‘On Denoting’, by contrast, is quite different. On that account, the proposition about Socrates contains a variable; in particular, it says that there is one and only one object satisfying a certain condition and that it (that object) is mortal. What about the *condition* that is uniquely satisfied? Given the Principle of Acquaintance, and given that I understand the proposition, the condition must be specifiable in terms of objects and properties with which I am acquainted, or of which I have a unique description. Having such a description means, again, having a condition which is specifiable in terms of objects and properties with which I am acquainted, or of which I have a unique description – and so on. The ‘and so on’ here is (presumably, at least) not infinite: we continue the process of replacing all mention of described objects with unique descriptions until we obtain a sentence which mentions no described objects, but only

objects with which I am acquainted; this sentence will conform to the Principle of Acquaintance. This schematic example illustrates one crucial feature of philosophical analysis, in Russell's work after 'On Denoting': it will be a process which may have indefinitely many steps, and which may transform the original sentence beyond all recognition.

It remains true, after 'On Denoting', that the Principle of Acquaintance imposes constraints on analysis only given limits on what objects we are acquainted with. But Russell was disposed to accept such limits in any case. As already mentioned, even before 'On Denoting' he was beginning to exploit the theory of denoting concepts in order to avoid having to accept that we are acquainted with the Homeric gods and suchlike (alleged) entities. In 'On Denoting' itself he goes much further, for he explicitly denies that we can be acquainted with physical objects. The passage quoted above, in which he sets out the Principle of Acquaintance, continues like this:

Now such things as matter (in the sense in which matter occurs in physics) and the minds of other people are known to us only by denoting phrases, i.e. we are not acquainted with them, but we know them only as what has such and such properties . . . In such a case we know the properties of a thing without having acquaintance with the thing itself, and without, consequently, knowing any single proposition of which the thing itself is a constituent.

(CP4, p. 427)

In 'On Denoting' Russell thus decisively rejects both the theory of denoting concepts and the idea that we are acquainted with a very wide range of objects, both existent and non-existent. These were the two points which had rendered the Principle of Acquaintance largely inert in the earlier period. Now, in the post-'On Denoting' context, it is far from inert. Let us recall what kinds of objects Russell, in that period, thinks we can be acquainted with. He does not seem to have taken the idea of acquaintance as imposing any real restrictions on what abstract entities can figure in propositions that I understand. In other words, he is prepared to allow that each of us is acquainted, or potentially acquainted, with a very wide range of *abstracta*. He does, it is true, come to think that we are not acquainted with classes or with numbers, but in each case it is hard to think that the constraint is really imposed by the idea of acquaintance. In each case, his deciding that we are not acquainted with entities of the given kind follows his seeing how to reconstrue propositions which appear to be about entities of that kind as really being about other entities, presumably of a logically simpler type. The story about what things we are acquainted with seems to fall in line with a theory developed more or less independently of it.² He holds, moreover, that we can all be acquainted with the same abstract entities. (It is because of this fact that we could communicate about logic, including mathematics, even if each of us spoke a logically perfect language.)

Outside the realm of the abstract, however, acquaintance comes to impose quite stringent constraints. As early as ‘On Denoting’, as we saw, Russell denies that we are acquainted with physical objects or with the minds of other people. By the time of *Problems of Philosophy*, which was written in summer of 1911, he gives a very limited list of things other than abstract objects with which we are acquainted: first, ‘the data of the outer senses’ – sense data; second, ‘the data of what may be called the inner sense’, i.e. the contents of our own minds; third, in memory we may be acquainted with things of either of these sorts which were previously data for us; and, finally, he thinks it ‘probable but not certain’ that each of us is acquainted with his or her Self (1912: 51).

In the context of these restrictions, the Principle of Acquaintance articulated in ‘On Denoting’ imposes severe constraints on what will count as the complete analysis of a given sentence, and thus upon the logically perfect language which is the goal of analysis. A fully analysed sentence – that is, a sentence in the logically perfect language – will contain only logical constants (quantifiers, variables and truth-functions); abstract entities, such as universals; and the data of the inner and outer senses together with the memories of such data and, perhaps, the Self who understands it. Except for the abstract entities, each of these things is a *datum* to at most one person; only I am acquainted with my sense data, only you are acquainted with yours, and so on. So Russell’s idea of a logically perfect language is, in the first instance, the language of a single person; I should speak not of a sentence in *the* logically perfect language but rather of a sentence in *my* logically perfect language. Such a sentence will contain only terms referring to entities with which *I* am acquainted.

So when I make even the most mundane remark about the here and now – ‘My teacup is empty’, say – I utter a sentence the fully analysed version of which would be very complex and quite unlike the original. It would not be of subject-predicate form but would, rather, be an existential quantification. It would assert that there is a unique object which satisfies a certain condition, a condition which is specified in terms of sense data and *abstracta* with which I am acquainted – the object might be specified as *the* object which has a certain relation to certain sense data, for example; and it would assert that that object is empty (assuming that emptiness, in the sense in which it applies to teacups, is a universal with which I am acquainted). The fully analysed version of a sentence about something remote from the here and now – a claim about Russell, for example – would presumably contain memories of sense data with which I came to be acquainted in the course of reading about Russell, or attending lectures about him, or looking at pictures of him; it would assert that there is a unique object to which these various entities – my memories of my sense data – are related. But that relation is likely to be extremely complex, and to go via a number of what we might call ‘intermediate entities’, such as books by and about Russell. These intermediate entities would also be uniquely described in the fully

analysed sentence, and Russell would be identified as the unique object having a given relation to this one, and another, possibly distinct, relation to that one, and so on.

3 'The supreme maxim of scientific philosophizing'

There is a major problem for Russell lurking in the view just outlined. According to the theory of descriptions, my sentences about ordinary things express the thought that there is a unique object satisfying some condition, where the condition must, ultimately, be expressed in terms of objects with which I am acquainted. So I can talk about the teacup, or whatever, because it is *the* object having such-and-such a relation to certain objects with which I am acquainted: perhaps I identify it as the cause of certain sense data of mine. But this answer raises quite evident sceptical problems. How do I know that there is anything which is the cause of those sense data? Causality is not essential here: for any given relation, how do I know that there is anything which stands in that relation to those sense data? This is not a case of inductive uncertainty but of something more fundamental. Since *all* my knowledge of teacups is knowledge by description, I have no knowledge of them at all which does not presuppose that I know that they cause sense data, or are in some way related to objects with which I am acquainted. But then how am I to come by any knowledge of this sort? In *Problems of Philosophy* Russell claims that there are principles, which I can know *a priori*, which will provide us with answers to questions of this sort.

What is at stake here is not just my *knowledge* of teacups (and all other physical objects, and other people, and almost all the things of concern to us in daily life) but rather my ability to form thoughts which succeed in being *about* such things at all, whether those thoughts are true or false. On the account that Russell gives in *Problems*, that ability depends upon my being able to have *a priori* knowledge of quite elaborate principles which connect objects with which I am acquainted with physical objects, and other people's minds, which are not even potentially objects of acquaintance for me. The *a priori* principles are abstract; I need only be acquainted with universals in order to understand them.

This view is implicit in *The Problems of Philosophy* but not spelled out in any detail at all. And as soon as one begins to think about how it might be elaborated it is likely to seem quite implausible. Certainly Russell abandons it relatively soon after he begins to think seriously about the nature of matter, and our knowledge of it, from 1912 onwards. He comes to think that he can treat physical objects in the way that he treated numbers, and indeed classes, in *Principia*: terms which appear to refer to physical objects are to be defined, using terms for objects with which we are acquainted. (Russell is forced to admit that our definitions will also need to use other objects of the same kind with which we happen not to be acquainted: *sensibilia* as well as sense data.) There is thus no question of using what we

know about objects with which we are acquainted to *infer* the existence of physical objects, thought of as something wholly different in kind from objects of acquaintance. Rather, what passes for my thinking about physical objects is really just my thinking about my sense data, my memories of my sense data, and propositional functions which hold of such objects (and propositional functions which hold of those propositional functions, and so on). Physical objects, as Russell puts the matter, are logical constructions or, as he also says, logical fictions. This view is present full-blown in an essay which Russell dictated early in January 1914, ‘The Relation of Sense Data to Physics’ (CP8, pp. 5–26). Here Russell says that ‘the supreme maxim of scientific philosophizing’ is: ‘*Wherever possible, logical constructions are to be substituted for inferred entities*’ (p. 11; italics in the original).

The idea of physical objects (and with them physical space and time) as logical constructions out of sense data and sense data-like entities, is thus Russell’s solution to a problem which is posed by Principle of Acquaintance, in its post-‘On Denoting’ context. Given the rejection of the theory of denoting concepts, and the view that Russell expresses in ‘On Denoting’ that we are not in fact acquainted with physical objects, it becomes hard to see how we can even form thoughts about physical objects, much less how we can from time to time have knowledge about them. I understand many sentences which are apparently about physical objects, but how can I do so? The idea that such objects are logical constructions is meant to show that I am in fact acquainted with the things which those sentences are really about; this presumably is to make possible an account of how I am able to understand such sentences. The price of this is, of course, that we have to give an account of what such sentences are about which claims that they are about things quite other than what they appear to be about. My statement about the teacup is *really* about the existence of propositional functions which are true of my sense data, and propositional functions true of those propositional functions, and so on.

At this point it is clear that Russell is committed to the possibility, in principle, of an extremely far-reaching programme of philosophical analysis – understood as the process of going from the sentence as uttered to the fully analysed sentence as it would appear in a logically perfect language. It is far-reaching in two ways. First, it will affect almost every sentence that we ever utter; second, most of those sentences will undergo very drastic transformations. It is also clear that this is a possibility only *in principle*. In practice we are very unlikely to be able to come up with even a single fully analysed sentence, except for those about purely abstract matters. The logically perfect language, although implicit in our thought, is in practice quite inaccessible. (For accuracy we should speak of each person’s logically perfect language, but the point still holds.) We are not in fact going to be able to produce a full analysis of any sentence, other than those of logic and mathematics. We might, in these circumstances, think to console ourselves with the idea of *partial analysis* – the idea that even if we cannot

attain the fully analysed sentence corresponding to an ordinary sentence, still the process of philosophical analysis may get us *closer* to the fully analysed sentence, and thus to the real form of the thought expressed. But in fact this idea does not seem to make clear sense. Given how drastically an ordinary sentence would be transformed by complete analysis there is no particular reason to think that a step along the way will always or usually takes us closer to the logical form of the fully analysed sentence. A sentence about physical objects, say, when partially analysed makes a certain assertion about classes; but then at the next stage of analysis we see that every assertion about classes has to be replaced by a quantification over propositional functions. What changes from one stage of analysis to the next may be not points of detail but the logical form of the sentence as a whole. The form of the sentence at stage n in the analysis may actually be closer to the logical form of the fully analysed sentence than is the form of the sentence at stage $n+1$.

4 Carnap and Quine

There is one issue which I have rather glossed over to this point. This concerns the status of logic. Our concern is with a *logically* perfect language. It is clear from the passage which I quoted at the start of this paper that logic – the uniquely correct logic – is to be the framework for the language. (It is, indeed, the framework of each person's logically perfect language.) But what is our knowledge of logic based on? And why should we accept that there is a uniquely correct logic? Russell's views on the status of logic shift somewhat during the period we have been discussing. In *Problems* and before he seems to have thought of logic as based on our acquaintance with the relevant abstract entities, though this picture fits very poorly with some remarks he makes, especially about the status of the Axiom of Reducibility. Later he was clearly attracted to Wittgenstein's ideas about logic, perhaps without fully understanding them. (His remarks about 'or', 'not', 'if', and 'then' in the passage quoted at the start of this talk suggests the attraction; passages in *Introduction to Mathematical Philosophy* indicate both the attraction and the lack of full understanding; see especially pp. 202–5.) But Wittgenstein's ideas cannot easily be stretched far enough to yield a justification of the type theory of *Principia Mathematica*.

The issue of the status of logic is relevant to Carnap's Principle of Tolerance, to which I have already alluded. Ramsey's proposed simplification of *Principia Mathematica* indicates that more than one logic is possible;³ the existence of constructivist views drive home the point. But how is the choice of one logic, rather than another, to be justified? Logic, one might think, is required for the justification of anything. If that's right, then the choice of logic itself is not susceptible of justification. This gives us a way of understanding Carnap's view that the choice of a logic, and of a language more generally, is not one that can be correct or incorrect; it is a matter for tolerance.

Carnap is often, and with some reason, thought of as the leading exponent of the idea that the use of artificial languages will bring philosophical clarity and insight to whatever subject is under discussion. But he does not accept the idea of a logically perfect language, in the sense in which I have been discussing it. That idea requires that there is such a thing as the structure of reality, and that the logically perfect language – could we but find it – would reflect that structure. Carnap's Principle of Tolerance, by contrast, goes hand-in-hand with a rejection of attempts to talk in an absolute way about the structure of reality as senseless metaphysics. The concepts in terms of which one might make metaphysical claims – concepts such as *existence* and *reality* – are language-relative: they are relative to the choice of a logic and a language, and that choice is itself not a matter about which we can be right or wrong. On this conception there are various languages; one may be better or worse than another for this or that task but there is no one logically perfect language – indeed, the very idea makes no sense.

Quine's work owes much to that of Carnap, but on this issue they disagree. Indeed, the Principle of Tolerance might be seen as the fulcrum on which their differences in general turn. Quine rejects the idea that there is a clear distinction between acceptances of sentences within a language, which are subject to rules of justification, and acceptance of a language (or language-and-logic) which is not. For him, all such acceptances are in principle of the same very general sort: each is justified if it contributes to an overall theory which, taken as a whole, enables us to deal better with experience than any other that we have. A conception of justification as broad and as pragmatic as this can be applied to logic, as well as to anything else. All aspects of regimented theory, including the logic which is its framework, are subject to justification in the same very broad sense.

What is at stake here, for Quine as for Russell, is nothing less than the nature of reality. Quine rejects Carnap's attempt to undercut that issue. He maintains that the best available guide to reality is a physicalist theory, set in the framework of first-order logic with identity. His canonical notation, Quine says, is the language to use when 'we are limning the true and ultimate structure of reality' (Quine 1960: 221). His famous dictum 'To be is to be the value of a variable' means that we are committed to the existence of those entities which must be among the values of the variables in our best overall theory of the world, when that theory is regimented in the best way – which for Quine is first-order logic.

For Quine, as for Russell, the logically perfect language is subject to epistemological constraints. The great difference between them, of course, is that for Quine these constraints are holistic. There is no requirement that each sentence be made up of constituents which correspond to items given in experience. Instead, the only requirement is on the theory as a whole, including the logic which is its framework: the requirement is that the theory does a better job than any other, or any other that we have, of enabling us to predict and understand experience. Apart from predictive

success, the primary virtues which we seek to maximize are the simplicity, clarity and coherence of the theory as a whole. Yet the theory which Quine claims we are led to by this requirement is in technical ways strikingly similar to Russell's logically perfect language – in the use of the theory of definite descriptions for example, and in the reduction of mathematics to set theory. Quine's canonical notation is a rebirth of something like Russell's idea of a logically perfect language, although in the context of quite different epistemological views.⁴

Notes

- 1 I add this qualification because at times Russell seems to allow that there may be certain entities which, his view seems to imply, we could not think or talk about. For example, Russell defines symbols which appear to refer to classes; the truth of sentences using such symbols is thus explained without supposing that there are classes, and our ability to use those symbols, even though we have no epistemic access to classes, is explained. But he then sometimes goes on to say that classes may exist anyway, independent of our definitions. (See *Introduction to Mathematical Philosophy*, p. 184. A similar point holds for terms for physical objects, as is evident from Lecture VIII of the 'Lectures on the Philosophy of Logical Atomism'; see *CP8*, pp. 237f.) How he thinks it can even make sense for him to say this, given his other commitments, is very far from clear.
- 2 In the case of classes, Russell's rejection of the idea that we are acquainted with such things has an additional motivation: the class paradox. As early as *The Principles of Mathematics*, Russell says that he has 'failed to perceive any concept fulfilling the conditions requisite for the notion of *class*' (Preface, pp. xv–xvi; emphasis in the original). Presumably the paradox is his reason for thinking this, although he is not explicit on the point.
- 3 See Ramsey's essay, 'The Foundations of Mathematics' (Ramsey 1925).
- 4 For their comments on an earlier draft I am indebted to Michael Beaney, Gary Kemp and Andrew Lugg.

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6 Logical analysis and logical construction

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In his essay ‘Logical Atomism’, published in 1924, Bertrand Russell says that:

The business of philosophy, as I conceive it, is essentially that of logical analysis, followed by logical synthesis.

(Russell LA: 176)

Russell’s notion of ‘analysis’ was multifaceted, including various activities such as the search for first principles as well as the search for the ultimate, simple constituents of propositions and the logical forms which relate them. The process of ‘logical synthesis’ is more straightforward. The main activity of synthesis is Russell’s distinctive project of ‘logical construction’. The most well-known remark about logical construction is from *Introduction to Mathematical Philosophy*:

The method of ‘postulating’ what we want has many advantages; they are the same as the advantages of theft over honest toil. Let us leave them to others and proceed with our honest toil.

(Russell IMP: 71)

The purpose of this paper is to describe the nature of logical construction in contrast with analysis. My thesis is that logical construction began as a tool of symbolic logic in *Principia Mathematica*, which Russell then later extended to what he called the ‘problem of matter’ in *The Analysis of Matter* in 1927 and other writings. Rather than seeing the construction of matter as the central case of logical construction, and the model for a philosophical programme, a somewhat deflationary picture of construction is called for. The application of the method to the problem of matter must be seen as limited to the formalization of certain aspects of physics, rather than a full-blooded metaphysical programme. It is the application of the method of construction to matter which has led to two views of logical construction which I will criticize here.

The first of these more ambitious interpretations comes from L. Susan Stebbing and John Wisdom in the 1930s who saw in logical construction a

distinctive method of philosophical analysis. On their view, the result of a logical construction is a reductive analysis, by which one claims that certain entities are logical constructions out of other, more basic entities. ‘This table is a logical construction’ is to be reduced to a claim about sense data, and so tables are logical constructions from sense data. I will respond that Russell’s logical constructions do not provide such metaphysical reductions.

The second interpretation of logical construction is more recent, deriving from a critical notice of *The Analysis of Matter* written by William Demopoulos and Michael Friedman in 1985. According to this account logical construction is used as one step in the process of finding the minimal empirical assumptions which must be true of the world for our current mathematical physics to be true. The larger view is a structuralist account of scientific theories, rather than the reductive account of the Stebbing–Wisdom interpretation.

I will criticize both of these accounts of the role of the logical construction in Russell’s thought while giving in their stead my preferred account of the analysis of matter. As my contribution to this volume, I will try to say something about how ‘logical construction’ fits into the history of conceptions of analysis in philosophy.

1 Analysis and synthesis

In his reply to the second set of ‘Objections’ to the *Meditations*, in response to a question from Mersenne, Descartes says:

Analysis shows the true way by which the thing in question was discovered methodically ... Synthesis, by contrast, employs a directly opposite method ... It demonstrates the conclusion clearly and employs a long series of definitions, postulates, axioms, theorems, and problems, so that if anyone denies one of the conclusions it can be shown at once that it is contained in what has gone before.

(Descartes 1984: vol. II, 110–11)

Russell’s method of ‘logical construction’ is very much in the geometric tradition that Descartes describes as ‘synthesis’. When presented axiomatically, synthetic proofs are presented within a system which leads from first principles to theorems. Yet Russell contrasts his method with the theft of ‘the method of postulation’. In the passage from Descartes, however, postulates are included in the synthetic method. What contrast does Russell intend by preferring ‘honest toil’?

In the theory of the natural numbers, ‘the method of postulating’ is manifested in the formulations of arithmetic beginning with the Peano and Dedekind axioms which assert the existence of 0 and its successors, the natural numbers. The alternative method requiring honest toil was the work of logicism carried out by Frege and Russell, with definitions of numbers as

equivalence classes which allowed the proof of what would otherwise be treated as axioms about numbers as in fact theorems, theorems of logic.

It is not right, then, to say that the Frege–Russell definitions of numbers provide an ‘analysis’ of the natural numbers in that sense in which Russell spoke of the analysis of propositions into objects of acquaintance including sense data or various universals. This is my first point about the status of logical constructions. Definitions may provide an analysis, but if so, constructions do not always constitute that sort of definition. But if logical construction isn’t analysis, what is it? The clue is in Descartes’ description of the method as one which ‘uses a long series of definitions, postulates, axioms, theorems, and problems’. Constructions are part of the definitions used in proving the theorems that present a body of knowledge in the synthetic fashion. Logicism is exactly such a project, and the first logical constructions were the construction of numbers needed in the logicist project.

Consider Russell’s list of the constructions in which he is interested, again from his essay ‘Logical Atomism’. First he states the guiding principle for which he gives Whitehead primary credit: ‘Wherever possible, substitute constructions out of known entities for inferences to unknown entities.’² He then goes to discuss a series of examples of logical constructions: ‘The first instance I came across was what I have called ‘the principle of abstraction’ or rather ‘the principle which dispenses with abstraction’: that is, substituting equivalence classes for a common quality, such as a magnitude. ‘A very important example of the principle,’ he says, is Frege’s construction of the natural numbers as a class of similar sets. Then we have: ‘classes themselves can be dispensed with by similar methods.’ These methods together are called ‘no-classes’ theory of classes and are presented in detail in PM*20. Another ‘important example’, he says, are definite descriptions. (We are referred to PM*14). Then: ‘There are many other examples of the substitution of constructions for inferences in pure mathematics, for example series, ordinal numbers, and real numbers . . . But I pass on now to the examples in Physics.’ Russell gives two examples of these constructions from Physics:

Points and instants are obvious examples: Dr Whitehead has shown how to construct them out of sets of events all of which have a finite extent and a finite duration. In relativity theory, it is not points or instants that we primarily need, but event-particles.

Finally the example that others have focused on most: ‘Similar considerations apply to a particle of matter.’

2 Logical construction in *Principia Mathematica*

The first four of these examples of logical constructions are mathematical, in fact they constitute the central subject matter of *Principia Mathematica*. The project there is to find definitions so that the logical properties of

‘constructions’ can be derived from logic and their definitions (or constructions) and so do not need to be postulated. This is the honest toil which is preferable to the ‘theft’ of postulation. A look at the theorems about classes in *20 of PM will reveal the facts about classes involving the operations of intersection, union, complement: in other words, the algebra of sets, facts that were previously organized as theorems derived from postulates of set theory. Similarly, properties of natural numbers are derived from the definition of *inductive cardinal* ‘Nc induct’, and principles of logic, rather than simply derived from Peano’s postulates.

Even the theory of definite descriptions in *14 is aimed at proving that definite descriptions, when proper, have the properties of singular terms, and other distinctive features, which also might be taken as axioms or postulates about definite descriptions.³ Definite descriptions are primarily important in *Principia Mathematica* for the reduction of mathematical functions to relations, that is, propositional functions. For any one to one relation xRy , such as ‘successor’ in ‘ x is successor of y ’, we have ‘ $R’y$ ’, which is read as ‘the R of y ’, in this case, ‘the successor of y ’:

$$*30.01. R’y = (\iota x)(xRy) \text{ Df}$$

The notion of function, although primitive and indeed basic in Frege’s thinking, was viewed as mathematical by Russell, and so the theory of definite descriptions allows the reduction of talk of functions to that of relations or propositional functions with two arguments. Much of *14 is devoted to proving that proper definite descriptions behave like singular terms, for example that they can be substituted for one another if identified, can be taken as instances of universal claims, and so on. Similarly *30 is devoted to showing that expressions involving functions, and perhaps some free variables or parameters, behave as expected. The problems of partial functions, as in ‘dividing by 0’, or seeking ‘the’ square root of a positive number, are solved according to the theory of definite descriptions. Indeed the problem posed by ‘ $x/0$ ’ may properly be said to be the target of the theory of definite descriptions in *Principia Mathematica*, at least, and not that raised by the non-mathematical examples of ‘the golden mountain’ or ‘the present king of France’.⁴ This was the honest toil of logical construction which one should not evade with axiomatic theft.

That said, it is true that the first appearance of the theory of descriptions in ‘On Denoting’ in 1905 was motivated by examples from ordinary language, or at least examples from ordinary language like those used by Meinong and Frege when presenting their own theories of singular terms. ‘On Denoting’, however, seems to be a popular presentation of a thesis of technical philosophy, and as an account of ordinary expressions would be out of the mainstream of Russell’s work in those years, which was all aiming at *Principia Mathematica*.

For the ‘construction’ of numbers, classes, definite descriptions and mathematical ‘examples such as series, ordinal numbers and real numbers’, the point of construction is to allow proving what would otherwise have to be postulated. Of course there is more to Logical Constructions than just this. Russell’s constructions make use of contextual definitions, which Russell first used explicitly in his theory of definite descriptions, and then applied to classes in the ‘no-classes’ theory, and so, by extension, to anything which is defined as a class of classes: ordinals, real numbers, etc. The notion of ‘incomplete symbol’ and ‘logical fiction’ are important to a complete understanding of logical constructions, but are not crucial to understanding the contrast between the honest toil of construction and the theft of postulation. Later interpretations of logical construction, in particular the ideas of Stebbing and Wisdom, do revolve around the notion of ‘logical fiction’, as we will see.

So far we have an account of logical construction as a familiar sort of logical operation which goes by the name of ‘extension by definitions’ in Schoenfield’s 1967 text.⁵ It is a device by which Russell could carry out his project of reducing mathematics to logic, so that with definitions and logic alone he could prove what would otherwise have to be postulated. We have an account which makes sense of the talk of constructions, but only for mathematical cases.⁶

3 The logical construction of the world?

What, then, are we to make of the talk of constructing ‘points and instants as sets of events of finite duration and extent’ and of ‘matter constructed from events’?

In *Philosophical Analysis: Its Development Between the Two World Wars*, J.O. Urmson described logical constructions as a metaphysical analysis of everyday facts:

The elimination of logical constructions, carried out by replacing in propositions all incomplete symbols by names of possible objects of acquaintance, is then another sort of analysis.

(Urmson 1956: 39)

This is Urmson’s account of the group that came to be called the ‘Cambridge School of Analysis’, and which included Susan Stebbing and John Wisdom. During the 1930s this Cambridge group discussed analysis and logical constructions, and self-consciously contrasted their views with those of A.J. Ayer and the Logical Positivists on the continent. According to Stebbing and Wisdom, a model for this sort of analysis might be saying that committees are logical constructions out of their members. The claim that committees are ‘nothing but’ their members is part of a reductive or individualist metaphysical account of social phenomena like committees.

Stebbing and Wisdom took ‘logical construction’ to be a distinctive, logical, way of proposing such a metaphysical reduction.

Logical construction might even constitute a more radical sort of reduction, a reduction of matter to experiences known as ‘phenomenalism’. Logical construction has been interpreted in that way, and also as part of a more epistemologically motivated reduction still similar to classical phenomenalism. This more limited sort of phenomenalism starts with the view that it is only certain very limited structural features of the world that can really be directly known, with the method of logical construction providing constructions of the rest of what is known indirectly. Urmson, looking back on Russell’s discussion of matter, sees it as almost classical metaphysical phenomenalism. Matter is to be constructed from sense data, and so, given only that Russell’s view was that sense data were neither physical nor mental but the substance of a ‘neutral monism’, this would be true phenomenalism.

Let us extend the account of the way of viewing logical construction which I have given so far to the notion of logical construction of *matter* or *points* (of space) and *instants* of time. Is Russell really proposing a phenomenalist metaphysics, in which we would find statements like ‘This desk is a logical construction’ and ‘Pennies are logical constructions’ which so exercised Susan Stebbing and John Wisdom?

Urmson continues the passage above by describing the new ‘sort of analysis’ practised by these Cambridge Analysts: ‘It was variously called new-level (as opposed to same-level), or philosophical (as opposed to logical), or directional, or reductive analysis’ (Urmson 1956: 39). The theory of definite descriptions is a same-level analysis, as it replaces a sentence including a description of a kind of thing with a sentence quantifying over that same kind of thing. To use Urmson’s example, such a sentence as ‘The modern age is materialistic’ receives a same-level analysis by the theory of descriptions as ‘There is one and only one thing which is a modern age and it is materialistic.’ This seems to call out for a genuine, reductive or ‘two-level’ analysis such as ‘There are many people now living who have materialistic beliefs’ (Urmson 1956: 40).

Among the reductions, or two-level analyses, that Urmson mentions is the reduction of England to Englishmen and, most importantly, matter to sense data: in other words, the metaphysical project of phenomenalism. That’s why a sentence such as ‘This table is a logical construction’ received such attention from Wisdom and Stebbing, according to Urmson, because it was a statement of the phenomenalist claim that tables are really ‘bundles’ of sense data, just put in the modern way, as saying that they are ‘logical constructions’ out of sense data. But was Russell in the business of providing something like the phenomenalist account of ordinary statements about matter? I think not.

Russell’s remark about the metaphysics and epistemology of constructions is a key to the account of his use of logical construction:

You find that a certain thing which has been set up as a metaphysical entity can either be assumed dogmatically to be real, and then you have no possible argument either for its reality or against its reality; or, instead of doing that, you can construct a logical fiction having some of the same formal properties, or rather having formally analogous formal properties to those of the supposed metaphysical entity and itself composed of empirically given things, and that logical fiction can be substituted for your supposed metaphysical entity and will fulfil all the scientific purposes that anybody can desire.

(PLA: 144)

The ‘formal properties’ of matter in which he is interested are those features that he had described earlier in the lectures as ‘neat’, just a little too tidy to be simply empirical generalizations. These ‘neat’ facts include the fact that no two material objects can be in the same place at the same time, and facts about relations of points (of space and time) to intervals and regions to which they belong, and so on:

Matter, traditionally, has two of those ‘neat’ properties which are the mark of a logical construction; first, that two pieces of matter cannot be at the same place at the same time; secondly, that one piece of matter cannot be in two places at the same time. Experience in the substitution of constructions for inferences makes one suspicious of anything so tidy and exact. One cannot help feeling that impenetrability is not an empirical fact, derived from observation of billiard balls, but is something logically necessary ... The reason that matter is impenetrable is because our definitions make it so.

(LA: 166–7)

It seems that these ‘neat’ facts are to include the structural features of space-time, new facts that were being revealed in the theory of relativity at the same time that Russell was writing about ‘Logical Atomism’. The fourth volume of *Principia Mathematica*, which never appeared, was nonetheless an ongoing project for Whitehead, who was to be its primary or even sole author. That fourth volume is described in the preface to Volume III as to be devoted to ‘Geometry’. Russell’s expertise as a mathematician was in the field of geometry and he certainly had a keen interest in developments in physics. Whitehead’s own work on constructing points and instants out of ‘events’, as Russell describes it, suggests that perhaps the ‘construction of matter’ was to be the work of Volume IV. So, just as the lectures on logical atomism and the *Introduction to Mathematical Philosophy* presented the earlier technical work of PM and its philosophical consequences, we might view *The Analysis of Matter* as the popularization of the never-to-be-written last volume.

4 Logical analysis

What is the material for the construction? It will consist of the empirically given individuals, whether sense data or events, that will be revealed by the process of analysis:

One purpose that has run through all that I have said, has been the justification of analysis, i.e. the justification of logical atomism, of the view that you can get down in theory, if not in practice, to ultimate simples, out of which the world is built, and that those simples have a kind of reality not belonging to anything else.

(PLA: 142)

Here Russell simply identifies logical atomism with analysis: ‘the justification of analysis, i.e. the justification of logical atomism’. This sort of analysis is the project of finding the simples out of which the world is built. These will be the constituents of propositions, the individuals and universals to which we are related in belief and other propositional attitudes, the things with which we are acquainted, and so are in a position to give logically proper names.

This is analysis proper, the process of finding those ultimate constituents of reality out of which the world in so far as we directly know it through acquaintance is constructed. On my account, this is very different from the process of finding first principles or axioms from which the rest can be derived. Those principles will not be as intuitive or certain as the results that they prove. Famously Russell only proves that $1+c1 = 2$ at *110-643 in *Principia Mathematica*, on page 83 of volume II.⁷ The logical order of the construction of mathematics does not follow the order in which things are ordinarily known or discovered. Instead, first principles are chosen for their role in systems, and justified indirectly by their consequences. For Russell the first principles in mathematics will be definitions and logic truths, or ‘Primitive Propositions’, alone. In mathematical physics, clearly the domain of the logical construction of matter and space-time, it will be the axioms about the points and events, etc., that are needed to derive the relevant theorems.

Here I differ from Paul Hager who has sought to find a unity to Russell’s methodology of analysis (Hager 1994). Hager argues that the search both for simple objects and for first principles is carried out in a uniform, tentative, way, and that each is equally deserving of description as ‘analysis’. He does indeed find many passages where Russell uses the notion of ‘analysis’ to cover his entire method or approach to philosophy, and more narrowly, to describe the search for first principles from which one is able to reconstruct more familiar and ordinary truths. There is, however, a still more strict and precise notion of analysis which Russell uses, and it is that one which I will try briefly to sketch.

One way in which analysis as the search for simples differs from the more general search for first principles is that there is no element of choice in the search for simples.⁸ There is a unique ultimate analysis of propositions into constituents for Russell.

It should be remembered that a function is not a constituent in one of its values: thus for example the function ‘ \hat{x} is human’ is not a constituent of the proposition ‘Socrates is human.’

(PM: 54–5)

One can view the proposition that aRb as resulting from applying the propositional function $\hat{x}Rb$ to the individual a , or alternatively, $aR\hat{y}$ to b . The analysis of a proposition into functions and arguments can vary. But the analysis of a proposition into the individuals and relations which are constituents is unique. In contrast, for first principles, and even definitions, there is an element of choice. It has been remarked, by way of criticism, that Russell offers several different theories of definite descriptions in his writings. (The contextual definitions are all logically equivalent, but nonetheless distinct.) So it appears that there is some element of convention or choice about the particular logical constructions that are used, provided, of course, that they yield the correct results, that they have the right logical power. By extension then, in the search for empirical propositions about space, time and matter, the project of logical construction involves the search for a minimal number of assumptions which will allow for the proof of the target propositions:

The meaning they [symbols] have *in use* would have to be explained in some pragmatic way: they have a certain kind of practical or emotional significance to you which is a datum, but the logical significance is not a datum, but a thing to be sought, and you go through, if you are analysing a science like physics, these propositions with a view to finding out what is the smallest empirical apparatus – or the smallest apparatus, not necessarily wholly empirical – out of which you can build up these propositions.

(PLA: 235)

On my account, then, the construction of matter, space and time, follows the example of the construction of classes, descriptions and numbers in being aimed at providing definitions, chosen to allow the proof of appropriate theorems that otherwise would have to be adopted as axioms. On this account the target is proving principles such as Locke’s notion of a principle of individuation for material substances: No two things of the same kind can be in the same place at the same time.

Contrary to Urmson’s suggestion, Russell did not give importance to the distinction between ‘same-level’ and ‘reductive’ constructions, although the

distinction is genuine. The theory of descriptions replaces occurrences of seeming terms for individuals with expressions that quantify over individuals. Other constructions change levels. The no-classes theory replaces all talk of classes, including quantification over classes, with assertions about propositional functions. The various constructions of numbers replace talk of mathematical entities with talk of classes. The construction of matter from sense data is indeed a 'reductive' construction in this sense as well. The issue, however, is whether a 'reductive' analysis should be seen as a meta-physical proposal about the objects discussed in ordinary language. That is not a central part of Russell's project of logical construction as I have been presenting it. The real goal of all of the constructions of descriptions, numbers and physical objects is to facilitate the proof of theorems which would otherwise have to be 'stolen' with axioms or 'postulates'. The questions that the Cambridge Analysts confront will only emerge if one thinks that ordinary language sentences, while not revealing of their proper logical analysis, nevertheless do already express precise propositions. This is the view of Wittgenstein in *Tractatus* 4.004:

Man possesses the ability to construct languages capable of expressing every sense, without having any idea how each word has a meaning or what its meaning is – just as people speak without knowing how the individual sounds are produced ... Language disguises thought. So much so, that from the outward form of the clothing it is impossible to infer the form of the thought beneath it, because the outward form of the clothing is not designed to reveal the form of the body, but for entirely different purposes.

To the extent that Russell shared this notion of the relation between ordinary language and the fully explicit statements including logical constructions of ordinary notions, there will be a question about what the analysis reveals about the metaphysical status of 'ordinary objects'. There would indeed be a question of whether desks are ultimately real or actually logical constructions of some entities of another 'level'. But Russell's central project is to 'substitute' constructions for ordinary entities, for the 'scientific purposes' of particular formalized scientific theories.

5 The *analysis* of matter?

Russell's project is also distinct from the related 'structuralist' picture of scientific theories. The project of logical construction is not one of finding mathematical structures that represent structures in the empirical world. This is a proposal about how to consider constructions which appeared about fifty years after the Wisdom and Stebbing interpretation.

William Demopoulos has given an account of the role of logical construction in the 'structuralist' project of *The Analysis of Matter*, from which

one might extract another way in which a logical construction provides an analysis. Demopoulos and, earlier, Demopoulos with Michael Friedman, studied Russell's analysis of matter as part of a structuralist approach to science, according to which what is known can only consist of structural facts about the world, while the content, consisting of subjective experience, cannot be shared as objective knowledge. Physics, then, consists of proposing that the world consists of certain structures, which structures are inferred as isomorphic to relations among perceived sense data. These structures are not logical constructions of sense data, as in earlier projects such as *Our Knowledge of the External World*, but purely theoretical and unobservable.

Demopoulos' account is as follows. Consider the example of the construction of the natural numbers. The project is to first and foremost to find objects that (provably) satisfy the Peano axioms. But any omega series will satisfy the axioms: that is, any structure with a first element, and a unique 'successor' for each element, without end. Russell's particular construction, however, picks out one of the many possible structures which satisfy the axioms as special. This is the famous 'Frege–Russell' construction of numbers as equivalence classes. The number two, thus, is the class of all pairs of individuals. This construction is distinctive because it explains the application of arithmetic in counting. To count the number of *F*s as two is to discover that the class of *F*s is an element of 'two' as newly constructed.

According to Demopoulos and Friedman, any construction is to have this form. A theory is first organized in such a way as to describe structural features of the world. A model of that theory is then constructed from actual objects which satisfies the axioms, but which also allows an explanation of how the theory is applied to the world. This latter is the process of measurement. In measurement theory there is formal work to be done here, in the form of proving 'representation theorems', theorems about what features of the world allow for it to be represented by particular formal structures. Thus in the measurement of weight, one discovers what empirical phenomena (including facts, for example, about adding which masses to a scale will make it tip one way or the other) which allow us to represent masses with particular numerical values as weights on some scale such as grams. On this account there is a place for the 'work' associated with logical constructions.

Consider yet another logical construction, that of Dedekind infinite sets, which was singled out for attention by George Boolos in his paper 'The Advantages of Honest Toil Over Theft' (1994). Boolos portrays Russell as having started with Axiom of Infinity in the form that says that every inductive class is non-empty, i.e. there are sets of all finite sizes, and as then proving that there is at least one Dedekind Infinite set, viz. the natural numbers, by constructing the numbers as the equivalence classes of inductive sets and then, finally, proving that those numbers satisfy the Peano Axioms. This is consistent with the Demopoulos and Friedman account of constructions, according to which one starts with some axiom about ordinary objects and some structure on them, then proves that there is an abstract

structure of a certain sort made from them. They would say that what Russell has done with 'AxInf' (the Axiom of Infinity) is to postulate properties of ordinary objects which allow the proof of a representation theorem, that they can be counted by natural numbers. The 'structure' required of the world by the axiom of infinity is minimal in this case, merely the existence of all inductive classes. The rest, the existence of a Dedekind infinite set, which can be mapped one to one on to a proper subset of itself, is left to the technical apparatus of 'logical construction'. The construction simply collects all the inductive classes into one class. The real work is in proving that the class so constructed is in fact Dedekind infinite.

Demopoulos' claim is that with the construction of matter Russell was looking for the properties of ordinary objects, or, rather, sense data, such that classes of them can be built which then allow the proof of representation theorems, those theorems which guarantee the assignment of positions at points of space time. As Demopoulos notes, a problem with this account was identified by M.H.A. Newman in 1928. The difficulty is that if the relations among the unobservable objects are also to be constructed, then the only constraint on the natural world which must be observed in order to allow the construction is one of cardinality. Starting with a class of any objects, provided only that it has sufficiently many members, it is possible to construct relations, and so models, that will capture any structure one might like. It is trivial to show that a constructed model will represent the given postulated facts.

Russell seems to acknowledge Newman's criticism. In a letter to Newman, repeated in the *Autobiography*, he says:

Many thanks for sending me the offprint of your article about me in *Mind*. I read it with great interest and some dismay. You make it entirely obvious that my statements to the effect that nothing is known about the physical world except its structure are either false or trivial, and I am somewhat ashamed at not having noticed the point for myself ... I had assumed that there might be co-punctuality between percepts and non-percepts ... And copunctuality I regarded as a relation which might exist among percepts and is itself perceptible.

(Russell 1968: 176)

This seems a rather casual response to such a crushing criticism. This suggests that the unobservable, merely structural, nature of the constructed relations is not essential to the project. Russell's project of finding the structure of the physical world of particles in space and time which lies behind phenomena can be equally satisfied by making use of an observable relation of 'co-punctuality' between phenomena and spatio-temporal points. Russell must perhaps revise his view that 'co-punctuality' is purely inferred or structural, and it is indeed peculiar that a relation between a percept and a non-perceptual point could none the less be observable. The tone of Russell's response suggests that these issues were not central to his thinking.

He shows interest, and even dismay, at Newman's points, but they do not make him retract the whole work. That the relation of co-punctuality is unobservable is an incidental feature of the project.

A more coherent, principled response to Newman would be to say that there is one, real, observable, relation that is to form the basis of the structure of the world. There will then instantly reappear all the hard work of studying the structure imposed on the world by the theory of that relation. But the epistemological substance of the theory, as saying that reality consists solely of inferred, and not observed, structural relations between unobserved material objects, would be gone.

It is Carnap, in his *Der Logische Aufbau der Welt* who takes the next step of focussing on the empirical relation of *recalled similarity* among total experiences, 'Erlebnisse'.⁹ This project could well be described in Demopolous' way, as that of determining what structure in the empirical world can be found so that if that structure obeys certain postulates certain mathematical representation theorems can be proved, and thus showing that our ordinary representations of the world can be 'constructed' by mathematical replacements.

As Demopoulos and Friedman suggest, even with Carnap this move is problematic. Carnap himself objects to seeing his one relation, of recalled similarity, R_s as empirical rather than logical. He proposes that the notion of 'founded' relation, needed to identify the unique objective relation of recalled similarity, is in fact a *logical* notion. This interpretation of Carnap's project, and whether this is a fatal flaw, are beyond the scope of this paper.¹⁰

What the objection to Russell's project and Russell's response, as shown in his letter to Newman, suggest, is that perhaps Russell's interests in *The Analysis of Matter* weren't structuralist, or so directly metaphysical or analytic in the reductive sense. His main interest may well have been in presenting mathematical physics as a logical theory, finding those 'neat' features otherwise simply postulated to be true of the world, and replacing them with logical constructions so that the neatness would be seen as a sign of being simply a logical phenomenon resulting from the construction of the world.

Russell seems to have hinted at the metaphysical significance of logical constructions, in particular, at ways in which one might see logical constructions as providing an analysis of a metaphysically significant sort, but that just does not seem to play out. Even in the 1920s, Russell was still interested in logic. Conventional wisdom has it that Russell lost interest in logic after writing *Principia Mathematica*, and turned to more mainline philosophy, and then social and political issues. This neglects the second edition of *Principia* in 1925. Even in the 1920s, Russell was focused very much on logic, and not only the Analytic Philosophy that he had helped to found.

Notes

1 I am grateful to Michael Beaney, James Levine, Peter Hylton and Leonard Linsky for discussions of this essay.

- 2 The quotations in the rest of this paragraph are all from LA: 161–6.
- 3 Frege's postulate governing definite descriptions, that x is identical with the y such that y equals x , his Basic Law, or *Grundgesetz* VI, will be provable in Russell's logic. See Pelletier and Linsky 2005.
- 4 Peter Hylton (1993) finds in Russell's reduction of mathematical functions to descriptions and propositional functions a much deeper message about the sort of direct realism that Russell preferred to Frege's view in which senses mediate between sentences and the world. On this point, Hylton suggests that Frege had *mathematicized* logic, as Burton Dreben is said to have described it, by introducing the mathematical notion of function into the foundations of logic via its role in the specification of concepts as functions from objects to truth-values. It is natural to see Russell as resisting that notion in a properly *logicized* mathematics. It is true, however, as Quine (1963: 251) says that from *21 (PM: 201) on, intensional functions and relations disappear. The 'roman letters' R, S, T , etc. (as in *30-01) which are variables from then on, stand for relations 'in extension'. These are the analogues of classes ('functions in extension') that are defined in *20 by the no-classes theory. But there is more to the Fregean notion of a function than its extensionality, and Russellian 'relations in extension', combined with the theory of descriptions, still reduce functions in that sense to logical notions.
- 5 Shoenfield 1967: §4.6, 57–61.
- 6 This account of logical constructions also says nothing about the connection which Russell draws between his theory of definite descriptions, at least, and the meaning and understanding of ordinary propositions. Russell explicitly connects his theory of descriptions with his 'principle of acquaintance' by which every proposition which we can understand must be composed solely of constituents with which we are acquainted. This principle, which is of course crucial to Russell's theory of denoting, is less crucial to the account of mathematical constructions. Russell shows no interest in identifying the ultimate constituents of propositions about numbers and classes, or in drawing any conclusions about the epistemology of mathematics from that analysis. My account of logical constructions, based on the mathematical constructions, thus misses elements seen to be essential by those who focus on definite descriptions or the analysis of matter. See Peter Hylton's paper in this volume for a discussion of the connections between logical constructions and issues of knowledge and understanding.
- 7 The operation indicated by '+_c' is the addition of cardinal numbers in contrast with the general addition of sets, indicated by '+'.
8 Hager points out the passages where Russell indicates that some objects may only be relatively simple, and thus perhaps open to further analysis. This is very different from the sense in which the choice of first principles is revisable.
- 9 The title is translated by Rolf George as 'The Logical Structure of the World' rather than '... Logical Construction ...', which might be closer to the original German.
- 10 Carnap may also be seen as having worked out the relationship between ordinary language and the analysed propositions which Russell relegated to scientific discourse. Carnap's notion of 'rational reconstruction' addresses some of the issues raised by the later Cambridge Analysts.

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Part II

Wittgenstein and other philosophers: connective and explicatory analysis

7 Analytic philosophy

Beyond the linguistic turn and back again¹

Peter Hacker

1 Analytic philosophy

There is extensive controversy over the correct characterization of analytic philosophy. Some have tried to define it in terms of a set of necessary and sufficient conditions. The result has been the exclusion of most of the philosophers of the twentieth century who lauded the methods of ‘analysis’ (variously conceived) and who deemed themselves analytic philosophers. Others have tried to define it as a family resemblance concept. The result has been the unavoidable inclusion of some of the ancient Greeks. While there is no disputing that some characteristic features of the philosophies of Plato and Aristotle are shared with twentieth-century analytic philosophers, it is doubtful whether this classificatory term, if it is *thus* explained, does anything more than distinguish ratiocinative, discursive philosophy from the pronouncements of philosophical sages and prophets. It seems to me more fruitful and illuminating to use the term ‘analytic philosophy’ as the name of a specific phase in the history of our subject. Like the Romantic movement, analytic philosophy has numerous precursors. One can find powerful strands of romanticism in the writings of Spencer and Shakespeare – but that does not make them part of the Romantic movement, which was a distinctive phase of European cultural history in the late eighteenth and early nineteenth century. Similarly, the fact that one can find common elements with various phases of analytic philosophy in the writings of Leibniz, Bentham, Bolzano, Mill and Frege, not to mention Plato and Aristotle, does not make them part of the analytic movement.

Analytic philosophy, understood as a phase in the history of ideas, originated in Cambridge in the late 1890s with the revolt, by the young Moore and Russell, against the neo-Hegelian Absolute Idealism that had dominated British philosophy in the last third of the nineteenth century. What Moore and Russell shared was a commitment to realism, as opposed to Hegelian idealism, and to analysis, as opposed to Hegelian synthesis. Neither Moore nor Russell conceived of themselves as concerned with language or thought – they were concerned with discovering special, very general, truths about the world. Russell’s early pluralist Platonism evolved, via the

theory of denoting concepts, the theory of descriptions and the theory of types, on the one hand, and the distinction between knowledge by acquaintance and knowledge by description, on the other, into the more austere doctrines of logical atomism. Logical atomism attained its most sophisticated form in Wittgenstein's *Tractatus*. The most important achievements of that book were twofold. Negatively, it gave profound criticisms of the Fregean and Russellian conceptions of logic, language and intentionality. Positively it made great strides in clarifying the nature and status of the necessary truths of logic. The *Tractatus* was the culmination of the first phase of analytic philosophy and the primary source of the next two phases.

The second phase was Cambridge analysis of the 1920s and early 1930s (e.g. Ramsey, Braithwaite, Wisdom, Stebbing), a movement greatly influenced by Moore and Russell and inspired by Wittgenstein's *Tractatus*. It was short-lived, for Wittgenstein himself terminated it through his own teachings in Cambridge from 1930 onwards, when he repudiated the *Tractatus* and self-consciously engineered a revolution in philosophy – dismissing its aspirations to disclose truths about reality, and insisting upon its restriction to the disentangling of conceptual confusions.

The third and more influential phase, which also stemmed from the *Tractatus*, was the logical empiricism of the Vienna Circle and its affiliates. Under the influence of the *Tractatus* programme for future philosophy, and greatly impressed by its explanation of the vacuous character of the propositions of logic, the logical empiricists repudiated the ambitions of philosophy to investigate the nature of the world, vehemently rejected the aspirations of metaphysics, and restricted philosophy, by and large, to what they called 'the logic of scientific language'. They proposed the principle of verification as the key to the notion of linguistic meaning and invoked verifiability as a criterion of meaningfulness. The latter was wielded, rather heavy-handedly, in the anti-metaphysical polemics of the Circle, which lacked the subtlety of Wittgenstein's criticisms of metaphysics of the mid-1930s.² The Circle was destroyed by the Nazis, and the leading logical empiricists (e.g. Carnap, Feigl, Reichenbach, Hempel, Frank, Tarski, Bergmann, Gödel) fled to the USA, where they played a major role in the postwar years in transforming American pragmatism into logical pragmatism.³

The fourth phase of the movement was the emergence of postwar Oxford analytic philosophy, led by Ryle (influenced by Wittgenstein) and Austin (influenced by Moore), with such colleagues as Berlin, Hampshire, Hart, Grice and, after 1959, Ayer (influenced by the Vienna Circle), and among the postwar generation Strawson and Hare. From Oxford, its influence spread throughout the English-speaking world and beyond. Unlike the Vienna Circle, this was no 'school' of philosophy, it published no manifestos, and contrary to current myth, cleaved to no dogmas. But there was broad consensus on three points. First, no advance in philosophical understanding can be expected without the propaedeutic of investigating the use

of the words relevant to the problem at hand. Second, metaphysics, understood as the philosophical investigation into the objective, language-independent, nature of the world, is an illusion. Third, philosophy, contrary to what Russell had thought, is not continuous with, but altogether distinct from, science. Its task, contrary to what the Vienna Circle averred, is not the clarification or 'improvement' of the language of science.

A strand, which is interwoven with, but distinguishable from, postwar Oxford, even though it ran concurrently with it, is, of course, Wittgenstein's later philosophy and the work of his many distinguished pupils: for example, his successors in the Cambridge chair, von Wright, Wisdom and Anscombe, those of his students who taught at Oxford, such as Waismann, Paul and (again) Anscombe, and those who transmitted his ideas to philosophers in the USA, such as Ambrose, Black and Malcolm.

This fourth phase of analytic philosophy declined from the 1970s, partly under the impact of American logical pragmatism, the leading figures of which were Quine (much influenced by Carnap) and Quine's pupil Davidson (influenced by Tarski), and, in Britain, under the impact of Dummett and later of his pupils. For the first twenty years, a new philosophical endeavour dominated the subject – the project of constructing a theory of meaning for a natural language, an endeavour which promised the key to the great problems of philosophy. Subsequently, as performance failed to match promise, forms of speculative philosophy of mind, focused largely on mind/body questions and converging on emergent self-styled cognitive science, came to occupy centre-stage. Whether what resulted from these varied reactions to Oxford analytic philosophy was a fifth phase of a still flourishing tradition or the slow death of analytic philosophy itself is, I believe, still too soon to say. In fifty years' time our successors will perhaps be able to see more clearly. But there is no doubt that many philosophers today who deem themselves analytic philosophers repudiate most of what was achieved, or was understood as having been achieved, in the fifty years between the 1920s and the 1970s. To be sure, what counts as *achievement* in philosophy is itself a moot philosophical issue of no small moment. I shall turn to this matter below.

2 Analysis, logic and language

It might be said that one unifying feature of the analytic tradition is the commitment to *analysis*. But, while that is surely correct, too many different things masquerade under the simple name of 'analysis' for this to shed much light on what analytic philosophy is. Early Moore held himself to be analysing concepts, which he took to be not uses of words, but rather constituents of propositions of which reality consists (Moorean propositions being more akin to *Tractatus* facts than to senses of sentences). Analysing a concept, Moore confusedly thought, was a matter of inspecting something that lies before the mind's eye, seeing the parts of which it is composed and

how they are related to each other, and discerning how it is related to and distinguished from other concepts. Analysis was, therefore, associated with decomposing complexes into components.

Young Russell was influenced in his reaction against Absolute Idealism by Moore, but his early conception of analysis had other roots too, namely Leibniz and Bradley, on the one hand, and Weierstrass, Dedekind and Cantor, on the other. But, like Moore, Russell thought that analysis is essentially the decomposition (in thought) of conceptually complex things (of which the world supposedly consists) into their simple unanalysable constituents. Russell's exuberant Platonist realism was curbed by his conception of denoting concepts and his subsequent invention of the theory of descriptions. The latter focused his attention on the symbolism with which we describe the world, and led him to distinguish complete from incomplete symbols. This suggested a deficiency in the overt grammatical forms of sentences containing denoting expressions, and bred the myth of 'the logical form of the proposition'.⁴ Subsequently Russell came to think of analysis as having facts as its object. He came to think of the form of a fact as one of its constituents, and held that the task of philosophy is to analyse the most general facts of which the world consists, and to catalogue their forms. Given his epistemological convictions, this committed him to reductive analysis, e.g. of material objects to sense-data.

The young Wittgenstein did not think that forms are *constituents* of objects, propositions or facts. He held that logical analysis of language would disclose the logico-metaphysical forms of facts and of their constituent objects – the substance of the world.⁵ For, he held, there is a pre-established metaphysical harmony between language and reality. The logico-syntactical forms of expressions *are* the forms of what, on analysis, they represent. So logical analysis is the key to the (strictly speaking, ineffable) nature of all things.

The Vienna Circle, however, viewed logical analysis as a method merely for the clarification of sentences of 'science' and the elimination of the pseudo-propositions of metaphysics. This conception evolved, in Carnap's hands, first into reductive analysis, and later into the method of explication and of the invention of artificial languages for elucidatory purposes.

The later Wittgenstein was adamantly opposed to reductive analysis. He renounced any claims to penetrate appearances in order to disclose the logico-metaphysical forms of things, not because this is beyond the powers of philosophy, but because there is no such thing to disclose. A proposition is fully analysed, he claimed,⁶ when we have completely laid bare its 'grammar' (the sense-determining rules for its use) and present that grammar in the form of a perspicuous representation that will dissolve philosophical confusion. This conception of analysis had non-coincidental affinities with Ryle's 'logical geography' of concepts. It was perspicuously articulated in Strawson's methodological discussion of 'connective analysis' and exemplified in his numerous papers.⁷ Connective analysis, or elucidation, is a

non-reductive description of conceptual connections, compatibilities and incompatibilities, arrayed for the purposes of philosophical clarification.

Yet other forms and conceptions of analysis are to be found in latter-day analytic philosophers (such as Davidson, Dummett, Putnam and Quine) but it should be evident that the concept of analysis, logical and linguistic, is Protean. Its history is part of the history of the analytic movement and, just because of that, the bare concept of analysis is not a useful tool to illuminate its general character. But there are, I think, two features that can be invoked, not to define, but to characterize this phase in Western philosophy.

The first is the revival, for the first time since the Middle Ages, of interest in, and a philosophical preoccupation with the nature of, formal logic. The invention of the first-order predicate calculus with identity was a stimulus both to further logical invention, e.g. of modal, tense and deontic logics, and to philosophical investigation into the relationships between logic, language and philosophy. To an extent one might say that the brainchild of Frege, Russell and Whitehead set a large part of the agenda for the mainstream of analytic philosophy over the next century. What exactly had they produced? Was it a discovery or an invention? What, if anything, does it show about the world, or about mathematics, or about language and linguistic understanding? Does it expose the logical structure of the world, or the essential forms of thought, or the necessary underlying depth grammar of any possible language? Depending on how these questions were answered, it was plausible to embrace widely differing methodological views on the use and usefulness of formal logic in the analytic task of tackling philosophical questions.

It is philosophically interesting that answers to these questions are controversial to this day. Wittgenstein, who in his youth embraced the new logic as the depth grammar of any possible language, was later to observe wryly, apropos the relationship between the quantifiers in the calculus and the quantifiers in natural language, that 'Philosophers often behave like little children who scribble some marks on a piece of paper at random and then ask the grown-up "What's that?"'.⁸ There is great need for both clarity and consensus about the character of the Frege/Russell 'scribbles'. It is far from obvious that this invented calculus illuminates the logico-grammatical character of natural languages and enables us better to grasp the nature of reference (singular, plural, definite and indefinite), of predication (classification, description and identification), of adjectival and adverbial modification, of quantification in all its natural language diversity and richness, and of sentential connection.⁹

The second feature of the analytic movement in the twentieth century is the intense interest in, and meticulous attention to, language and its uses. Although the young Moore and Russell had no philosophical interest in language, and did not link their analytic revolt against the neo-Hegelians with anything pertaining to language, the emergence of the theory of descriptions unavoidably induced a concern with the way in which the

symbolism of ordinary language functions, if only to vindicate the belief that it is deeply misleading. The young Wittgenstein put language and linguistic investigations on to centre-stage, since he held, against Frege and Russell, that 'ordinary language is all right as it is'; that all philosophy is 'a critique of language'; that the necessary truths of logic are explicable as senseless tautologies by reference to the ineluctable features of any linguistic symbolism whatsoever; and that the sentences of our languages, fully analysed, necessarily reflect the metaphysical form of the world. This heralded, though obviously did not effect, the so-called linguistic turn in analytic philosophy.

Developments in the 1930s, both in Cambridge and in Vienna, inaugurated two very different preoccupations with language. On the one hand, the Carnapian wing of the Circle was committed to the idea that the primary task of philosophy is the clarification and rational reconstruction of what they called 'the language of science' and its logic. Carnap, embracing the 'principle of tolerance' in logic, held that this licensed the construction of artificial languages with alternative logics suited to the subject matter at hand. The sole constraint he recognized was pragmatic. On the other hand, Wittgenstein in Cambridge had come to think that philosophical problems stem largely (but *not* only) from linguistic confusions and are to be resolved largely (but *not* only) by clarification of the uses of words, not by rational reconstruction or depth-analysis. So the methods of philosophy are above all descriptive. What philosophy describes is the ordinary use of words, the ordinary use of technical ones in the higher reaches of philosophy of mathematics or of physics, and the ordinary use of non-technical ones in epistemology, philosophy of mind, ethics and aesthetics. This is not because language is *the* subject matter of philosophy – it is *not*. The point of the method is therapeutic – the identification and anatomization of subtle forms of nonsense and the consequent dissolution of the problems of philosophy. For this an overview, or partial overview, of the 'grammar' of expressions in the relevant domain is requisite. This conception and these methods evolved, with a less therapeutic emphasis, into Ryle's 'logical geography'. It is patent, perfectly autonomously, in Austin's style of argument in *Sense and Sensibilia*; and in Strawson's connective analysis.

Side by side with this methodology, there evolved an interest in the functioning of language. This had various branches. On the one hand, Strawson's criticism of Russell's theory of descriptions led to a flood of writings on singular (and, more recently, plural) reference, and his demonstration of the deviation of the logical connectives in the calculus from their natural language counterparts led to detailed examination of the uses of connectives and quantifiers in natural languages. Likewise, Austin's typology of speech-acts produced a flurry of writings that investigated this aspect of language and its use for its own independent interest. And Grice's investigations of conversational implicature provoked systematic reflection on pragmatics. Such writings were essentially descriptive, concerned with characterizing the

nature and functions of human speech. But in the 1970s a more putatively 'theoretical' concern with language arose, namely the enterprise of devising the general form of an empirical theory of meaning for a natural language. This endeavour, pursued by Davidson and Dummett, far from distancing natural languages from logical calculi, presupposed that the predicate calculus, with modifications, constitutes the depth grammar of any language. So it also provides the backbone for any empirical theory of meaning for a natural language.

There was, therefore, polarization in analytic philosophy from its early days. Those who conceived of formal calculi as disclosing the sempiternal laws governing the relationships between thoughts, or the syntax of a logically ideal language, or the depth-grammar of any possible language, obviously viewed the calculi of logic as indispensable tools of analysis. Only by their means will we arrive at a correct account of the nature of things, or of thought, or of all possible languages. This conception was full of high promise, but was notably thin on performance – I cannot think of a single major *philosophical* problem throughout the ages that was solved or resolved by means of the calculi of logic. Others took a more sceptical view of such calculi. True, they provide a yardstick against which to judge the validity of inferences and schemata by means of which to represent perspicuously the structure of arguments. They invite investigations into concepts pertinent to calculi, such as *validity* and *provability*, which are of interest to pure logic and mathematics. They show the possibility of alternative forms of representation of a more primitive and regimented kind than natural languages. Thus conceived they are useful primarily as objects of comparison – simple and logically perspicuous structures that may be used to highlight aspects of our own, much more complicated, conceptual scheme and so to shed light on philosophical problems. But after a century of the new function-theoretic logic, the idea that these calculi provide *the* tools for the solution of the great problems of philosophy is patently misconceived. Given the nature of those problems, that should not be the least surprising. Disentangling knots in our understanding of our conceptual scheme, and producing a connective analysis of a field of concepts or concept-types, requires subtlety, not technology – *l'esprit de finesse*, not *l'esprit de geometrie*.

A similar polarity was patent in attitudes towards natural language. On the one hand, it was viewed as an inferior and optional medium of thought and reasoning, not really fit for the solution of the problems of philosophy, and superseded by formal calculi. On the other, it was viewed as the embodiment of our conceptual scheme, setting the horizon of our thought and will. It is capable of improvement and extension, no doubt, when concrete needs arise. But it is the primary root of the conceptual problems that we now call 'philosophy'. It is to it and its clarification that we must look for the resolution of our conceptual confusions – for difficulties in untying knots in string are not remedied by being offered a different piece of string.

It also possesses an intrinsic interest of its own. For although we have all mastered its use, it is singularly difficult to survey.

It may well be that these inner tensions within analytic philosophy meant that it ‘contained the seeds of its own destruction’. For a while the two different orientations existed in fruitful conflict within the constraints of the widely shared convictions that philosophy is not a kind of science, that it is not continuous with science, and that metaphysics, unless it is simply the description of the most general features of our conceptual scheme, is an illusion. But these convictions, shared by both the logical positivists and Oxford analytical philosophers, were eroded by Quine’s influence in the USA, and by Kripke’s reflections on names that were directly responsible for a virulent outbreak of metaphysics and metaphysical enthusiasm.

3 Analytic philosophy: the linguistic turn and beyond

Analytic philosophy has sometimes been characterized by reference to the *linguistic turn*. But there is considerable unclarity over what this is. It is not a phrase used by any of the major philosophers of the period to refer to their work. Richard Rorty borrowed it from Gustav Bergmann as the title of his 1967 anthology of essays.¹⁰ He deemed members of the Vienna Circle, Wittgenstein and his followers, Oxford philosophers, and sundry Americans associated with these groups (including Quine), to be *linguistic philosophers* – participants in ‘the most recent philosophical revolution’.¹¹ They shared, Rorty suggested, the common belief that the problems of philosophy may be solved or dissolved either by reforming language (the advocates of this were dubbed ‘ideal language philosophers’) or by understanding more about the language we actually use (‘ordinary language philosophers’). Thus conceived, the linguistic turn characterizes the third and fourth phases of the analytic movement. Rorty sensed, rightly I think, that a deep and important change had occurred in analytic philosophy in the 1930s and 1940s – a shift in the conception of the problems and methods of philosophy that to some extent bridged the gulf that separated the Vienna Circle and affiliates (with all the differences there were between the Schlick/Waismann wing, on the one hand, and the Neurath/Carnap wing, on the other) from Oxford philosophers and affiliates and followers of Wittgenstein (with all the differences between *them*). Despite these great differences both within and between these two streams, a sea-change had occurred.

Rorty was writing at a time when the conflict between ‘ideal language philosophers’ and ‘ordinary language philosophers’ was alive. His explanation of what the ‘linguistic turn’ amounted to was geared to those specific issues, and is perhaps a little thin and myopic. His use of the term ‘ordinary language’ was unfortunate, since it was quickly forgotten that *ordinary language* amounted simply to *natural language*, no matter whether ordinary or

sophisticated, non-technical or technical (e.g. the technical language of law, mathematics or physics). It was not confined to the language of the man on the Clapham omnibus, but to *natural language* that was contrasted with the *artificial languages* of the invented calculi of logic (vide Carnap) and associated forms of regimentation (vide Quine).

With the benefit of another thirty-eight years' hindsight, I myself should wish to elaborate Rorty's account. The linguistic turn, I suggest, was taken when it was proposed

- (1) that the goal of philosophy is (a) the understanding of the structure and articulations of our conceptual scheme, and (b) the resolution of the problems of philosophy (to be specified by paradigmatic examples), which stem, *inter alia*, from unclarities about the uses of words, from covert misuses, and from misleading surface grammatical analogies in natural languages;
- (2) that a primary method of philosophy is the examination of the uses of words in order to disentangle conceptual confusions;
- (3) that philosophy is not a contribution to human knowledge about reality, either superior to or on the same level as scientific knowledge, but a contribution to a distinctive form of understanding.¹²

This turn had been initiated by Wittgenstein's *Tractatus*. It could be completed only when the metaphysical doctrines of the *Tractatus* were jettisoned and the logical doctrines accordingly modified. This was effected by Wittgenstein himself in the 1930s, and, partly under his influence, by the Vienna Circle. The three claims are common ground to most of the logical positivists, most Oxford analytic philosophers and their followers, and most of Wittgenstein's pupils. One cannot therefore characterize analytic philosophy as such, but only its third and fourth phases, by reference to the linguistic turn.

Professor Timothy Williamson has recently intimated that the linguistic turn was a bad mistake, and proclaimed that 'over the last twenty years, fewer and fewer of those who would accept the label "analytic philosophy" for their work [himself included] would also claim to take the linguistic turn'.¹³ Why these revisionists would nevertheless accept the label 'analytic philosophy' is unclear, and needs to be spelled out by them. The mere employment of the logical technology of analytic philosophy does not by itself make one into an analytic philosopher.

Curiously enough, Williamson does not identify the linguistic turn, as Rorty had done, by reference to the dramatic changes in analytic philosophy that occurred in the 1930s. Nor does he examine for himself the history of the analytic movement to see when a sea-change occurred. Rather he turns to Michael Dummett who, according to Williamson, 'gave a classic articulation of the linguistic turn, attributing it to Frege'. Dummett proclaimed that

Only with Frege was the proper object of philosophy finally established: namely that the goal of philosophy is the analysis of the structure of *thought*; secondly that the study of *thought* is to be sharply distinguished from the study of the psychological process of *thinking*; and, finally, that the only proper method for analysing thought consists in the analysis of *language* ... the acceptance of these three tenets is common to the entire analytic school.¹⁴

An articulation is *classic* if and only if it is *authoritative*. Dummett's articulation, far from being authoritative, is radically mistaken. First, it is not a view Frege ever expressed or one to which he was implicitly committed. Indeed, Frege had no view whatsoever on the proper goals of philosophy of mind, of philosophy of physics or of biology, or of ethics and aesthetics, or of legal and political philosophy. Second, Frege did not hold that the only proper way of analysing thought (the *Gedanke*) or relations of thoughts is analysing *natural* language – on the contrary, he held that 'It cannot be the task of logic to investigate language and determine what is contained in a linguistic expression. Someone who wants to learn logic from language is like an adult who wants to learn how to think from a child.'¹⁵ The proper way to analyse thought, according to Frege, is by means of the function-theoretic concept-script that he invented. Third, it is *not* a tenet common to the entire analytic school – on the contrary, most of the analytic school, both before and after 1930, harboured ambitions that reached far beyond the investigation of the 'structure' of thoughts (propositions).¹⁶ Finally, *pace* Frege, a *thought* (what Frege held we think when we think that *p*) no more has a structure than does a guess, a suspicion, a wish, an expectation, a hope or a fear – it is the *expression of a thought* that has a structure.

Williamson asserts that 'For those who took the turn, language was somehow the central theme of philosophy.'¹⁷ But language was not the central *theme* of all analytic philosophy – rather *the careful examination of language* and its use was *a salient method* of analytic philosophy from the 1930s onwards. In support of his contention, Williamson cites only Ayer, who in his youthful work *Language, Truth and Logic* claimed that the propositions of philosophy are not factual but linguistic in character, that they express definitions or formal consequences of definitions. But this is not even the view of the Vienna Circle in general, let alone of others. The *Manifesto* of the Circle declared unequivocally that

Clarification of the traditional philosophical problems leads us partly to unmask them as pseudo-problems and partly to transform them into empirical problems and thereby to subject them to the judgment of empirical science. The task of philosophical work lies in this clarification of problems and assertions, not in the propounding of special 'philosophical' pronouncements.¹⁸

In this the members of the Circle were following the *Tractatus* programme for future philosophy. That 'language was somehow the central theme of philosophy' is far too crude and vague an assertion to command the assent of the later Wittgenstein either. On the one hand, he would have denied that, in the sense in which there are propositions of physics, there are any *philosophical propositions* at all. (What he called 'grammatical propositions' are just rules for the use of words in misleading guise.) On the other hand, he insisted that his questions about how a word 'W' is used are as much about *the nature of W* as the traditional philosophers' questions (only theirs make us expect the wrong kind of answer).¹⁹ That 'language was somehow the central theme of philosophy' is not a view held by Oxford philosophers in the heyday of Oxford analytic philosophy after 1945, such as Ryle, Austin, Hampshire, Hart, Grice and Strawson. Language is the central *theme* only of philosophy of language, and even there, *not* in the sense in which it is the central theme of linguistics. The only things that can (unhelpfully) be said to be *the central themes* of philosophy are the a priori, conceptual problems of philosophy. But *a central method* of philosophy after the linguistic turn was to examine meticulously the uses of words – a method that is discarded, as it is indeed discarded by contemporary revisionists, only at a very high cost.

It is evident that Professor Williamson would reject the linguistic turn as I have characterized it. First, he approves of the post-Kripkean revival of metaphysics. Second, he suggests that with the rise of contemporary philosophy of mind and its advocacy of the notion of a mental representation, a *representational turn* has displaced the linguistic turn. So the goal of philosophy 'might' (he says carefully) be argued to be the analysis of representations. Williamson's metaphysical predilections and his sympathies with the investigation of mental representations are synthesized in the thought that 'perhaps one cannot reflect on thought or talk about reality without reflecting on reality itself'. So reflecting on representations can, he suggests, yield knowledge of the world.²⁰ So, it seems, we can have both a 'representational turn' and *de re* metaphysics as of old. With the 'rigour and precision' provided by the predicate calculus and modal logic, Professor Williamson proclaims, we have only now arrived at 'the end of the beginning' of philosophy.²¹

One may be surprised to learn that thinking alone can yield knowledge of reality. Kant, one might suppose, had something important to say on that matter. But 'appeals to the authority of Kant ...', Williamson avers, 'ring hollow, for they are unbacked by any argument that has withstood the test of recent time.' How then *can* thinking alone yield knowledge? 'Although we do not fully understand *how* thinking can provide new knowledge', Williamson remarks, 'the cases of logic and mathematics constitute overwhelming evidence that it does.'²² – Perhaps; but also, perhaps not – depending on whether propositions of logic say anything at all, and on whether the mathematician is a discoverer or an inventor. But be that as it

may, the cases of logic and mathematics do not constitute any evidence whatsoever that thinking provides new knowledge of *reality*.

It seems to me that if this is philosophy after the linguistic turn, the sooner it makes another turn – to the study of the history of philosophy – the better. I doubt whether anyone would wish to appeal to the *authority* of Kant, or of Carnap, Wittgenstein or Strawson.²³ What they would appeal to are their *arguments*. The ‘test of recent time’ has not addressed these, but only evaded them.

I cannot examine the conceptions of the revisionist metaphysical and representational turn in the detail they require to eradicate the confusions. What I shall try to do all too briefly is to specify critically the great issues. The much vaunted revival of metaphysics is partly dependent upon the ideas that there are such things as contingent a priori truths (e.g. that the Standard Metre is a metre long²⁴) and as necessary a posteriori truths (e.g. that water is H₂O).²⁵ Let me very briefly indicate why these are not exciting new insights re-licensing the old pseudo-science of metaphysics, but merely new confusions.

Specifying a sample, such as the Metre Bar, as the defining sample of a property, namely the property of being a metre length, is not ascribing to the sample the property which it defines. As Wittgenstein observed, one cannot say of the Standard Metre Bar either that it is a metre long or that it is not a metre long, precisely because it was given the role of the canonical sample of a metre length. Since ‘a metre’ was *defined* as the length of the Standard Metre under specified conditions, to say that the Standard Metre is a metre long would be to say that it is as long as itself, i.e. to say nothing. And to say that the Standard Metre is not a metre long would be to say that it is not the length it is, i.e. to talk nonsense. ‘The Standard Metre Bar is a metre long’ is a definition, not a description attributing a length to that platinum-iridium bar. It is not a ‘metaphysical truth’ (and if it were, it would hardly be something that would-be metaphysicians could be proud of disclosing to the Royal Society as their contribution to our knowledge of reality). Nor is it a ‘contingent a priori truth’ – there is no such thing. Rather, it is the expression of a rule.²⁶ (It *can* be said to be true, but only after the fashion in which it can be said to be true that the chess king moves one square at a time.) Of course, we might have had a different rule and might have used a longer or shorter sample – but then ‘one metre’ would have had a different meaning. Similarly, the Standard Metre Bar might be stretched or compressed – but then we would not continue to use as the standard, and would make a new Standard Metre Bar – we are, after all, not at the mercy of our sample.

Water is not *identical* with H₂O (that makes scant sense, ‘H₂O’ being a constitutive *formula*, not a name) – rather, the chemical formula for water specifies its molecular constitution. Water *consists* of two parts hydrogen and one part oxygen in chemical combination. That is an empirical (a posteriori) discovery, but there is no reason to suppose that it is a discovery of

a 'metaphysical necessity'. It is not as if anyone has given a coherent non-trivial account of what a so-called *metaphysical necessity* might be. But even if we could make sense of it, that would not provide topic-hungry philosophers with a subject matter. Nor would it make chemists into metaphysicians. For scientific purposes, chemists may harden the empirical proposition that water consists of molecules of H_2O into a rule. Then one may say, not very usefully, that for purposes of chemical discourse it is a 'necessary truth'. All that means is that it is a convention of chemical discourse that if a stuff does not consist of two parts hydrogen and one part oxygen in chemical combination, then it will not count as water.²⁷ The questions raised about the structure, necessary or contingent, of natural stuffs require careful investigation and clarification of the *concepts* of necessity and contingency, and of the *role* of such propositions as 'water is H_2O ' – i.e. just more conceptual analysis and clarification of uses of language – the technical language of chemistry – in order to dispel conceptual confusion.

According to Williamson, contemporary metaphysics has as its goal 'to discover what fundamental kinds of things there are and what properties and relations they have . . . It studies substances and essences, universals and particulars, space and time, possibility and necessity.'²⁸ This endeavour, he rightly says, is continuous with traditional metaphysics. But philosophers are not meta-physicists. Physics studies what fundamental kinds of things there are and what properties and relations they have. No one would look to philosophers for discoveries about mesons or quarks; or about space and time – but only for clarification of the concepts of space and time. The study of substances (stuffs) is the province of chemistry. All philosophy can possibly do is clarify the logico-grammatical character of substance concepts – both concepts of stuffs of different sorts and concepts of persistent things of different kinds. The chemist studies substances in his laboratory, but the philosopher does not have the luxury of studying substances *in that sense* in the comfort of his armchair. The most he can do is clarify such purely conceptual matters as: what is an essential property? do all *nominata* signify things that have an essence? what does it mean to say that redness, or justice, or wisdom exists? The study of *possibility* and *necessity* doubtless sounds impressive: physicists, it seems study the contingencies of this world, but the meta-physicist studies the necessary features of *any possible world!* But this is long-since exploded mythology. The philosophical investigation of necessity and possibility is no more than the (exceedingly difficult) systematic description of the many-faceted uses of the modal verbs 'can' and 'must' (their cognates and negations) for purposes of philosophical clarification of confusions such as those exemplified by the new metaphysicians.

Professor Williamson claims that the representational turn has displaced the linguistic turn. The notion of a mental representation is, he contends, central to the new philosophy of mind. Language is one form of representation, and thought is another.

One might therefore classify both thought and language together under the more general category of representation, and argue that . . . the goal of philosophy is the analysis . . . of representation . . . We represent how things are when we know or believe or assert that they are some way.

‘What language and thought have most obviously in common’, Williamson contends, ‘is that they are both manifestations of *mind* . . . It is no platitude to claim that the goal of philosophy is to analyse [such manifestations of mind].’²⁹

Language might be said to be a *medium* of representation. A segment of the grammar³⁰ of a particular language can be said to be a *form of representation* (e.g. the grammar of colour, sensation, perception). But *thought* is neither a form nor a medium of representation. It is mistaken to suppose that when we know or believe that things are thus-and-so, we represent anything to ourselves. It is only when we say (draw, sculpt, etc.) what we think, know or believe that we represent anything. Thought, knowledge and belief are *all message and no medium*. But, as John Hyman has nicely pointed out, a thing can be a representation of something only if it has, in addition to its representational properties, some non-representational properties in virtue of which it *can* represent whatever it represents – which thought, knowledge and belief patently lack. The spoken word has various non-representational aural properties; the written word various non-representational visual properties (or, in the case of Braille, tactile properties); the painting is made of paint thus thick and canvas thus woven. In Marshall McLuhan’s jargon, *the message needs a medium*. But one may think, know or believe that *p*, without saying anything, either aloud or to oneself; and one’s thought, knowledge or belief is no representation. If there were such a thing as a *language of thought*, as Wittgenstein once believed (and some still do), then a thought, like a significant sentence in use, would be a representation. But as he came to realize (and explained) in the early 1930s, there can be no such thing.³¹

One might suppose not that a *thought* is a representation, but that *thinking* is representing – that when one thinks, knows or believes something, there is (or must be?) a representation of what one thinks, knows or believes *in one’s brain*. But that is incoherent. There can be no representations of anything without conventions of representation, and there can be no conventions of representation that are not the conventions of sentient creatures. So, in the sense in which the symbols of a language are used to represent things, neural states and conditions cannot represent anything. They can be signs *of* something, but not signs *for* anything.

Consequently, it is mistaken to suppose, as Professor Williamson does, that one can coherently classify both thought and language together under the more general category of representation. It is therefore also mistaken to argue that the linguistic turn was just the first phase of a *representational turn*. I agree with Professor Williamson that it is no platitude to claim that

the goal of philosophy is to analyse such manifestations of mind as language and thoughts. It is, as far as I can see, just mistaken, although to be sure, both the concept of language and the concepts of thought and thinking are sources of endless confusion and hence fit subjects for philosophical reflection.

Philosophy is not an extension of science. It is not a kind of conceptual scullery maid for the sciences, as Locke supposed. Nor is it superior to the sciences – a super-science of all possible worlds, to be investigated by means of ‘thought-experiments’ from the comfort of the armchair, as contemporary revisionists suppose. (Thought-experiments are no more experiments than monopoly-money is money.) It is, as Kant intimated, *the Tribunal of Sense*. So: back to the linguistic turn. The aim of philosophy is the clarification of the forms of sense that, in one way or another, are conceptually puzzling – for they are legion. The charge of philosophy – a Sisyphean labour, to be sure – is the extirpation of nonsense. There is, Heaven knows, enough of it, both in philosophy and in the empirical and a priori sciences. The prize is not more *knowledge* about anything. Rather, it is a proper understanding of the structure and articulations of our conceptual scheme, and the disentangling of conceptual confusions.

Notes

- 1 I am grateful to Hanoch Ben-Yami, Oswald Hanfling, John Hyman, Hans Oberdiek and Bede Rundle for their comments on an earlier draft of this paper.
- 2 For a comparison of the Carnapian and Wittgensteinian styles of anti-metaphysical thought, see Peter Hacker, ‘On Carnap’s Elimination of Metaphysics’, repr. in *Wittgenstein: Connections and Controversies* (Oxford: Clarendon Press, 2001). For a sketch of Wittgenstein’s criticisms of metaphysics, see Peter Hacker, *Wittgenstein’s Place in Twentieth-Century Analytic Philosophy* (Oxford: Blackwell, 1996), pp. 117–23.
- 3 For a thorough-going critical examination of logical pragmatism, see H.J. Glock, *Quine and Davidson on Language, Thought and Reality* (Cambridge: Cambridge University Press, 2003).
- 4 Russell was to drop this muddled conception of propositions in favour of a slightly less muddled conception of facts as composing the world. Then the sentences of natural language were argued to misrepresent not the real forms of the propositions they signify, but the real forms of the facts they describe.
- 5 His conception of analysis (which belongs to what he called ‘the application of logic’) is spelled out more clearly in ‘Some Remarks on Logical Form’ (*Proc. Arist. Soc.*, ix, 1929) than in the *Tractatus* itself.
- 6 Ludwig Wittgenstein, *The Big Typescript: TS 213*, ed. and tr. C.G. Luckhardt and M.A.E. Aue (Oxford: Blackwell, 2005), p. 308.
- 7 For the anticipation of Ryle’s conception of ‘logical geography’ of concepts in Wittgenstein, see G.P. Baker and Peter Hacker, *Wittgenstein – Understanding and Meaning*, 2nd extensively revised edn by Peter Hacker (Oxford: Blackwell, 2005), Part 1, pp. 284–8, and Part 2, pp. 33, 261. For Strawson’s conception of connective analysis, see P.F. Strawson, *Analysis and Metaphysics* (Oxford: Oxford University Press, 1992), ch. 2.
- 8 Wittgenstein, MS 112, 58r, cf. *The Big Typescript*, p. 430.

- 9 The most recent, and most powerful, criticism of the predicate calculus as a representation of the semantics of natural languages is H. Ben-Yami's *Logic and Natural Language: On Plural Reference and its Semantic and Logical Significance* (Aldershot: Ashgate, 2004). This has added greatly to the Strawsonian criticisms and to those of B. Rundle, in his *Grammar in Philosophy* (Oxford: Clarendon Press, 1979).
- 10 G. Bergmann, *Logic and Reality* (Madison: University of Wisconsin Press, 1964), p. 177; see Richard Rorty, *The Linguistic Turn* (Chicago, IL: University Of Chicago Press, 1967), 'Introduction', pp. 8f.
- 11 Rorty, *ibid.*, p. 3.
- 12 This requires marginal qualification: since the examination of the use of words may bring to light analogies and disanalogies of which we were not aware, and may thus bring us to *realize* things about our conceptual scheme that we had not realized before, one might concede that *in this sense* philosophy may enlarge our knowledge. It does not enlarge our knowledge of the world and it does not *discover* new knowledge of the world or produce confirmable hypotheses or theories about it. But it may give us knowledge of aspects of our conceptual scheme (our forms of representation) by way of *realization* of the character of what is, so to speak, before our eyes.
- 13 T. Williamson, 'Past the Linguistic Turn', in B. Leiter (ed.) *The Future for Philosophy* (Oxford: Oxford University Press, 2005), p. 107.
- 14 M.A.E. Dummett, 'Can Analytic Philosophy be Systematic and Ought it to be?' repr. in *Truth and other Enigmas* (London: Duckworth, 1978), p. 458, quoted by Williamson, *ibid.* Williamson rightly notes that by Dummett's criteria Russell would not count as an analytic philosopher.
- 15 G. Frege, letter to Husserl 30 October 1906/1 November 1906, in *Philosophical and Mathematical Correspondence* (Oxford: Blackwell, 1980), pp. 67f.
- 16 Moore held that 'the first and most important problem of philosophy is: to give a general description of the *whole* universe' (*Some Main Problems of Philosophy* (London: George Allen and Unwin, 1953), pp. 1–2); Russell said that his endeavour for the whole of his career had been 'to understand the world as well as may be and to separate what may count as knowledge from what must be rejected as unfounded opinion' (*My Philosophical Development* (London: Allen and Unwin, 1959), p. 217). This was Cantabrigian enthusiasm, but even the later, more sober, Oxonians had quite different ambitions. Ryle's *Concept of Mind* was not an investigation into the structure of propositions, and nor was Austin's 'A Plea for Excuses' or *Sense and Sensibilia*; Hart's *Concept of Law* was an investigation into the nature of law, not into the nature of the thought; and so on.
- 17 Williamson, *ibid.*, p. 106.
- 18 *The Scientific Conception of the World: the Vienna Circle [1929]* (Dordrecht: Reidel, 1973), p. 8. The *Manifesto* was signed by Hahn, Neurath and Carnap. Both Feigl and Waismann were involved in the drafting.
- 19 See Wittgenstein, *Philosophical Investigations* (Oxford: Blackwell, 1953), §370.
- 20 Williamson invokes the imprimatur of a remark made by David Wiggins: 'Let us forget once and for all the very idea of some knowledge of language or meaning that is not knowledge of the world itself' (*Sameness and Substance Renewed* (Cambridge: Cambridge University Press, 2001), p. 12). Williamson interprets that thought as warranted by the alleged fact that 'In defining words – for example, natural kind terms – we must point at real specimens.' Disentangling current confusions about natural kind terms would take a book in its own right, but it is worth bearing in mind some elementary truisms. We do not define what the fundamental particles of nature are by pointing at anything. We define them by their properties, not by their structure, since they lack any structure (cf. H. Ben-Yami, 'The Semantics of Kind Terms', *Philosophical Studies* 2001, pp. 155–

- 84). Scientists do not define the elements of which all material things consist by pointing at anything either, but by reference to the Periodic Tables and the properties there exhibited. And although we may use specimens as defining samples for biological substances, we need not (and in palaeontology obviously cannot). For humdrum pedagogic purposes of teaching a child what 'elephant' or 'pterodactyl' signifies, a picture will do just as well; for other purposes, a scientific classification will serve.
- 21 Williamson, 'Must Do Better', in P. Greenough and M. Lynch (eds) *Proceedings of the 2004 St Andrews Conference on Realism and Truth* (Oxford: Oxford University Press, 2005), p. 187. I recollect another of his predecessors in the Wykeham Chair of Logic in the University of Oxford, Professor Michael Dummett, making a similar claim thirty years ago, when he wrote that 'philosophy has only just very recently struggled out of its early stage into maturity' ('Can analytic philosophy be systematic and ought it to be?', repr. in *Truth and Other Enigmas* (London: Duckworth, 1978), p. 457. One can blow the Last Trumpet once, but not once every generation. In truth, philosophy reached the end of its beginning in Athens more than two thousand years ago, and struggled into full maturity in the groves of the Academy and the Lyceum, not in the gardens of New College.
- 22 Williamson, 'Past the Linguistic Turn', p. 127.
- 23 Strawsonian 'descriptive metaphysics' is a logico-linguistic investigation into the most general features of *our conceptual scheme* – not of the world. For discussion, see Peter Hacker, 'Strawson's Rehabilitation of Metaphysics', repr. in *Wittgenstein: Connections and Controversies* (Oxford: Clarendon Press, 2004), pp. 345–75.
- 24 This confusion originates in Saul Kripke's mistaken criticism of *Philosophical Investigations* §50 in his *Naming and Necessity* (Cambridge, MA: Harvard University Press, 1972), pp. 54–6. Kripke claimed that if 'the Standard Metre' is taken as a rigid designator, then the statement that it is one metre long is both contingent and a priori (p. 56). For discussion of Wittgenstein's simple point see G.P. Baker and Peter Hacker, 'The Standard Metre', in *Wittgenstein: Understanding and Meaning*, 2nd revised edn by Peter Hacker (Oxford: Blackwell, 2005), Part I: Essays.
- 25 Kripke, *ibid.*, Lecture 3, and Hilary Putnam, 'The meaning of meaning', repr. in his *Mind and Reality, Philosophical Papers*, vol. 2 (Cambridge: Cambridge University Press, 1975) have advanced this view.
- 26 See N. Malcolm, 'Kripke and the Standard Metre', repr. in his *Wittgensteinian Themes: Essays 1978–89*, ed. G.H. von Wright (Ithaca, NY: Cornell University Press, 1995), pp. 56–65, and G.P. Baker and Peter Hacker, 'The Standard Metre' in *Wittgenstein: Understanding and Meaning*, 2nd revised edn by Peter Hacker (Oxford: Blackwell, 2005), Part I: Essays, and exegesis of §50 in Part II.
- 27 For detailed criticism, see J. Dupré, *The Disorder of Things* (Cambridge, MA: Harvard University Press, 1993), ch. 1, and H. Ben-Yami, 'The Semantics of Kind Terms', *Philosophical Studies* 2001, pp. 155–84.
- 28 Williamson, 'Past the Linguistic Turn', pp. 110–11.
- 29 Williamson, 'Past the Linguistic Turn', p. 108.
- 30 In Wittgenstein's sense.
- 31 For his early hypothesis of a language of thought, see *Tractatus* 3–3.1 and 5.542, *Notebooks 1914–16* (Oxford: Blackwell, 1961), pp. 82 and p. 129f (letter to Russell, 19 August 1919). For discussion, see Peter Hacker, *Wittgenstein: Mind and Will* (Oxford: Blackwell, 1996), 'Intentionality', §2 and §4.

8 Kant, Wittgenstein and the fate of analysis

Robert Hanna

Philosophy ... is in fact the science of the relation of all cognition and of all use of reason to the ultimate end of human reason, to which, as the highest, all other ends are subordinated, and in which they must all unite to form a unity. The field of philosophy in this cosmopolitan sense can be brought down to the following questions: 1. *What can I know?* 2. *What ought I to do?* 3. *What may I hope?* 4. *What is man?* *Metaphysics* answers the first question, *morals* the second, *religion* the third. Fundamentally, however, we could reckon all of this as anthropology, because the first three questions relate to the last one.

(*JL* 9: 24–5)

Philosophy is not a theory but an activity.

(*TLP* 4.112)

What has to be accepted, the given, is – so one could say – *forms of life*.

(*PI* 226e)

In the light of a primary reason, an action is revealed as coherent with certain traits, long- or short-termed, of the agent, and the agent is shown in his role of Rational Animal.

(Donald Davidson)¹

1 Introduction

What is philosophical analysis? According to a highly influential conception dominant in the writings of Frege, Moore, Russell and Wittgenstein from the late 1870s to the mid-1920s, and which I will call the *logical-decompositional theory* of analysis,

- (1) analytic propositions are necessary a priori logical truths, and
- (2) analysis is the process of (2.1) logically decomposing analytic propositions² into metaphysical simples, which are mind-independently real yet immediately and infallibly apprehended with self-evidence, and then (2.2) rigorously logically reconstructing those propositions by formal deduction from (a) general logical laws and (b) premises

that express logical definitional knowledge in terms of the simple constituents.

As I will argue, the logical-decompositional theory of analysis was importantly negatively determined by the combined Fregean, Moorean, Russellian and especially early Wittgensteinian rejection of what I will call Kant's *conceptual-decompositional theory* of analysis in the *Critique of Pure Reason* and the *Jäsche Logic*. At the same time however, the very idea of analysis as the process of logically decomposing an analytic proposition into its constituent parts, followed by a logical reconstruction of the same proposition, is shared by both theories.

But, as I will also argue, the later Wittgenstein's devastating critique in the *Philosophical Investigations* of the doctrines of his own earlier philosophical self in the *Tractatus Logico-Philosophicus* motivates a radically wider and more open-textured conception of analysis. Indeed, Wittgenstein's radical transformation of analysis returns us full circle to Kant's notion of philosophy, developed in the second half of the first *Critique* and in the Introduction to his *Logic*, as a logically self-critical rational anthropology. This in turn provides us with a positive intimation of the nature of philosophical analysis in our so-called 'post-analytic' era.

2 Conceptual analysis, the first *Critique* and transcendental idealism

Kant's theory of analysis depends on his theory of 'concepts' (*Begriffe*), which in turn depends on his theory of mental 'representation' (*Vorstellung*).

A concept is an essentially 'mediate' and 'objective' conscious mental representation (*CPR* A320/376–7). To say that a concept is *objective* is to say that it intrinsically has object-directedness or 'aboutness', and also that it is intersubjectively rationally communicable. So a concept is an abstract mental representation type with intrinsic intentionality, that also is tokened in many different conscious mental states. This is as opposed to merely 'subjective' mental representations, which may lack intentionality and which may occur in only one conscious mental state and thus (in a contingent way) privately.

To say that a concept is a *mediate* representation is to say that it represents objects indirectly by means of intrinsically general descriptive attributes called 'marks' or 'characteristics' (*Merkmale*) (*JL* 9: 58). This is as opposed to an 'intuition' (*Anschauung*), which represents objects directly, singularly, and non-descriptively (*CPR* A320/377).

Otherwise put, a concept is constituted by an ordered set of inherently general or universal marks or characteristics (*CPR* A25/B40) (*JL* 9: 58). This ordered set is an intensional 'content' or *Inhalt*, and corresponding to this intensional content is a cross-possible-worlds 'extension' or *Umfang* consisting of all the actual and possible objects that fall under that content by satisfying the descriptive criteria of the marks that constitute it (*JL* 9: 91,

95–6). Marks or characteristics are sub-concepts of the concept they constitute. The ordering and structuring of the sub-concepts of a given concept is isomorphic to the ordering and structuring of concepts more generally (*JL* 9: 58–61, 95–9). Hence Kant’s theory of the ordering and structuring of concepts is also a theory of *conceptual microstructure*.³

Even more precisely however, conceptual ordering on Kant’s scheme is either *vertical* or *horizontal*.

First, the vertical ordering. ‘Higher’ or superordinate concepts are determinables⁴ and have broader extensions. ‘Lower’ or subordinate concepts are determinates of those determinables and have narrower extensions. Higher determinable concepts are contained *in* their lower determinate concepts, and lower determinate concepts are contained *under* their higher determinable concepts. Thus the concept MALE is contained *in* the concept BACHELOR and the concept BACHELOR is contained *under* the concept MALE.

And second, the horizontal ordering. Two or more concepts are coordinate if they are both lower or determinate concepts of the same higher or determinable concept, but do not have identical extensions. At the limit, coordinate concepts do not share any members of their extensions. Thus MALE and UNMARRIED provide an example of partially overlapping coordinate concepts under HUMAN; and ADULT and NON-ADULT provide an example of exclusive coordinate concepts under HUMAN.

Against this theoretical backdrop, a conceptual analysis for Kant is a ‘decomposition’ (*Zergliederung*) of that concept in the sense that it displays the internal ordering and structuring of the sub-concepts of a given concept: or otherwise put, it displays that concept’s microstructure. Basically, the idea is to treat the analysed concept or analysandum as the lowest determinate concept, and then find a set of non-exclusive coordinate determinables that has exactly the same extension as the concept itself. Any two concepts, whether simple or complex, that share the same extension, Kant calls ‘convertible’ or ‘reciprocal’ concepts (*JL* 9: 98). Thus an analysis of BACHELOR yields

< ADULT + UNMARRIED + MALE >

and the concepts BACHELOR and ADULT UNMARRIED MALE are convertible or reciprocal concepts.

Each of the marks or characteristics belonging to the decomposable microstructure of a given concept is a *constituent* mark or characteristic of that concept, in the sense that it is a proper and intrinsic part of the concept that it partially constitutes. The total set of such constituent marks or characteristics is thus a conceptual *essence* (*JL* 9: 60–1). Finding one or more of the constituent marks of a given concept is called giving an ‘exposition’ of that concept that also ‘expounds’ it (*CPR* A729/B757) (*JL* 9: 141–3).⁵ Corresponding to each such expounding exposition is an analytic judgment in simple categorical form that predicates the constituent mark of its given concept, because

- (1) the predicate-concept of the judgment is thereby contained in the subject-concept,
- (2) the predicate concept is identical with at least one of the constituents (*JL* 9: 111), and
- (3) the denial of that judgment entails a formal contradiction between the negation of the predicate, and some constituent mark of the given concept (*CPR* A150–3/B189–93).

Thus ‘Bachelors are adults’, ‘Bachelors are unmarried’, ‘Bachelors are males’, ‘Bachelors are unmarried adults’, ‘Bachelors are adult males’, ‘Bachelors are unmarried males’, and ‘Bachelors are adult unmarried males’ are all analytic judgments that correspond to different expounding expositions of the concept BACHELOR.

A complete decomposition of a given concept yields an analytic definition of that concept (*JL* 9: 140–5). But Kant is both fully aware and also quite explicit that analytic definitions are very thin on the ground:

Since one cannot become certain through any test whether one has exhausted all the marks of a given concept through a complete decomposition, all analytic definitions are held to be uncertain.

(*JL* 9: 142)

In fact, definitions are in general an ideal goal of analysis rather than a requirement of analysis. All that is required is an exposition or *partial* analysis of any given concept: that is, all that is required is to find at least some of the constituent marks of any given concept. Indeed, the very supposition that one requires a complete analysis of a concept and therefore a definition of it, in order to be able to deploy it in philosophy or use it in ordinary reasoning and thought, is a fundamental philosophical error:

Philosophy is swarming with mistaken definitions, especially those that actually contain elements for a definition but are not yet complete. If we could not make use of a concept until we had defined it, then all philosophizing would be in a bad way.

(*CPR* A731/B759 n.)

As a consequence, conceptual-decompositional analysis, and along with it, the search for analytically necessary a priori truths – but *not* the search for definitions – is a crucial part of philosophy. For Kant, the primary goal of philosophy is to find, explain, justify and know *principles*, that is, fundamental normative necessary a priori laws of nature, metaphysics, logic, morality and aesthetic experience (*CPR* B19, A50–A64/B74–B88, A148–62/B188–202, A836/B865) (*CPJ* 5: 286–7). These laws are normative because they tell us, categorically, how we human animals *ought* to know scientifically (*Wissen*), think, will, act and feel if we are also to be rational. Most of

these principles are *synthetically* necessary a priori, and not analytic. Nevertheless analytic truths, and in particular the laws of logic, are also amongst the principles.

This is *not* to say that conceptual analysis can never be trivial, however. It is trivial if the analysis yields an exposition of a purely arbitrary or stipulative concept. For such concepts might fail to be objectively valid and thereby fail to pick out real objects of actual or possible human experience (*CPR* A729/B757). And as we have seen, the search for a complete analysis or definition can also lead to theoretical disaster. But assuming that the concept is objectively valid, then a partial conceptual analysis, i.e. the partial decomposition of a concept into its constituent marks, is an important and indeed necessary part of philosophy:

But since, however far the elements (of the decomposition) reach, a good and secure use can always be made of them, even imperfect definitions, i.e., propositions that are not really definitions but are true and thus approximations of them, can be used with great advantage.

(*CPR* A731/B759 n.)

But why, more precisely, is conceptual analysis philosophically important and necessary? The Kantian answer is that it tells us about the nature of the concepts we can already effectively use but do not fully possess, in that it tells us about the fine-grained details of the microstructures of the several concepts in our existing conceptual repertoire:

A great part, perhaps the greatest part, of the business of our reason consists in decompositions of the concepts we already have of objects. This affords us a multitude of cognitions that, though they are nothing more than illuminations or clarifications of that which is already thought in our concepts (though still in a confused way), are, at least as far as their form is concerned, treasured as if they were new insights, though they do not extend the concepts that we have in either matter or intensional content but only set them apart from each other ... [T]his procedure does yield real *a priori* cognition, which makes secure and useful progress.

(*CPR* A5–6/B9–10)

In short, conceptual analysis yields a crucial form of rational self-knowledge. For Kant, the conceptual analysis of objectively valid concepts does indeed tell us about humanly experienceable reality and the empirical world, but only indirectly and derivatively; more directly and originally, conceptual analysis is all about *us* as rational human animals.

This raises a crucial point about Kant's conception of analysis. It needs to be emphasized that focusing on conceptual analysis is a somewhat misleading way to present Kant's Critical philosophy. The basic aim of the

Critical philosophy is to establish the doctrine of *transcendental idealism*. Well, what is transcendental idealism? The telegraphically short answer is that it is the doctrine which says that *all knowable reality is anthropocentric*.

But here is a slightly less telegraphic answer. Transcendental idealism depends on a pre-theoretical brute fact – the brute fact that there are inherent anthropocentric limitations on our capacity for reason. On the cognitive side of our nature, human reason is sharply constrained by three special conditions of human sensibility: two formal conditions, namely the necessary a priori representations of space and time (*CPR* A38–9/B55–6); and one material condition, namely affection, or the triggering of cognitive processes by the direct givenness of something existing outside the human cognitive faculty (*CPR* A19/B33).⁶ Granting that, then Kant's transcendental idealism, as the name suggests, is the conjunction of two sub-theses: (i) the transcendentalism thesis, and (ii) the idealism thesis.

- (i) The transcendentalism thesis says that all the representational contents of cognition are strictly determined in their underlying forms or structures by a set of underived, universal, innate, a priori human cognitive capacities, also known as 'cognitive faculties' (*Erkenntnisvermögen*). The whole system of cognitive capacities is constrained in its operations by both 'pure general logic' (the topic-neutral or ontically uncommitted, a priori, universal, and categorically normative science of the laws of thought) and also by 'transcendental analytic' (which is pure general logic that is semantically and modally restricted by an explicit ontic commitment to the proper objects of human cognition) (*CPR* A50–7/B74–82).
- (ii) The idealism thesis says that the proper objects of human cognition are nothing but objects of our sensory experience – appearances or phenomena – and not things-in-themselves or noumena, owing to the fact that space and time are nothing but necessary subjective forms of sensory intuition (Kant calls this the 'ideality' of space and time), together with the assumption that space and time are intrinsic structural properties of every object in space and time (*CPR* A19–49/B33–73, A369) (*P* 4: 293).

Appearances, in turn, are token-identical with the intersubjectively communicable contents of sensory or experiential representations (*PC* 11: 314). Correspondingly, the essential forms or structures of the appearances are type-identical with the representational forms or structures that are generated by our universal innate a priori human mental faculties: 'objects must conform (*richten*) to our cognition' (*CPR* Bxvi), and 'the object (as an object of the senses) conforms to the constitution of our faculty of intuition' (*CPR* Bxvii).

Putting transcendentalism and idealism together, we now have the complex conjunctive Kantian metaphysical thesis of transcendental idealism, capturing the fundamental idea that all knowable reality is anthropocentric:

Human beings can cognize and know only either sensory appearances or the forms or structures of those appearances – such that sensory appearances are token-identical with the contents of our objective sensory cognitions, and such that the essential forms and structures of the appearances are type-identical with the representational forms or structures generated by our own cognitive faculties, especially the intuitional representations of space and time – and therefore we can neither cognize, nor scientifically know,⁷ nor even meaningfully assert or deny, anything about things-in-themselves. (See *CPR* A369, B310–11)

Now what is the *point* of transcendental idealism? Kant's answer to that question, which is worked out in the first *Critique*, is that transcendental idealism alone adequately explains how synthetic a priori propositions – i.e. non-analytically, non-logically necessary, experience-independent truths – are semantically possible or objectively valid (*CPR* B19), *and* also how human freedom of the will, as a foundation of morality (where the other foundation is the Categorical Imperative, which in turn, as we learn in the third section of the *Groundwork of the Metaphysics of Morals* and the *Critique of Practical Reason*, necessarily and reciprocally implies real freedom of the will), is both logically and metaphysically possible (*CPR* Bxxv–xxx, A530–58/559–86).

It should be clear enough now that whilst conceptual-decompositional analysis has an important and necessary role to play in Kant's project of transcendental idealism, it is also at best a subsidiary role. Analysis defers to anthropocentric metaphysics.

3 Logical atomism, the *Tractatus* and solipsistic idealism

My historical hypothesis is that analytic philosophy arose when, when, at the end of the nineteenth century,

- (1) Kant's transcendental idealism and Hegel's absolute idealism were alike rejected by the early analytic philosophers, who did this by proximally rejecting neo-Kantianism and neo-Hegelianism,⁸ and at the same time,
- (2) Kant's *conceptual*-decompositional theory of analysis was rejected and replaced by the *logical*-decompositional theory of analysis.⁹

To be sure, logical-decompositional analysis importantly refines the notion of a decomposition by

- (a) replacing the psychological notion of a concept with the logico-mathematical notion of a *function*,¹⁰ and
- (b) requiring the translation of natural language sentences into the canonical notation of *symbolic logic* prior to the decomposition of

the propositions expressed by those sentences, in order to avoid logical confusions based on the misleading surface grammar of natural languages.

But even after the rejection of both idealism and Kant's conception of analysis, the thesis that analysis is fundamentally decompositional remained firmly in place.

The early analytic philosophers who carried out this philosophical revolution were of course Frege, Moore, Russell and the early Wittgenstein. And the revolution happened in stages. Frege created new and explicitly non-Kantian conceptions of the analytic proposition and analysis that were designed to make possible the reduction of arithmetic to Fregean logic, and to show that Kant was wrong that the truths and proofs of arithmetic are synthetic a priori. Moore replaced Kantian concepts and judgments with mind-independent properties and propositions that could be directly intuited with self-evidence. Russell then absorbed and extended both Frege's logic and Moore's metaphysics and epistemology, and produced the mature theory of logical-decompositional analysis as the centrepiece of his general epistemological and metaphysical doctrine of *logical atomism*.¹¹ Finally, in the *Tractatus*, early Wittgenstein radically refined Russellian logical atomism and also definitively closed it as a philosophical programme.

So how did the early Wittgenstein manage to do that? Answer: by means of the following (rationally reconstructed) basic argument.

The basic argument of the *Tractatus*

- (1) The world, or reality, is the totality of facts, not things or objects (*TLP* 1.1).
- (2) The facts are in logical space (*TLP* 1.13, 2.013).
- (3) Facts are either molecular (complex) or atomic (*TLP* 2.01, 2.0201).
- (4) Molecular facts logically reduce to atomic facts, which can be either positive (existent) or negative (non-existent), and which are logically independent of one another (*TLP* 2.034, 2.06, 2.0211).
- (5) Atomic facts logically reduce to configurations of objects (*TLP* 2.0272).
- (6) Objects are absolute simples, which intrinsically possess both
 - (i) 'internal qualities' that determine all the possible logical configurations of objects with other objects, and
 - (ii) general logical forms, amongst which are space, time and colour (*TLP* 2.01231, 2.0124, 2.02, 2.0251).
- (7) Objects are represented (directly referred to) by names, and atomic facts are represented (pictured) by propositions, which are bipolar (T/F) truth-bearers and also the vehicles of sense (*TLP* 2.1–2.25).
- (8) Propositions are nothing but complex linguistic facts (complex symbols), and thus logically reduce to configurations of simple linguistic

- objects (simple symbols or names of objects, and logical constants) (*TLP* 3.1–3.3).
- (9) Unlike names of objects and atomic propositions, the logical constants do not represent (name or picture) (*TLP* 4.0312); instead they *show* (non-representationally convey) the logical form of reality via propositions (*TLP* 4.12–4.121).
 - (10) Thought (which includes judging, believing, asserting and statement-making) is nothing but the correct private use of propositional signs by a language-using subject (*TLP* 3.3–4.002).
 - (11) Therefore the representing-relation between propositions and the facts they represent requires a representing and language-using subject.
 - (12) There is one and only one thinking and language-using subject, the ego (*TLP* 5.62).
 - (13) The ego is a non-psychological, metaphysical subject of thought and language – a subject which is not a part of the world, but instead constitutes the limit of the world (*TLP* 5.6–5.62, 5.631–5.641).
 - (14) The world depends both for its existence and also for the determination of its nature on the metaphysical subject (*TLP* 5.621–5.63).
 - (15) Logic is the a priori essence of thought, language, and the world (*TLP* 4.121, 5.552, 5.6–5.61, 6.124, 6.13).
 - (16) Therefore logic explanatorily reduces to the metaphysical subject.
 - (17) Therefore everything explanatorily reduces to the metaphysical subject.

In other words, if my reconstruction is correct, then the *Tractatus* offers us the most radical possible form of logical atomism, according to which there is a logical reduction of everything to a single entity: a unique metaphysical subject. Logic is how the metaphysical subject cognitively expresses itself towards its world, and ethics is how the metaphysical subject *non-cognitively* expresses itself towards its world (*TLP* 6.4–6.522). This is Wittgenstein's *solipsistic idealism*. It is of course beautifully ironic that although the analytic tradition arose from the rejection of idealism, and although logical atomism was specifically designed to replace idealism, nevertheless the most radical form of logical atomism – Tractarian logical atomism – is itself a particularly radical form of idealism.¹²

In any case, against this radical metaphysical backdrop, early Wittgenstein also develops a correspondingly radical conception of logical-decompositional analysis. The proper targets of logical analysis are propositions. Logical analysis consists in completely and uniquely decomposing propositional symbols into their constituent simple symbols, whether names of objects or logical constants (*TLP* 3.23–3.261). Objects are known by direct cognitive acquaintance (*TLP* 2.0123–2.01231), and logical constants are known 'transcendentally,' or by means of a priori showing (*TLP* 4.12–4.1213). Every proposition has a unique and complete decomposition (*TLP*

3.25). The way in which those names are configured into a propositional structure is made manifest through the process of analysis itself. Logical analysis is thus essentially a series of logical ‘elucidations’ (*Erläuterungen*). Again, logical analysis is essentially the *activity* (*Tätigkeit*) but not the *theory* (*Lehre*) of decomposing a proposition into its simple constituent symbols (*TLP* 4.112).

This ‘activist’ conception of logical analysis has the significant virtue of avoiding the Paradox of Analysis. According to the Paradox of Analysis, if an analysis is true then it must be uninformative and trivial, because it is merely definitional and based on the identity of concepts; yet if an analysis were non-trivial and informative, then it would also be non-definitional and entail the non-identity of concepts, hence false; so every analysis is either trivial or false. But if analysis is essentially a logical *activity* and not a logical *theory*, then strictly speaking an analysis is never true or false, so the dilemma is avoided. Of course I am going very quickly here, and there is *much* more to say about the Paradox of Analysis, its origins in Moore’s conception of analysis, and the many different attempts that have been made to solve it by appealing to various epistemic or semantic considerations. But we should note that Wittgenstein’s solution is striking precisely because it is *non-cognitivist* and *non-semantic*. By sharp contrast to both Wittgenstein’s solution and the other classical epistemic or semantic solutions, Kant’s own theory of conceptual-decompositional analysis contains the elements of an interesting *cognitive-semantic* solution to the Paradox.¹³

In any case and more precisely, the Tractarian activist conception of logical analysis has two basic parts and correspondingly two basic aims.

First, the activity of analysis is a ‘critique of language’ (*TLP* 4.0031) in that it displays the fact that most propositions and questions that have been written about philosophical matters are not false but nonsensical (*unsinnig*) (*TLP* 4.003), recognizes that the analytic truths of logic are tautologous and non-pictorial, hence ‘say nothing’ (*sagen ... Nichts*) (*TLP* 6.11), then asserts as fully significant only the propositions of natural science (*TLP* 6.53), then recognizes its own propositions as nonsensical, and finally ends in mystical silence (*TLP* 6.54). Thus the first basic aim of Tractarian logical analysis is to articulate the difference between sense (propositional meaningfulness) and nonsense (either sheer meaninglessness, or else some essentially non-propositional form of meaningfulness).

Second, the activity of logical analysis is the process of logically clarifying thoughts, consisting in a series of propositional elucidations which ‘make clear and delimit sharply the thoughts which otherwise are ... opaque and blurred’ (*TLP* 4.112). Thus the second basic aim of Tractarian logical analysis is to reveal the deep or *logico*-grammatical structure of natural language and thought, as opposed to its merely surface or *psychologico*-grammatical structure. In order to reveal the deep structure of language, Tractarian philosophers must construct and study symbolic logical systems like those developed in the *Begriffsschrift* and *Principia Mathematica*. Such

symbolic systems are ‘ideal’ in the sense that the syntax of a *Begriffsschrift*-type notational system itself displays, encodes, or mirrors the deep structure of natural language and thought, and thereby also the deep structure of the world of facts that language and thought represent. Even so, Tractarian analysis does not aim at the prescriptive reform of natural language or thought. On the contrary, everything in natural language and thought is perfectly in order, just as it is (*TLP* 5.5563).

But here is the crucial point for our purposes. Kant’s conceptual-decompositional theory of analysis can now be rejected from a Tractarian point of view, by saying that even if ordinary language and thought do not need to be reformed, nevertheless Kantian conceptual-decompositional analysis operates entirely at the level of the *surface structure* of natural language and thought. Kantian decompositional analysis is therefore at best *superficial* analysis:

Does not my study of sign-language correspond to the study of thought processes which philosophers [e.g. Kant, Boole, Mill, etc.] held to be so essential to the philosophy of logic? Only they got entangled for the most part in unessential psychological investigations, and there is an analogous danger for my method.

(*TLP* 4.1121)

In this way, the sub-conceptual simples, or constituent marks that are the basic objects of conceptual-decompositional analysis, are at best *relative psychological* simples, not *absolute real* simples. By sharp contrast to Kantian analysis, then, which remains at the level of anthropocentric appearances, Tractarian logical-decompositional analysis is *deep* or *sublime* analysis in that it establishes logical and epistemic contact with the objects that ‘form the substance of the world’ (*TLP* 2.021).¹⁴ In Kantian jargon, Tractarian logical-decompositional analysis is *noumenal* analysis of *things-in-themselves*. For Kant, of course, these objects are utterly unknowable even if barely thinkable, and the appropriate philosophical attitude towards them is a radical agnosticism, bordering on outright eliminativism (*CPR* A235–60/B294–315). Wittgenstein himself later came to very much the same conclusion.

4 The *Investigations*, the critique of logical analysis, and logic-as-grammar

The *Tractatus* brings a definitive closure to logical atomism by pushing the reductive project of logical-decompositional analysis to its limits. It explicitly shows why Kant’s conceptual-decompositional theory of analysis is inadequate, but it also implicitly shows the inadequacy of both logical atomism and the very idea of logical-decompositional analysis. Or at least this is how Wittgenstein himself came to regard the *Tractatus* by the time of the

Philosophical Investigations. Indeed, in the *Investigations* the later Wittgenstein explicitly rejects and radically re-thinks his own Tractarian theory of logical analysis.¹⁵

So how does the later Wittgenstein manage to do that? Answer: he does it by means of the following (again, rationally reconstructed) three-stage argument:

- (i) he rejects the direct-referentialist semantics of the *Tractatus*,
- (ii) he rejects the picture theory of meaning in the *Tractatus*, and
- (iii) he offers reasons for the philosophically liberating proposal that logic is really nothing but ‘grammar’.

Let us now look more closely at the details.

The rejection of direct-referentialist semantics

- (1) Direct-referentialism says that the meaning of a name (whether a singular term or a general term) is nothing but the referent or bearer of the name, that is, an object of some sort. (Assumption)
- (2) The ‘Augustinian’ language game (i.e. the primitive or ‘toy’ language) of the Builders in *PI* §§2, 6, and 8 is a model of a direct-referentialist language.
- (3) It is manifest that not everything that is language has meaning in this way (*PI* §3), if only because the referring terms of the Builders’ language also function as orders (*PI* §18). In fact it is more correct to think of words as tools embedded in ‘language-games’ (i.e. rule-governed linguistic practices) and ‘forms of life’ (i.e. modes of individual human action and of social human interaction and transaction) and playing any number of roles relative to different language games and forms of life, than to think of them as playing a single decontextualized semantic role in the language (*PI* §§19–23, 26–7).
- (4) In a direct-referentialist semantics, there are two types of names: singular terms (e.g. proper names, demonstratives) and general terms. Individual objects are assigned to singular terms, and concepts or properties or some other sort of universals are assigned to general terms. (Assumption)
- (5) Individual objects are assigned to singular terms by ostension (*PI* §6). Singular reference is then best understood as ostensively attaching a label to a thing, i.e. dubbing it (*PI* §37).
- (6) But every ostension is open to many distinct possible interpretations (*PI* §§28–38), and only actual use will uniquely fix an interpretation.
- (7) Moreover, if the meaning of a singular term were just the bearer of the name, then whenever the bearer was destroyed, the meaning would be destroyed, which is absurd because it would make true negative existentials with singular terms into nonsense (*PI* §40).

- (8) So direct-referentialism about singular terms is false, and an appeal to use is the best overall way of explaining how singular terms have meaning. (From (1) – (7))
- (9) Direct-referentialism as applied to general terms requires the existence of non-vague or definite concepts or properties or other universals. (Assumption)
- (10) But there are no non-vague or definite concepts or properties or other universals, but rather only family resemblances or clusters of partially overlapping notions with blurred or vague boundaries: see, e.g., the concept or property or other universal GAME (*PI* §§66–71). Only the actual use of the general term will disambiguate its meaning as a concept-word or predicate. Indeed, there are no analytic definitions of general terms, but instead only our actual patterns of application of them (*PI* §§75–78).
- (11) So direct-referentialism about general terms is false, and an appeal to use is the best overall way of explaining of how general terms have meaning. (From (9) – (10))
- (12) Therefore, direct-referentialism more generally is false, and an appeal to use is the best overall way of explaining how names have meaning. (From (8) and (11))

The rejection of the picture theory of meaning

- (1) The picture theory of meaning says that the meaning of a sentence is nothing but either a picture of an atomic fact or a truth-functional compound of these. (Tractarian assumption)
- (2) Atomic facts are composed of configurations of absolutely simple objects in isomorphic correspondence with the parts of the atomic proposition, which is a configuration of ‘real names’. (Tractarian assumption)
- (3) So the picture theory presupposes that ‘real names’ in atomic propositions stand for absolutely simple objects (*PI* §39). In this respect Russell’s logical atomism, the *Tractatus* and Plato’s *Theaetetus* have all captured the same basic idea (*PI* §46).
- (4) But what is an absolutely simple object? The problem is that macroscopic objects apparently have no unique decomposition into simple parts (*PI* §47). And if we try to imagine a primitive language game that models the Tractarian picture theory, we find the same lack of unique decomposition into simple parts (*PI* §48).
- (5) So there are no absolutely simple objects, and the picture theory is therefore false. (From (1) – (4))
- (6) But the language game of using factual propositions implies the constant semantic availability of simple objects of some sort, even across the difference between existence and non-existence (*PI* §§50, 55).

- (7) Contrary to the picture theory, then, it seems to be a much better overall explanation of the semantic of factual propositions to say that the ‘simple’ objects are in fact systems of paradigms or samples – hence only *relatively* simple objects – that belong strictly to the ‘instruments’ or technology of the particular language-game (say, of factual propositions about colours) that is in play (*PI* §§50–51).
- (8) In this way, even though the picture theory is false, relativizing simple objects to language-games gives a better overall explanation of the semantics of factual propositions, and thus an appeal to use is the best overall way of explaining how sentences have meaning. (From (5) – (7))
- (9) Therefore, there must be a relativization of the ontology of atomic facts to language games (*PI* §§59–60), which also undermines the semantic realism of the picture theory. (From (8))

The liberating proposal that logic is really nothing but grammar

- (1) Frege, Russell and the author of the *Tractatus* all hold the thesis that logic is something ‘sublime’: universal, a priori, necessary and essential to everything in the empirical world, as well as essential to language, propositions and thought (*PI* §§89, 90, 92, 97).
- (2) Furthermore, logic is required to carry out a complete decompositional analysis of our forms of language, propositions, and thoughts, which reveals their ‘hidden’ ‘simple’ structures and constituents, that is, their decomposable essences (*PI* §§91–92).
- (3) This in turn implies that language, propositions, thought and the world all *possess* decomposable essences (*PI* §§93–96).
- (4) But in fact (a) every sentence in our language is in order just as it is, (b) vagueness (via the pervasive family resemblance nature of all concepts) is a *constitutive* feature of meaning, (c) language is essentially a spatiotemporal phenomenon, not something abstract, and (d) the essence of language, proposition, thought and the world is something that ‘already lies open to view and that becomes surveyable by a rearrangement’ (*PI* §§92, 98–100, 108–109).
- (5) So neither language, nor propositions, nor thought, nor the world have hidden decomposable essences, and therefore the thesis that logic is sublime is false. (From (1) – (4))
- (6) Furthermore, the thesis that logic is sublime turns out to be only a methodological assumption we have unintentionally imposed upon the phenomena, indeed nothing but an artifact of an idealized metaphysical ‘picture’ that lay hidden in our language and held us captive (*PI* §§101–108, 110–115).
- (7) On the contrary, however, ‘the philosophy of logic speaks of sentences and words in exactly the sense in which we speak of them in

ordinary life when we say, e.g., “Here is a Chinese sentence” or “No, that only looks like writing; it is actually an ornament” and so on’ (*PI* §108). That is: we can regard logic as purely descriptive or re-descriptive, not essentialist and a priorist; and ‘what *we* do is to bring words back from their metaphysical to their everyday use’ by asking ‘is the word ever actually used in this way in the language which is its original home’ (*PI* §116).

- (8) Therefore we should adopt the thesis that logic is really nothing but ‘grammar’, which ‘sheds light on our problem by clearing misunderstandings away ... misunderstandings concerning the use of words, caused, among other things by certain analogies between the forms of expression in different regions of language ... [and] some of them can be removed by substituting one form of expression for another; this may be called an “analysis” of our forms of expression, for the process is sometimes like one of taking things apart’ (*PI* §90). For an example of this, see the discussion of negation at *PI* §§547–557. (From (5) – (7))
- (9) Furthermore, the goal of logic or grammar is to produce a ‘per-spicious representation’ of language, proposition, thought, and world, which produces ‘that understanding which consists in “seeing connections”’ (*PI* §122).
- (10) So logic is not sublime, and logical analysis as logical-decompositional analysis is impossible, but logic-as-grammar is possible, and grammar in this sense is the descriptive logic of our language games, as embedded in our forms of life. And to the extent that logic as a theory of valid reasoning still exists in logic-as-grammar, this logic is *strongly non-classical*.¹⁶ (From (8) – (9))

If Wittgenstein’s argument against the sublimity of logic is sound, then logical analysis is impossible. So what, more precisely, does philosophical analysis become after the collapse of logical analysis? Answer: that is a very good question, whose answer we will need to approach in two stages.

First, Wittgenstein’s later conception of philosophical analysis in fact shares some fundamental features in common with his activist conception of analysis in the *Tractatus*. But this activist conception of analysis is now *minus the sublimity of logic*, that is to say, minus the comprehensive *noumenal* metaphysical picture of logic, language, thought and the world that would justify the logical-decompositional theory of analysis. Here are some relevant texts describing this new form of philosophical analysis:

Philosophy is a battle against the bewitchment of our intelligence by means of language.

(*PI* §109)

The results of philosophy are the uncovering of one or another piece of plain nonsense and of bumps that the understanding has got by running its head up against the limits of language.

(PI §119)

A philosophical problem has the form: 'I don't know my way about'.

(PI §123)

Philosophy may in no way interfere with the actual use of language; it can in the end only describe it. For it cannot give it any foundation either. It leaves everything as it is.

(PI §124)

The civil status of a contradiction, or its status in civil life: there is the philosophical problem.

(PI §125)

Philosophy simply puts everything before us, and neither explains nor deduces anything. Since everything lies open to view, there is nothing to explain. For what is hidden, for example, is of no interest to us. One might give the name 'philosophy' to what is possible *before* all new discoveries and inventions.

(PI §126)

The work of the philosopher consists in assembling reminders for a particular purpose.

(PI §127)

If one tried to advance *theses* in philosophy, it would never be possible to question them, because everyone would agree to them.

(PI §128)

It is not our aim to refine or complete the system of rules for the use of words in unheard-of ways. For the clarity that we are aiming at is indeed *complete* clarity. But that simply means that the philosophical problems should *completely* disappear. The real discovery is one that makes me capable of stopping doing philosophy when I want to. The one that gives philosophy peace, so that it is no longer tormented by questions which bring *itself* into question . . . There is not *a* philosophical method, though there are indeed methods, like different therapies.

(PI §133)

We are not analysing a phenomenon (e.g. thought) but a concept (e.g. that of thinking), and therefore the use of a word.

(PI §383)

In philosophy we do not draw conclusions. ‘But it must be like this!’ is not a philosophical proposition. Philosophy only states what everyone admits.

(PI §599)

With an eye to the next section, I will call this *dialectical conceptual analysis*, where, as in Kant’s sense, ‘dialectic’ means *the logical critique of metaphysical illusion in philosophy, as a form of rational self-knowledge* (CPR A61–2/B85–6, A293–8/B349–54). The main idea is that by deploying a strongly non-classical logic, the later Wittgensteinian philosophical analyst or logical grammarian

- (a) displays and diagnoses the dialectical structure of philosophical problems,
- (b) describes, unpacks, compares and contrasts the concepts implicit in our various ordinary uses of language and states truisms about them, and then
- (c) stops.

Second, the other crucial thing about Wittgenstein’s later conception of philosophical analysis is that it is *fundamentally non-cognitive*, that is, fundamentally normative and practical. On this view, philosophy is neither a science nor indeed in any sense a source of factual knowledge but rather essentially a self-conscious and deliberate act – hence we can call it ‘doing philosophy’ – whose aim is seeing crosswise but *not* decompositional conceptual connections,¹⁷ and finally achieving perspicuous insight into what already is completely there already in front of us: human beings and their linguistic activities in their human world, that is, *forms of human life*:

So you are saying that human agreement decides what is true and what is false? – It is what human beings *say* that is true and false; and they agree in the *language* they use. That is not agreement in opinions but in form of life.

(PI §241)

This linguistic agreement in form of life, in turn, is given essentially in the activity of making judgments:

If language is to be a means of communication there must be agreement not only in definitions but also (queer as this may sound) in judgments. This seems to abolish logic, but does not do so.

(PI §242)

In other words: our linguistic agreement in form of life *consists in our shared capacity for logical and practical reasoning*. Thus the aim of philosophical

analysis for the later Wittgenstein is to achieve insight into the human agent *qua* Judging Animal.¹⁸

5 Kant, Wittgenstein and analysis as rational anthropology

To summarize the conclusion of the last section: for the later Wittgenstein, philosophical analysis is the logically guided study of human beings inherently constrained in their individual intentional actions and social practices by self-legislated and communally constituted normative rules of judgment and language-use. Here the logical theory, or logic-as-grammar, that guides later Wittgensteinian analysis is not a classical logic but instead a strongly non-classical logic allowing for multiple conclusions, a denial of the principle of excluded middle, a denial of two-valuedness or bivalence, ‘true contradictions’ or paradoxes, vagueness or borderline cases, irreducibly normative inferences, irreducible intensionality and various irreducible intentional propositional attitudes. This does *not* mean that anything goes: logic-as-grammar is still strictly normatively guided by some conception or another of logical consequence; and not every proposition is both true and false.¹⁹

Perhaps even more importantly, later Wittgenstein’s strongly non-classical logic bears an essential similarity to what Kant called ‘transcendental logic’, which includes both transcendental analytic (the logic of truth) and transcendental dialectic (the logic of illusion). The salient difference between Kant and Wittgenstein is that later Wittgenstein’s logic-as-grammar explicitly incorporates the total range of facts encompassing human linguistic competence and linguistic performance within its scope, whereas this incorporation is at best implicit for Kant.²⁰

But the crucial point is that the later Wittgenstein’s conception of philosophical analysis has a fundamental affinity with Kant’s conception of philosophy as it is worked out in the Transcendental Doctrine of Method. There Kant tells us that philosophy is the study of rational human cognition. Rational human cognition, in turn, is cognition from principles, which are the fundamental normative necessary a priori laws of scientific knowing, thought, volition, action and feeling. The fundamental normative necessary a priori laws of scientific knowing are the synthetic a priori laws of nature and the synthetic a priori laws of transcendental metaphysics. The fundamental normative necessary a priori laws of thought are the analytic a priori laws of logic. The fundamental normative necessary a priori normative laws of volition and action are the laws of human morality. And for Kant there is even a fundamental normative necessary a priori law of aesthetic experience, or a ‘principle of taste’ (*CPJ* 5: 286–7). Thus philosophy for Kant is *rational anthropology*: the study of human beings insofar as their scientific knowing, thought, volition, action and feeling are governed and evaluable by principles. This does not of course imply that rational human animals ever actually manage to conform perfectly or even terribly adequately to

these principles. Rationality is the *recognition* of principles and the *capacity* to conform to them freely, not actually *conforming* to them. Indeed, only a rational animal who recognizes principles and has the capacity to conform to them freely would ever be capable of, or even remotely interested in, trying to *rationalize* his way out of his responsibility for actually failing to match up to the principles that strictly obligate him.

In this way, for both Kant and the later Wittgenstein alike, philosophical analysis construed as either conceptual or logical decomposition is ultimately superseded by a deeper and essentially normative picture of analysis, as the logic of rational human activity. More precisely, according to this picture, analysis is the logical reconstruction of what Davidson calls ‘primary reasons’ for the rationalization of individual human actions and of social human interactions and transactions, including linguistic competence and performance. These primary reasons are logical interpretations of what human agents actually do:

When we ask why someone acted as he did, we want to be provided with an interpretation . . . When we learn his reason, we have an interpretation, a new description of what he did which fits it into a familiar picture . . . To learn, through learning the reason, that the agent conceived his action as a lie, a repayment of a debt, an insult, the fulfilment of an avuncular obligation, or a knight’s gambit is to grasp the point of the action in its setting of rules, practices, conventions and expectations. Remarks like these, inspired by the later Wittgenstein, have been elaborated with subtlety and insight by a numbers of philosophers. And there is no denying that this is true: when we explain an action, by giving a reason, we do redescribe the action; redescribing the action gives the action a place in a pattern, and in this way the action is explained.²¹

Now as we have seen, the logic guiding this reconstruction or interpretation of human actions, interactions and transactions is at once Kant’s transcendental logic and also Wittgenstein’s logic-as-grammar. So for Kant and the later Wittgenstein, philosophical analysis is ultimately rational anthropology in a wide sense that includes the theory of language: *the logically guided universal normative theory of human rationality*.²²

One last remark. In my opinion, this Kantian and later Wittgensteinian conception of analysis provides a positive intimation of the nature of philosophical analysis in our so-called ‘post-analytic’ era, by which I mean the philosophical era since W.V.O. Quine’s famous attack on the analytic-synthetic distinction in 1951.²³ The only other serious alternative conception of analysis after Quine,²⁴ it seems to me, is analysis construed as *scientific naturalism*: that is, analysis construed as the reductive logical, epistemological and metaphysical underlabourer to the exact sciences. But since, in my view, doing exact science is an irreducibly rational human activity²⁵ and

doing logic is also an irreducibly rational human activity,²⁶ it also seems to me highly unlikely that analysis construed as scientific or reductive naturalism will ever be able to provide a coherent epistemological or metaphysical account of its own foundations. So if I am correct, then the study of the conditions of the possibility of rational human normativity, not scientific reduction, is the essence of philosophical analysis.

A note on internal references

For convenience I refer to Kant's works and to Wittgenstein's *Tractatus* and *Investigations* internally, that is, infratextually in parentheses. The citations to Kant include both an abbreviation of the English title and the corresponding volume and page numbers in the standard 'Akademie' edition of Kant's works: *Kants gesammelte Schriften*, edited by the Königlich Preussischen (now Deutschen) Akademie der Wissenschaften (Berlin: G. Reimer [now de Gruyter], 1902–). For references to the first *Critique*, I follow the common practice of giving page numbers from the A (1781) and B (1787) German editions only. The citations to Wittgenstein include an abbreviation of the English title and the corresponding paragraph numbers or (in the case of the *Investigations*) page numbers. I generally follow the standard English translations from the German texts, but have occasionally modified them where appropriate. Here is a list of the abbreviations and English translations of the works cited in the internal references:

- A* *Anthropology from a Pragmatic Point of View*, trans. M. Gregor, The Hague: Martinus Nijhoff, 1974.
- CPJ* *Critique of the Power of Judgment*, trans. P. Guyer and E. Matthews, Cambridge: Cambridge University Press, 2000.
- CPR* *Critique of Pure Reason*, trans. P. Guyer and A. Wood, Cambridge: Cambridge University Press, 1997.
- CPrR* *Critique of Practical Reason*, trans. M. Gregor, in *Immanuel Kant: Practical Philosophy*, Cambridge: Cambridge University Press, 1996, pp. 133–272.
- JL* 'The Jäsche Logic', in *Immanuel Kant: Lectures on Logic*, trans. J.M. Young, Cambridge: Cambridge University Press, 1992, pp. 519–640.
- PC* *Immanuel Kant: Philosophical Correspondence, 1759–99*, trans. A. Zweig, Chicago, IL: University of Chicago Press, 1967.
- PI* *Philosophical Investigations*, trans. G.E.M. Anscombe, NY: Macmillan, 1953.
- TLP* *Tractatus Logico-Philosophicus*, trans. C.K. Ogden, London: Routledge, 1922/1992.

Notes

- 1 Donald Davidson, 'Actions, Reasons, and Causes', *Journal of Philosophy* 60 (1963): 685–700, at p. 690.
- 2 Non-analytic propositions can also be analysed. But the goal of a specifically *philosophical* analysis is a priori knowledge of analytically (logically) necessary truths.
- 3 The following account of Kant's theory of conceptual microstructure and analyticity is also worked out in more detail in R. Hanna, *Kant and the Foundations of Analytic Philosophy* (Oxford: Clarendon/Oxford University Press, 2001), pp. 127–54.
- 4 The distinction between 'determinables' and 'determinates' derives from W.E. Johnson's *Logic* (Cambridge: Cambridge University Press, 1921, 1922, 1924), part I, ch. 11. See also D. Sandford, 'Determinates vs. Determinables,' in E. Zalta (ed.) *Stanford Encyclopedia of Philosophy (Summer 2002 Edition)*, online at <http://plato.stanford.edu/archives/sum2002/entries/determinate-determinables/>
- 5 Some conceptual expositions do not yield constituent or intrinsic (analytic) marks, but instead only supplementary or extrinsic (synthetic) marks. E.g. OVER TWO FEET TALL is a synthetic mark of BACHELOR.
- 6 On the volitional side of our nature, we are also constrained by the material condition of the givenness of our desires and feelings of pleasure and pain, and the formal condition of our natural pursuit of happiness. See, e.g. *CPrR* 5: 100.
- 7 Kant distinguishes quite sharply between 'cognition' (*Erkenntnis*) and 'scientific knowing' (*Wissen*). See Hanna, *Kant and the Foundations of Analytic Philosophy*, pp. 18 and 30.
- 8 See Hanna, *Kant and the Foundations of Analytic Philosophy*; R. Hanna, 'Kant and the Analytic Tradition' in C. Boundas (ed.) *The Edinburgh Companion to the 20th Century Philosophies* (Edinburgh: University of Edinburgh Press, forthcoming); R. Hanna, 'Kant in the Twentieth Century' in D. Moran (ed.) *The Routledge Companion to Twentieth-Century Philosophy* (London: Routledge, 2008); and P. Hylton, *Russell, Idealism and the Emergence of Analytic Philosophy* (Oxford: Clarendon/Oxford University Press, 1990).
- 9 See M. Beaney, 'Analysis', *Stanford Encyclopedia of Philosophy (Summer 2003 Edition)*, online at <http://plato.stanford.edu/archives/sum2003/entries/analysis/>.
- 10 Functions, of course, are abstract mappings from arguments (inputs) to values (outputs). There is a fundamental ambiguity in the notion of a function between its extensional aspect (the sets of correlated arguments and values) and its intensional aspect (the abstract mappings, considered as relational properties or rules), and this ambiguity had serious consequences for the development of early analysis – since the intensional aspect stubbornly resists reduction to the extensional aspect, and since confusing the two aspects is apt to lead to contradiction. Functional analysis should be contrasted with *mereological* (whole–part) analysis, which was also deployed in various ways by the early analytic philosophers.
- 11 B. Russell, 'The Philosophy of Logical Atomism' in B. Russell, *Logic and Knowledge* (New York: G.P. Putnam's Sons, 1971), pp. 177–281.
- 12 In particular, the idealism of the *Tractatus* is based quite directly on Schopenhauer's idealism, and more remotely on Kant's idealism. See R. Brockhaus, *Pulling Up the Ladder: The Metaphysical Roots of Wittgenstein's Tractatus Logico-Philosophicus* (La Salle, IL: Open Court, 1991); and A. Schopenhauer, *The World as Will and Representation*, 2 vols, trans. E. Payne (New York: Dover, 1969). See also H.-J. Glock, 'Kant and Wittgenstein: Philosophy, Necessity, and Representation,' *International Journal of Philosophical Studies*, 5 (1997): 285–305.
- 13 See R. Hanna, 'How Do We Know Necessary Truths? Kant's Answer', *European Journal of Philosophy*, 6 (1998): 115–45.

- 14 See I. Proops, 'Wittgenstein on the Substance of the World', *European Journal of Philosophy*, 12 (2004): 106–26.
- 15 See, e.g., Peter Hacker, *Wittgenstein's Place in Twentieth-Century Analytic Philosophy* (Oxford: Blackwell, 1996), ch. 5.
- 16 I say a little more about what I mean by a 'strongly non-classical logic' in the next section. But for the time being, by the contrastive notion of a 'classical logic' I mean either elementary logic (bivalent first-order quantified propositional and polyadic predicate logic with or without identity, and with or without infinite domains) or second-order logic (elementary logic plus quantification over properties, sets, functions, etc.). The logic of the *Tractatus* is classical, and so are the logics of the *Begriffsschrift* and *Principia Mathematica*.
- 17 See note 24 below.
- 18 In the Kantian tradition of logic, Rational Animals are Judging Animals. See R. Hanna, 'Kant's Theory of Judgment' in E. Zalta (ed.) *Stanford Encyclopedia of Philosophy (Fall 2004 Edition)*, online at <http://plato.stanford.edu/archives/sum200/entries/kant-judgment/>.
- 19 See H. Putnam, 'There is at least one *a priori* truth,' in H. Putnam, *Realism and Reason, Philosophical Papers, Volume 3* (Cambridge: Cambridge University Press, 1983), pp. 98–114.
- 20 Kant has little to say explicitly about the nature of language except for one provocative remark in the *Anthropology* (*A* 7: 192), where he seems to endorse the theses (1) that linguistic meanings are thoughts or parts of thoughts, and (2) that thinking is inner speech. This of course is similar to Wittgenstein's theory of language in the *Tractatus*.
- 21 Davidson, 'Actions, Reasons, and Causes,' pp. 691–2.
- 22 See also R. Hanna, 'Rationality and the Ethics of Logic', *Journal of Philosophy*, 103 (2006): 67–100.
- 23 See W.V.O. Quine, 'Two Dogmas of Empiricism', in W.V.O. Quine, *From a Logical Point of View*, 2nd edn (New York: Harper and Row, 1961), pp. 20–46. I criticize Quine's argument in Hanna, *Kant and the Foundations of Analytic Philosophy*, ch. 3.
- 24 One could argue that another serious alternative to logical-decompositional analysis can be found in Strawson's notion of 'connective' conceptual analysis, i.e. holistic conceptual analysis. See P.F. Strawson, *Analysis and Metaphysics* (Oxford: Oxford University Press, 1992), chs 1–2. But as I am understanding rational anthropology in the wide sense, it would in fact include connective conceptual analysis as a sub-part.
- For an exploration of some continuities and parallels between the Kantian and Strawsonian approaches to philosophical method, see H.-J. Glock, 'Strawson and Analytic Kantianism' in H.-J. Glock (ed.) *Strawson and Kant* (Oxford: Clarendon/Oxford University Press, 2003), pp. 15–42. The fundamental differences between rational anthropology and connective analysis would be (a) that rational anthropology allows for more than one kind of necessary truth (logical or analytic necessity, and also non-logical or synthetic necessity), and (b) that rational anthropology more explicitly emphasizes the primacy of practical philosophy over theoretical philosophy – on this conception of analysis, ethics ultimately drives epistemology, metaphysics, philosophy of mind, semantics, philosophy of science and philosophy of logic.
- 25 See R. Hanna, *Kant, Science, and Human Nature* (Oxford: Clarendon/Oxford University Press, 2006).
- 26 See R. Hanna, *Rationality and Logic* (Cambridge: MIT Press, 2006).

9 Complete analysis and clarificatory analysis in Wittgenstein's *Tractatus*

Dawn M. Phillips

1 Introduction

In the Preface to his *Tractatus Logico-Philosophicus*, Wittgenstein claims that the problems of philosophy are posed ‘because the logic of our language is misunderstood’ (p. 3).¹ He makes it clear that it is not the task of a philosopher to interfere with the logic of language, as ‘logic must look after itself’ (5.473; cf. 5.4731). Nor is it necessary for philosophers to replace language with an ideal notation, because ‘all the propositions of our everyday language, just as they stand, are in perfect logical order’ (5.5563). The problems of philosophy do not lie in logic, and do not lie in our language; they lie in our ‘failure to understand the logic of our language’ (4.003). Hence solving philosophical problems requires us to correct our misunderstandings. But how can we accomplish this? In search of practical guidance we might reasonably expect the *Tractatus* to instruct us how to take a sentence of everyday language and to determine the logic of that sentence; in other words we may expect to find a method of logical analysis. In light of Wittgenstein’s principle that ‘propositions cannot represent logical form’ (4.121), we must not expect the result of logical analysis to be an informative statement about logical form. Nonetheless, I argue that the *Tractatus* does contain two conceptions of logical analysis: hereafter ‘complete analysis’ and ‘clarificatory analysis’.² Complete analysis more obviously resembles a philosophical method of the kind we seek, but this is not how Wittgenstein expects us to solve the problems of philosophy; rather, he expects us to use clarificatory analysis. In what follows I examine the relationship between complete analysis and clarificatory analysis and explain why Wittgenstein thought he required both in his account of how to solve the problems of philosophy.

In Section 2, I describe Wittgenstein’s view of how philosophical confusions arise, by explaining how it is possible to misunderstand the logic of everyday language. In Section 3, I argue that any method of logical analysis in the *Tractatus* will inevitably be circular, but explain why this does not threaten the prospect of solving philosophical problems. In Section 4, I distinguish between complete and clarificatory analysis and argue that

Wittgenstein's 'strictly correct' philosophical method is clarificatory analysis. In Section 5, I discuss the relationship between the two forms of analysis and claim that, although, at the time of writing the *Tractatus*, Wittgenstein believed that the possibility of complete analysis underpins clarificatory analysis, in fact this was a mistake. In the *Philosophical Investigations* complete analysis is rejected and clarificatory analysis is retained.

2 How do we misunderstand the logic of our language?

How is it possible to misunderstand the logic of our language? Or, put differently, how is it that the genuine logical form of a proposition can differ from its apparent logical form?³ Wittgenstein's answer can be found if we examine his view that a proposition (*Satz*) of any language consists of a sign that symbolizes. Sign and symbol are not two 'parts' that combine to produce a proposition, nor is a sign the representation of a symbol. Instead the symbol just *is* the logico-syntactic use of the sign. Hence to say that a proposition consists of sign and symbol is to say that a proposition is a sign taken together with its logico-syntactic use – also called the 'mode of signification'.

For Wittgenstein, the sign for a proposition must be perceptible, it must be a fact, and it must be able to stand in a projective relation to the world. In a sense these three ideas amount to the same thing, but we can consider each point separately.

The sign simply *is* whatever is perceptible of a proposition. The propositional sign 'Plato loves Socrates' is the arrangement of black marks against the white page. As the perceptible properties of a sign are material properties, they are contingent – a sign could be black, green, blue and the letters could appear in a different size or font.

A propositional sign consists of elements, but the sign must be a fact not just a collection of elements (cf. 3.141, 3.142). In our example, the propositional sign is the fact consisting of 'Plato' standing to the left of 'loves' and 'Socrates' standing to the right of 'loves'. A fact has a determinate structure, which entails that it has a determinate possibility of structure and, for Wittgenstein, the possibility of structure is form (cf. 2.032, 2.033). It is necessary for a sign to have logical form in order for it to stand in a projective relation to the world (cf. 2.18).

A propositional sign can be used as the projection of a situation (*Sachlage*) when it has logical form in common with the possible state of affairs it is used to represent.⁴ That *this* fact ('Plato loves Socrates') has this logical form means that it is possible for *another* state of affairs (e.g. the state of affairs where Plato loves Socrates) to have this determinate structure – the same logical form (cf. 3.1432). This is how it is possible for the fact to be used as a sign for a situation (cf. 3.11). The possible state of affairs it represents is the sense of the proposition.⁵

As a sign is perceptible, all its properties are accidental, material properties. However, some of those properties are essential to the proposition's expressing its sense and some are not. Wittgenstein tells us that:

A proposition possesses essential and accidental features. Accidental features are those that result from the particular way in which the propositional sign is produced. Essential features are those without which the proposition could not express its sense.

(3.34)

The difference between what is accidental and essential in a proposition is how we must understand the difference between sign and symbol. The accidental features are the sign and the essential features are the symbol. Note, however, that it would be misleading to treat the essential/accidental distinction as exhaustive. All the properties of the sign are accidental insofar as they are material properties. Some of those material properties have a logico-syntactic use and are essential to the proposition's expressing the sense it does; some of those material properties have no logico-syntactic use. The latter, we might say, are 'merely accidental'.

Wittgenstein states 'I call any part of a proposition that characterizes its sense an expression (or a symbol)' (3.31). A symbol is anything that is essential to the proposition expressing the sense that it does. The proposition taken as a whole is a symbol, but individual words, within the context of a proposition, are also symbols. Non-essential features of a proposition do not contribute to its expressing a sense and hence do not symbolize. That 'Plato loves Socrates' is coloured black rather than red may be a merely accidental feature of the sign; whereas that the sign 'Plato' stands to the left of 'loves' rather than to the right may prove to be essential to its symbolizing. If this feature were different, the proposition would not express the same sense (cf. 4.465).

A propositional sign on its own does not express a sense; it can express a sense only if it is *used* as the projection of a situation. Wittgenstein claims that 'a sign does not determine a logical form unless it is taken together with its logico-syntactical employment' (3.327). The particular employment, or mode of signification, determines what symbol a sign belongs to. It is possible for a sign to be used with different modes of signification, and this difference makes the sign belong to a different symbol (cf. 3.321).

(In the proposition, 'Green is green' – where the first word is the proper name of a person and the last an adjective – these words do not merely have different meanings: they are *different symbols*.)

(3.323 – original emphasis)

The difference between sign and symbol explains how we can misunderstand the logic of our language. When we communicate with language, we

perceive the material properties of the sign, but we do not perceive the symbol in this way, because a symbol does not have material properties – nor is it a material property of a sign. 'A sign is what can be perceived of a symbol' (3.32), but the symbol is just the symbolizing function of the sign. When a particular sign occurs in different propositions, and its material properties have the same appearance, we may think that the signs symbolize in the same way in each case, when in fact they need not. Equally, superficial differences between two signs may mean that we fail to see that they symbolize in the same way. In both cases we have failed to see what is essential and have been misled by the merely accidental properties.

In everyday language it very frequently happens that the same word has different modes of signification – and so belongs to different symbols – or that two words that have different modes of signification are employed in propositions in what is superficially the same way.

(3.323)

This is what it means to say that the apparent logical form of the proposition can differ from the genuine logical form. Wittgenstein claims that the whole of philosophy is full of 'fundamental confusions' of this type (3.324).

We have been told that in everyday language we often use a particular sign with different modes of signification and that this generates philosophical confusions. However, Wittgenstein acknowledges that it is possible to avoid philosophical confusion if we use a sign-language which excludes such errors. In an ideal sign-language every sign would have only one mode of signification and every symbol would be expressed using only one sign (3.325). If we had an ideal sign-language of this kind, then we would already have 'a correct logical point of view' (4.1213) and there would be no philosophical confusions. But this notion does not give us the means to dispel the philosophical confusions that already trouble us. The conundrum is this: our philosophical confusions have arisen from everyday language. We could dispel these problems if we were to translate each proposition of everyday language into a proposition of an ideal sign-language. In order to translate from the one language to the other we would need to know when the two propositions express the same sense; and in order to do this we would need to correctly understand the logic of the everyday proposition. But if we were able to do this, there would be no confusion.

If a philosophical problem is the product of a confusion of the kind described, it seems obvious that we need to solve the problems through a method of logical analysis which enables us to discover the genuine logical form of an everyday proposition. Worryingly, we encounter what, at first sight, seems to be an insurmountable obstacle to logical analysis. Wittgenstein states that 'it is not humanly possible to gather immediately from it what the logic of language is' (4.002). Fortunately this is not the claim that humans can never grasp the logic of language, but rather, that humans

cannot grasp the logic from the immediate, perceptible features of language – in other words from the signs alone. To see the logic of language we need to see those essential features of the proposition that do the work of symbolizing – this is only possible if we can somehow get from the perceptible features of the sign to the logical features of the symbol, in other words, to see the symbol in the sign.⁶ Wittgenstein throws us the much needed life-line in remark 3.326 when he says ‘in order to recognize the symbol in the sign we must observe the significant use (*den sinnvollen Gebrauch*)’.⁷ If we expect to find a method of logical analysis in the *Tractatus*, it will rest on the possibility of recognizing the symbol in the sign by observing the significant use. In Section 3 I examine the prospects for making this the basis of logical analysis before looking specifically at complete and clarificatory analysis in Section 4.

3 How can we recognize the symbol in the sign?

To analyse the logic of an everyday proposition we first need to recognize the symbol in the sign – to discriminate between those aspects of the sign that symbolize and those that do not. For example, we need to know whether the colour of the sign, the order of the words or the choice of font makes a difference. It will not suffice to look at a sign in the context of an isolated proposition because this will only enable us to see the perceptible features of the sign. Instead we must examine other propositions in which the sign appears in order to determine its logico-syntactic use. We might think that we can recognize the symbol by looking at all the contexts where that sign appears. But this would not provide a successful method because it fails to address a crucial difference between contingent usage – how people as a matter of empirical fact happen to use the sign – and logical use, which concerns the use of the sign in accordance with the rules of logical syntax. To recognize the symbol ‘we must consider the significant use’ (3.326).⁸ Wittgenstein makes this clear in a comment to Ogden, where he specifies that ‘significant’ use should be treated as ‘syntactically correct’ use.

The meaning of the proposition is: that in order to recognise the symbol in a sign we must look at how this sign is used significantly in propositions. I.e. we must observe how the sign is used in accordance with the laws of logical syntax. Thus ‘significant’ here means as much as ‘syntactically correct’.

(Wittgenstein 1973: 59)

We cannot just observe the occasions when the sign happens to be *used*, we need to observe the occasions when it is used in the same, *correct* ways. But, in light of this qualification, the prospects for a method of logical analysis run into a circularity problem. To conduct a logical analysis we must discriminate between those aspects of the proposition which are logically significant and

those which are merely accidental. In order to do this we need to discriminate between those occasions where the *use* of the sign is syntactically correct and those where it is not and this amounts to the same problem.⁹

The misunderstanding which generates philosophical confusion occurs precisely because a particular proposition may share symbolizing features essentially with some propositions and share the same features accidentally with others. To learn anything from observing the use of the sign in the context of other propositions, we need to discriminate between those propositions where the sign symbolizes in the same way and those where it does not. To make this discrimination we need to know when the use of the sign in those propositions accords with the same rule of logical syntax. But this is what we wanted to use the recognition of the symbol in the sign to achieve. There is a further dimension to this problem: a proposition may also share some of its features accidentally with nonsensical pseudo-propositions. The pseudo-proposition 'Plato Socrates loves' contains signs that appear in the proposition 'Plato loves Socrates' but we would not count 'Plato Socrates loves' as an occasion where we can learn something about the logico-syntactic use of the sign 'loves'. In both types of case we can only recognize the symbol in the sign when we observe the significant use; but we can only correctly observe the significant use if we already know which features of the sign symbolize.¹⁰

I suggest that any method that could be employed to recognize the symbol in the sign will suffer from a version of this paradox.¹¹ It may seem that the paradox removes any prospect that the *Tractatus* can provide a method of logical analysis for solving the problems of philosophy. Certainly, given this paradox, logical analysis cannot be used to make discoveries about the logic of language: for, if we do not know the logic of a given proposition, then no method of logical analysis can provide that information. However, we would be wrong to think that this will make it impossible to solve the problems of philosophy. Instead, the paradox can help us to appreciate something important about Wittgenstein's view of philosophical problems and their solution.

I want to distinguish two ways of thinking about the solution to a philosophical problem. In both cases we start with the idea that a philosophical problem is a kind of confusion which occurs when we misunderstand the logic of language. The first line of thought is that our task is to achieve a correct understanding of the logic of everyday propositions. When we achieve this correct understanding the problem will be solved. The second line of thought is that our task is to correct whatever misunderstanding has produced the philosophical confusion. When we realize our mistake, we understand that our philosophical problem is a confusion and, in so doing, solve the problem.

My point is that the first line of thinking persists in treating the solution of philosophical problems as needing a kind of discovery: a confusion is cleared up when we achieve the correct view of the logic of a proposition,

for example, when we discover the symbol in the sign. In contrast, the second line of thinking views the solution as a mode of self-enquiry such that a confusion is cleared up when we realize that we have made a mistake, for example, we have made an inference based entirely on the material appearance of a sign. The important difference is that we can recognize a misunderstanding of this kind even if we don't have a detailed grasp of the logic of a proposition.

In the next section I develop these two lines of thought as a distinction between complete and clarificatory analysis. The outcome of complete analysis is the unique, final, complete analysis of a proposition. The outcome of clarificatory analysis is the removal of a misunderstanding. I argue that to solve a philosophical problem we do not need to achieve the complete correct analysis of the logic of a proposition. We just need to remove the misunderstanding which produced our confusion.

We thus see that the paradox outlined above does not destroy the prospect of solving philosophical problems. If we imagine that we need to make informative discoveries about the logic of language, then the paradox poses a threat. If, instead, we think that the problems are solved by recognizing our own mistakes, then the paradox is no threat. Wittgenstein's proposed method for solving philosophical problems is based on the principle that the logic of our language is in perfect logical order and that we know the logic of our language *a priori*.¹² As we shall see, both complete analysis and clarificatory analysis take for granted that, in some sense, we already know the logic of our language, but only the latter deals with our failure to see the symbol in the sign. I argue that complete analysis cannot be considered the primary method for dealing with philosophical problems; instead, clarificatory analysis is the method Wittgenstein calls the 'only strict correct one' for philosophy (6.53).

4 Complete analysis and clarificatory analysis

An initial examination of the *Tractatus* might suggest that the task of philosophy is as follows: to achieve the complete logical analysis of an everyday, complex proposition into a truth-function of elementary propositions consisting of simple signs. This is the view I call 'complete analysis'. Wittgenstein states that 'a proposition has one and only one complete analysis' (3.25), that 'it is obvious that the analysis of propositions must bring us to elementary propositions which consist of names in immediate combination' (4.221) and that a completely analysed proposition expresses a thought in such a way that 'the elements of the propositional sign correspond to the objects of the thought' (3.2). Undoubtedly it is a requirement for Wittgenstein that, in principle, it is possible to produce a complete analysis for every proposition.¹³ It is also true that, if complete analysis is achieved in a given case, we can be sure that any associated philosophical problems have been removed. But this does not mean that complete analysis is achievable in

practice, and it does not mean that Wittgenstein requires us to achieve this outcome to dispel any given philosophical problem.

As I read the *Tractatus*, solving a philosophical problem does not require a definitive analysis of the ultimate logical form of a proposition; it just requires us to get clear whether we are labouring under a misunderstanding about the logic of the proposition in question. This is the conception I am calling 'clarificatory analysis'. In 6.53 Wittgenstein claims that:

The correct method in philosophy would be the following: to say nothing except what can be said, i.e. the propositions of natural science – i.e. something that has nothing to do with philosophy – and then, whenever someone else wanted to say something metaphysical, to demonstrate to him that he had failed to give a meaning to certain signs in his propositions.

(6.53; cf. 4.003)

If we understand the 'correct method' of philosophy as clarificatory analysis rather than complete analysis, we can see that Wittgenstein is describing this method when he claims that 'philosophy is not a body of doctrine but an activity', that 'philosophy aims at the logical clarification of thoughts', and that 'philosophy does not result in "philosophical propositions", but rather in the clarification of propositions' (4.112). He specified to Ogden that the latter point should be understood in the following way:

I think it cannot be the RESULT of philosophy 'to make propositions clear' this can only be its TASK. The result must be that the propositions *now have become clear* that they ARE clear.

(Wittgenstein 1973: 49 – original emphasis).

When we undertake clarificatory analysis we examine the significant use of our signs and try to see clearly whether and how the signs symbolize. We do not need to definitively identify the symbol in the sign, we just need to expose instances where the signs we are using do not symbolize in the way that we imagine, or, even, that the signs do not symbolize at all. By removing these confusions we do not change the proposition, we simply satisfy ourselves that we now see more clearly the logic of the proposition.

Wittgenstein claims that 'a philosophical work consists essentially of elucidations' (4.112). An elucidation is not a 'philosophical proposition' which states a discovery about the logic of a proposition; it is an elucidatory device which helps us when we are examining the use of signs. If we are confused about a particular word we can construct a range of elucidations – sentences which include that sign – and consider what, if anything, the sign essentially contributes to how those propositions express a sense. For example, the one-word sign 'Ambulo' may cause confusion if we do not know whether to treat it as a name or as a proposition. A clarificatory analysis will use elucidations

to see that the sign actually consists of a stem and different endings which symbolize differently (cf. 4.032). The result of clarificatory analysis is simply that we are able to see clearly the thought expressed by the proposition, or see clearly that an apparent proposition is nonsensical and expresses no thought at all. The elucidations which helped us to achieve this result are not important truths; once redundant they can be discarded.¹⁴

A successful clarificatory analysis does not require a complete analysis. However, the 'logical clarification of a thought' would not be possible if were not, in principle, possible for the proposition that expresses it to be completely analysed. The 'general form of a proposition' is, in the *Tractatus*, a guarantee that complete analysis is possible for every proposition (cf. 4.5, 4.51). The general form of a proposition establishes that all, and only, propositions with sense are the product of truth-operations on elementary propositions. Hence, under complete analysis, every proposition with sense turns out to be a truth-function of elementary propositions. Moreover, the general form of a proposition provides the guarantee that there are no illegitimate symbols. There are not two types of propositional symbols: legitimate symbols and illegitimate symbols, or symbols which share the general form of a proposition and symbols that do not.¹⁵ If there are only legitimate symbols then confusion can only arise when we make a mistake in thinking that a sign symbolizes (cf. 5.4732). Clarificatory analysis is analysis that enables us to see that we mistakenly imagined that a sign is symbolizing when it does not; or have misunderstood the way that the sign actually symbolizes. It is not analysis that distinguishes between signs that symbolize legitimately and signs that symbolize illegitimately.

I consider it significant that, while the *Tractatus* contains several illustrations of logical analysis, it does not contain a single example of complete analysis; indeed it fails to provide a single example of an elementary proposition or a simple sign. If complete analysis is supposed to be the primary method for solving philosophical problems, then this would present grounds for concern. But if I am right, complete analysis need not be achieved in practice (but only in principle) and Wittgenstein thinks that presenting the general form of a proposition has sufficed to establish that complete analysis can be achieved in principle in every case.

This point can be pushed further: if complete analysis is the primary method for solving philosophical problems, then we would expect that no philosophical problem can be solved until we have achieved a complete analysis. Yet this is manifestly false. Wittgenstein provides the following example:

The reason why 'Socrates is identical' says nothing is that we have not given *any adjectival* meaning to the word 'identical'. For when it appears as a sign for identity, it symbolizes in an entirely different way – the signifying relation is a different one – therefore the symbols also are

entirely different in the two cases: the two symbols have only the sign in common, and that is an accident.

(5.4733, original emphasis)

We can leave on one side the question of whether this is a contrived rather than a genuine example of a philosophical problem. What matters is that it illustrates a methodological principle. It is significant that the method employed is not the method of complete analysis – there is no attempt to analyse the proposition into a truth-function of elementary propositions. Instead we are invited to realize that we have a mistaken idea about how the sign symbolizes. The propositional sign ‘Socrates is identical’ *could* be used to express a proposition, but here it does not do so. When we realise that ‘Socrates is identical’ says nothing, this is not because we discover that it is an illegitimate combination of signs (and certainly not because it is a combination of illegitimate symbols). Instead we realize that we had misunderstood the signs – we imagined the signs to have a mode of signification that they do not have. This is clarificatory analysis.

The last point may be enough to make my case persuasive, but I wish to offer a stronger argument: complete analysis *cannot* be the primary method for solving the problems of philosophy because complete analysis can only be undertaken after misunderstanding and confusion has already been dispelled. In detail the argument is this: once a proposition has been completely analysed there is no ambiguity or error and no room for philosophical confusions – we will have a ‘correct logical point of view’. But the problem is that complete analysis does not give us a method for dispelling our existing confusions. In effect, saying that complete analysis is, in principle, possible leaves us in the same position as the idea, described in Section 2, that an ideal sign-language is, in principle, possible. If we successfully perform a complete analysis on a proposition, the end result is a correct understanding of the logic of that proposition. But in order to achieve a complete analysis of a proposition we must already be in the position where we have no such confusion. A complete analysis can be performed on every proposition which expresses a sense, but it cannot be performed on a non-sensical pseudo-proposition. Complete analysis, on its own, does not give us a method for distinguishing between genuine and apparent propositions, so it is not the method that we need to employ in the first instance. It is a method that we can use once we have satisfied ourselves that we have done all we can to remove our confusions. But to get into this position we first need to employ clarificatory analysis.

In summary, when we employ clarificatory analysis we take a sentence of our ordinary language and attempt to achieve a clear view of the thought expressed by that sentence, by removing our misunderstandings. Once the misunderstanding has been removed, complete analysis may be possible, but is not necessary. Alternatively, we come to realize that the supposed proposition does not express a thought at all, in which case complete analysis is

not possible. When we employ complete analysis we take a genuine proposition of our everyday language and analyse that proposition into a truth-function of elementary propositions, such that the simple signs (names) stand for simple objects. No further analysis is possible. We can contrast these forms of analysis by saying that the former aims at overcoming a particular confusion and the latter aims at a final state of completeness.

I have argued that complete analysis is only possible once we are satisfied that the proposition in question is a genuine proposition; hence clarificatory analysis rather than complete analysis should be viewed as the ‘strictly correct method’ for solving philosophical problems.

5 Concluding remarks

Wittgenstein tells us that philosophical problems arise because we misunderstand the logic of our language. His distinction between sign and symbol – between merely accidental and essential features of propositions – provides an explanation of how we come to misunderstand the logic of our language. It explains how the genuine logical form of a proposition may differ from its apparent logical form. A version of this idea survives into his later philosophy, where he warns that philosophical problems are often generated because we are influenced by the appearance of signs rather than their significant use.¹⁶

I have argued that we should recognize two types of logical analysis in the *Tractatus*, but the distinction I have identified is not one that is generally noted. I believe that it is important for the following reason: if we see complete analysis as the only method of logical analysis, then we are likely to form the wrong impression about philosophical problems and their solutions. We will be inclined to think that the task of philosophy is to discover the logic of propositions and that the results of philosophical activity are substantive outcomes. If, instead, we appreciate that a philosophical problem can be solved by clarificatory analysis, without the need for complete analysis, then we will properly understand Wittgenstein’s conception of philosophy in the *Tractatus*. The task of philosophy is to remove those misunderstandings which generate philosophical problems and the outcome in each case is not a substantive discovery. This is why Wittgenstein tells us that he believes himself to have found, ‘on all essential points, the final solution of the problems’ yet the value of this work consists in that ‘it shows how little is achieved when these problems are solved’ (Preface, p. 4).

Commentators have suggested that there is a method employed by the *Tractatus* – we could call it the strategy of the *Tractatus* – which does not match the method described in the *Tractatus*. Some have gone as far as to suggest that the book achieves its aim by bringing us to recognize the incoherence of the method of complete analysis proposed within the *Tractatus*.¹⁷ My account offers a way to understand why the method of complete analysis described in the *Tractatus* does not match the ‘strictly correct method’ referred to in 6.53. However, I do not view the two methods as in

tension with one another because I hold that, at the time, Wittgenstein believed that successful clarificatory analysis is underpinned by the possibility of successful complete analysis.

According to the *Tractatus* the genuine logical form of a proposition is precisely that logical form which would be uncovered by a complete analysis. However, around the time of writing 'Some Remarks on Logical Form' in 1929 Wittgenstein recognized that the proposed method of complete analysis was deeply flawed and this led him to realize that his vision of the underlying logic of language was a misguided preconception.¹⁸ By 1930 Wittgenstein had started to modify his earlier view and the *Philosophical Remarks* opens with the statement that: 'a proposition is completely logically analysed if its grammar is made completely clear: no matter what idiom it may be written or expressed in' (PR 1: 51).

In the *Philosophical Investigations* Wittgenstein subjects his previous view of complete analysis and the general form of a proposition to devastating criticism. He condemns the preconceptions in his old way of thinking which led him to form a misguided view:

It may come to look as if there were something like a final analysis of our forms of language, and so a *single* completely resolved form of every expression. That is, as if our usual forms of expression were, essentially, unanalysed; as if there were something hidden in them that had to be brought to light.

(PI 91, original emphasis)

Importantly, however, he does not reject his commitment to clarificatory analysis.¹⁹ He states his new position as follows: 'the clarity we are aiming at is indeed *complete* clarity. But this simply means that the philosophical problems should *completely* disappear' (PI 133 – original emphasis). Clarificatory analysis does not, contrary to his earlier assumption, need to be underpinned by the 'crystalline purity' of unified logical space.²⁰ Different areas of our language may have quite different grammatical forms but the clarificatory task is still to look carefully at the grammatically significant uses of language in order to expose our confusions and misunderstandings.²¹ Wittgenstein's view underwent a major change when he replaced the narrow conception of logic with a pluralistic conception of grammar. But if we distinguish between complete and clarificatory analysis in the way I have proposed, it will be easier to appreciate how clarificatory analysis evolved into what we now know as grammatical investigation.²²

Notes

1 Unless otherwise indicated, all quotes are from the Pears and McGuinness translation of the *Tractatus Logico-Philosophicus* (London: Routledge and Kegan Paul, 1961).

- 2 'Complete analysis' is my label for the kind of analysis mentioned in 3.201, 3.25, 3.3442, 4.221 and 5.5562. 'Clarificatory analysis' is my label for the 'logical clarification' mentioned in 4.112, the 'critique of language' mentioned in 4.003, 4.0031; and the 'only strictly correct' method of philosophy mentioned in 6.53.
- 3 In a rare tribute, Wittgenstein notes that 'it was Russell who performed the service of showing that the apparent logical form of a proposition need not be its real one' (4.0031).
- 4 A situation (*Sachlage*) is a possible state of affairs. A state of affairs that obtains is a fact (*Tatsache*).
- 5 A proposition 'represents' a situation but 'depicts' a fact; in other words, it 'represents' a possible state of affairs and 'depicts' the state of affairs that obtains. Wittgenstein distinguishes between *darstellen* (to represent) and *abbilden* (to depict) to elucidate this difference.
- 6 In Ogden's translation, we hope to 'recognize the symbol in the sign' and in the Pears/McGuinness translation, we hope to 'recognize the symbol by its sign'. I adopt the former phrase to highlight the idea that we need to recognize what in the sign symbolizes, not to recognize the sign for a symbol.
- 7 Ogden translation. The decision to use this translation is explained in the next footnote.
- 8 According to the Pears/McGuinness translation, 'to recognize a symbol by its sign we must observe how it is *used with a sense*' (3.326 – my emphasis). Ogden gives the term '*den sinnvollen Gebrauch*' a different emphasis: to recognize the symbol 'we must consider *the significant use*' (3.326). This translation makes it explicit that the key issue is to recognize which aspects of the use of a sign are essential to the sign's symbolizing, and to ignore the merely accidental aspects that arise from how the sign happens to be used.
- 9 The idea that 'use' must be logical use, rather than contingent empirical usage, is emphasized in the Ogden translation. Pears/McGuinness say 'If a sign is *useless*, it is meaningless. That is the point of Occam's maxim' (3.328) but Ogden says 'If a sign is *not necessary* it is meaningless. That is the meaning of Occam's razor' (3.328). Ogden's choice of term highlights the all-important connection with logic because we learn elsewhere that 'the only necessity that exists is *logical necessity*' (6.375 – original emphasis).
- 10 We might think of this difficulty as akin to the paradox of analysis. In its traditional form, often associated with G.E. Moore, the paradox involves a dilemma rather than circularity: the result of an analysis, if correct, will be trivial and, if informative, will be false.
- 11 In 'Clear and Unclear Thoughts' (Phillips, in preparation) I provide a longer treatment of this topic and detail how various potential methods in the *Tractatus* all run into this problem.
- 12 See 5.4731, 5.552, 5.5542, 5.55, 5.5562, 5.5563.
- 13 The idea that 'a proposition has one and only one complete analysis' (3.25) underwrites the possibility that sense is determinate, 'the requirement that simple signs be possible is the requirement that sense be determinate' (3.23) and that logical form is not arbitrary. Hence if we analyse a sign for a complex that appears in different propositions, the resolution is necessarily the same every time (cf. 3.3442).
- 14 The role of elucidations in the *Tractatus* has received close attention during the debate between traditional and 'New' readings of the *Tractatus*. McGinn (1999) offers an overview of this debate and presents an elucidatory or clarificatory reading of the *Tractatus*. Her reading develops the idea that elucidations are transformative without being factually informative.
- 15 For a thorough discussion of this point see Conant (2000).
- 16 See e.g. *Philosophical Investigations* 340, 514, 664.

- 17 Ostrow (2002) presents a nuanced defence of this view. He claims that: 'Wittgenstein, far from being committed to supposing that the analyzed sentence constitutes the "correct" form of expression, is in fact concerned to suggest the *nonsensicality* of such a notion' (Ostrow 2002: 69, original emphasis).
- 18 See Jacquette (1998) for a detailed study of this transition.
- 19 In 'Clear as Mud' (Phillips 2006) I detail Wittgenstein's criticisms of his former views and discuss important changes in his conception of clarification from the *Tractatus* to the *Investigations*. See also Hart (1990).
- 20 *Philosophical Investigations* 107 and 108. See also 89, 92, 97, 114.
- 21 See *Philosophical Investigations* 90, 109, 116, 122.
- 22 Early versions of this paper were presented at the University of Southampton, the British Society for the History of Philosophy 'Varieties of Analysis' Conference and the Wittgenstein workshop at the University of Chicago. I am grateful for comments I received at these events and for written feedback from Chris Daly, Michael Beaney, Daniel Whiting and Katherine Harloe.

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10 C.I. Lewis

Pragmatism and analysis

Thomas Baldwin

C.I. Lewis (1883–1964) played a central part in the development of the distinctively American, pragmatist, tradition within analytic philosophy. This development was primarily accomplished at Harvard, where Lewis was Edgar Pierce Professor of Philosophy from 1930 until 1953. During his life Lewis's writings were highly esteemed and Paul Schilpp commissioned a volume in the 'Library of Living Philosophers' series on him (Schilpp 1968).¹ Subsequently, however, he has been largely forgotten, overshadowed by his illustrious successor as Edgar Pierce Professor, W.V.O. Quine.²

1 Lewis and logic

Lewis is probably best known these days for his pioneering work in modal logic, especially for the systems of modal logic S1–S5. This work was stimulated by his dissatisfaction with Russell's account of implication in *Principia Mathematica*. Russell took the view that, as far as logic is concerned, implication is just material implication. Lewis objected to this in one of his first publications (Lewis 1912) that material implication is too extensional to express the intuitive notion of logical implication, and argued that something more intensional is required. He called this intensional relation 'strict' implication and connected it with the necessity of the corresponding material implication. But this connection need not be regarded as a definition of strict implication; for modal concepts can be defined in terms of strict implication (' p is necessary' can be defined as ' $\text{not-}p$ strictly implies p '). Thus the systems S1–S5 can be regarded either as systems of strict implication, which is how Lewis originally conceived them, or as systems for the logic of necessity and possibility, which is the way in which they are now usually conceived.³

Lewis's first extended work in logic was *A Survey of Symbolic Logic* (Lewis 1918), which he wrote as a textbook in the subject. Lewis here gives most attention to the algebraic approach to logic as represented by the tradition which ran from Boole to Schröder, Peirce and Huntington, who was still active at this time. But he also recognized the importance of the new approach to logic presented by Russell and Whitehead in *Principia*

Mathematica,⁴ and he ends the book by affirming that insofar as there is a significant difference between the algebraic tradition and the new logic of *Principia Mathematica* ‘this difference is in favour of *Principia*’ (Lewis 1918: 290). Lewis included an account of strict implication in *A Survey of Symbolic Logic*, but it was only in his second logic book, his *Symbolic Logic* (Lewis and Langford 1932), that he provided a full account of the systems S1–S5. This later book is an updated survey of the subject and although the book still starts with an exposition of the algebraic approach much more attention is now given to propositional calculi and the logic of quantifiers.

One might get the impression from the fact that Lewis published two logic books and a fair number of papers in the subject that this was his main area of interest in philosophy. As his other published writings, especially his two major books *Mind and the World Order* (*MWO* – Lewis 1929) and *An Analysis of Knowledge and Valuation* (Lewis 1946), indicate, however, this was not at all the case: Lewis’s main interests lay in epistemology and ethics. He had studied with James, Royce and Perry at Harvard and had become deeply imbued with their combination of pragmatism and idealism.⁵ Nonetheless the fact that Lewis made himself familiar with the new logical theories of Russell and others was crucial to his role in the development of a distinctive American voice within analytic philosophy, one which combines logical analysis with pragmatist themes. In particular Lewis used his critical understanding of the new logical theories to provide a novel pragmatist approach to epistemology. Central to this was his recognition that there is not just one system of logic; instead there is a plurality of alternative systems (Lewis 1932). This for him is indicative of the fact that our epistemological situation is one in which we confront alternative systems of a priori principles. In making our judgments, some choice of system is necessary; but given the fundamental status of the principles, he argues, ‘the grounds of choice can only be pragmatic’ (Lewis 1932: 419).

2 Concepts and the given

Lewis first provided a full statement of his epistemology in *Mind and the World Order* and I shall concentrate on the bold position propounded here. His later elaboration of his position in the first two parts of *An Analysis of Knowledge and Valuation* is more careful but less ambitious. This book also contains Lewis’s theory of value which is not presented in *Mind and the World Order*, but I shall not discuss this aspect of Lewis’s philosophy here. The first thing which is likely to strike a contemporary reader of *Mind and the World Order* is not, in fact, Lewis’s pragmatic conception of the a priori, but the way in which Lewis’s book is a source of several of the ‘dogmas’ or ‘myths’ that are the familiar targets of contemporary critical discussion, and I shall begin my discussion of Lewis’s epistemology by setting out these aspects of it, since they provide an accessible way into it.

Lewis starts the book by propounding a fundamental philosophical dualism which we can immediately recognize as a scheme/content distinction, Davidson's famous 'third dogma' of empiricism (Davidson 1974: 198):

There are, in our cognitive experience, two elements; the immediate data, such as those of sense, which are presented or given to the mind, and a form, construction, or interpretation, which represents the activity of thought. Recognition of this fact is one of the oldest and most universal of philosophic insights.

(*MWO*: 38)

Lewis is of course right that there is a distinction between the ways in which things manifest themselves to us in sense experience and the ways in which we make sense of these appearances in theories and narratives. But what is disputable is the account that Lewis gives of this distinction.

On the content side, Lewis is readily found to be a proponent of the position which Sellars termed the "myth of the given" (Sellars 1956: 169–70):

While we can thus isolate the element of the given by these criteria of its unalterability and its character as sensuous feel or quality, we cannot describe any particular given *as such*. So that in a sense the given is ineffable, always . . . Yet no one but a philosopher could for a moment deny this immediate presence in consciousness of that which no activity of thought can create or alter.

(*MWO*: 52–3)

For Lewis, what is given in this way is given 'as sensuous feel or quality', as he puts it here, and Lewis is certainly the originator of the use of the terms 'quale/qualia' to describe this aspect of the given:

In any presentation, this content is either a specific quale (such as the immediacy of redness or loudness) or something analyzable into a complex of such. The presentation as an event is, of course, unique, but the qualia which make it up are not.

(*MWO*: 60)

Switching now to the 'scheme' side of the scheme/content distinction, for Lewis schemes are 'conceptual schemes', networks of related concepts which we apply to the content of our experiences in order to make sense of these experiences as experiences of a real world. Such schemes are a priori and held together by analytic connections between concepts:

The a priori is not a material truth, delimiting or delineating the content of experience as such, but is definitive or analytic in its nature.

(*MWO*: 231, Lewis's italics)

So all a priori truths are analytic. Although Lewis's dualism is reminiscent of Kant's dualism of intuitions and concepts he rejects Kant's conception of the synthetic a priori. Equally, for Lewis all analytic truths are a priori, since analytic truths express definitions of concepts within an a priori conceptual scheme. It follows that truths which are not analytic, i.e. synthetic, are empirical and vice versa. Thus the a priori/empirical epistemological distinction which is the core of Lewis's scheme/content distinction is matched at the level of language by a distinction between analytic and synthetic truths. Hence Lewis is an unequivocal proponent of Quine's 'first dogma' of empiricism;⁶ he writes:

a priori propositions coincide with the class of truths which are analytically determined and with propositions true in intension; what is a posteriori coincides with the logically synthetic and with propositions true in extension.

(*MWO*: 433)

Since Lewis clearly exemplifies the first and the third dogmas of empiricism, one should ask also about his attitude to Quine's second dogma, the dogma of reductionism. This turns out to be a difficult matter. On the one hand, Lewis holds that the application of all concepts is grounded on the kinds of qualia given in experience: 'immediate qualia constitute the ultimate denotation in experience of our concepts' (*MWO*: 310) – a position which appears to support a reductive position. But Lewis recognizes that he needs to take account of hypothetical as well as actual experiences, and he argues that the hypothetical experiences which would count in favour or against the truth of even a simple objective judgment such as 'This penny is round' can be indefinitely multiplied in a way which precludes determinate characterization (*MWO*: 286) and thus equally precludes a determinate reduction of the objective judgment to experience. Lewis then argues that our experiences do nonetheless enable us to reach conclusions to the effect that some objective claim is probable (*MWO*: 305) and although the resulting position is not worked out in any detail, it suggests a probabilistic anti-realism to the effect that the content of an objective belief is fixed by the way in which different degrees of belief with this content are warranted by different types of experience. Yet there is an important detail in Lewis's formulation of his position which counts against even this: when Lewis mentions the kinds of hypothetical experience relevant to the truth of the judgment 'This penny is round' he does so by means of a conditional such as 'If I take two steps to the right, it will look elliptical' (*MWO*: 288). The obvious point to note is that the antecedent of this conditional concerns an objective change and not an experience at all: so by relying on conditionals of this kind Lewis rules out the possibility of any form of reduction or anti-realism.⁷

In thinking about Lewis's position, the first issue to address is his account of 'the given'. Lewis acknowledges from the start that this account is

speculative and not simply phenomenological. For he holds that our ordinary experience, ‘the datum for philosophic reflection’ (*MWO*: 54), is always ‘the thick experience of the world of things, and not the thin given of immediacy’ (*MWO*: 54). Thus the given is an ‘abstraction’ which ‘never exists in isolation in any experience or state of consciousness’ (*MWO*: 54), although it can be identified within experience readily enough (*MWO*: 55). Yet this process of identification is inherently problematic. On the one hand, the given is not conceptualized: it is ineffable and indescribable and ‘in broad terms, no different than it would be if I were an infant or an ignorant savage’ (*MWO*: 50). Yet, on the other hand, he also holds that it is crucial to our capacity for empirical knowledge that we be able to identify, classify and recognize the ‘qualitative character of the given presentation’ (*MWO*: 292), indeed in such a way that we cannot be mistaken about this (*MWO*: 131).

Something has gone wrong here: the given cannot be both indescribable and yet also infallibly identifiable. Lewis’s rationale for this problematic conception of the given seems to be that he takes it to be essential to ‘the independence of reality – its independence of the knowing mind’ (*MWO*: 192–3). For, he writes, this mind-independence ‘means, first, the *givenness* of what is given; our realisation that we do not create this content of experience and cannot, by the activity of thinking, alter it’ (*MWO*: 193). I think Lewis reveals here an idealist presumption which leads him to postulate the given as an element within consciousness that can constitute ‘the independence of reality’. Without this presumption the mind-independence of reality would not need to be constituted within consciousness and as a result the hypothesized ‘*givenness*’ of experience would not be needed either. Instead, following Quine, we might distinguish two different conceptions of sense experience to play the part of Lewis’s given. On the one hand, there is ‘the barrage of sensory stimulation’⁸ which is much the same for infants and ignorant savages like us. This barrage is, of course, an external reality and as such mind-independent; but it is not an element within consciousness at all. On the other hand, within consciousness there are the effects of this sensory stimulation, the perceptual judgments expressed by the observation statements we affirm. Here our habits of thought do play a part and our judgments often differ from those of infants and other people. But such universality is no longer needed since to represent in thought the independence of reality we have no need for something that is itself altogether mind-independent. Lewis’s given is a hybrid of these two conceptions of sense-experience, an idealist misconception which turns out to be a conception of nothing at all.

Turning now to the conceptual side of things, Lewis’s position is at first more familiar-sounding and less problematic. Concepts are typically shared meanings expressed in a common language; ‘we shall define the pure concept as “that meaning which must be common to two minds when they understand each other by the use of a substantive or its equivalent”’ (*MWO*: 70). This shared meaning is sustained by agreement in judgment since what

mutual understanding primarily requires is ‘that, in general, we be able to discriminate and relate as others do, when confronted by the same situation’ (*MWO*: 111). Hence, Lewis concludes, ‘our common world’ is a ‘social achievement’ (*MWO*: 111).

We shall see at the end that this account of Lewis’s position omits an important point that he himself only introduces later in his book. But there is another complication to be introduced here, concerning the role of empirical concepts in assigning an objective interpretation to experience, since the qualia which constitute each subject’s given experience are inherently subjective. Lewis thinks he can sort this out by taking it that although each subject has idiosyncratic concepts not expressed in language which characterize their own qualia, the empirical concepts expressed in language apply to supervening patterns among these qualia concerning which, he thinks, there are intersubjective similarities, so that there can after all be agreement in judgment on empirical matters between different subjects (*MWO*: 144–5). As the earlier discussion of reductionism indicated, however, Lewis’s position is further complicated by his introduction of action-types to specify the types of experience that are relevant to empirical judgment and it is not worth pausing to consider in detail how the resulting position is to be formulated. What is nonetheless worth noting is the fact that for Lewis what matters as far as empirical knowledge is concerned is not the intrinsic character of the qualia that are given in individual experiences but the intersubjective patterns among them, so that ‘it is relation which constitutes that *intelligibility* which is essential to knowledge’ (*MWO*: 146).

3 Analysis

This claim is important as we turn to consider Lewis’s account of the a priori and the central role played in this account by the thesis that all a priori principles are analytic. For Lewis there are two main types of a priori principle – first, there are those principles which concern ‘the elaboration of concepts in the abstract’ (*MWO*: 230), most clearly exemplified by mathematical principles. The second, more important, type are those which specify empirical criteria for reality by providing ‘the predetermined principles of interpretation, the criteria of our distinguishing and relating, of classification, and hence the criteria of reality of any sort’ (*MWO*: 230–1).

As far as the abstract principles of mathematics are concerned Lewis argues that Kant’s thesis that these principles are synthetic a priori has been refuted by developments in logical theory, such as in *Principia Mathematica*, which have revealed powers for logical analysis which were unsuspected by Kant (*MWO*: 107). This of course does not show why logic itself is analytic, and in discussing this question Lewis introduces a much more interesting point: he rejects the conception of analysis as the ‘dissection’ of a concept into simple elements, and argues instead that analysis is a way of identifying the defining relations which connect terms – so that ‘logical analysis is not

dissection but relation' (*MWO*: 82). If we think about the familiar task of converting sentences of ordinary language into the language of first-order logic, it is easy to see what Lewis means: once the conversion has been made it is much easier than previously to plot the inferential relations between the sentences in question. Indeed, all that the logical analysis does is to make available to us this network of logical relationships. Lewis connects this point with the observation that in logic and mathematics there is no intrinsic simplicity or indefinability; for in these disciplines we always have a choice of axioms and 'the theorems are no more "proved true" by the postulates than the postulates are by the fact that they lead to the theorems' (*MWO*: 108). What is important here are just the 'order and connectedness' which are exhibited by the system as a whole (*MWO*: 108).

Thus, as far as logic and mathematics are concerned, Lewis's main argument for his thesis that the a priori is analytic is that 'analysis is not dissection but relation': the a priori is constituted by the kind of relation which logical analysis makes explicit. But what about the other type of a priori principle, concerning empirical criteria for reality? Is there not here a different kind of analysis, which does involve the analysis of complex concepts into simple ones which apply to the intrinsic qualities inherent in experience? For example, when Lewis says, in a passage quoted earlier, that 'In any presentation, this content is either a specific quale (such as the immediacy of redness or loudness) or something analyzable into a complex of such' (*MWO*: 60), the implicit notion of analysis seems to be 'dissection' rather than 'connection'. I think one has to accept that there are cases of this kind in Lewis's work where analysis is dissection. But Lewis does not present this case as one involving an a priori principle, and as soon as one restricts attention to cases of this kind it is apparent from the discussion at the end of the last section that he holds that the a priori principles which provide criteria for empirical reality just capture the patterns, or relationships, within experience which confirm the interpretation of experience as experience of something real. So what makes these principles analytic is not that they show how complex conceptions of the real world are founded upon the simple qualities of experience, but that they make explicit the connections and relationships within experience of the real world. For 'all meaning is relational', as he puts it (*MWO*: 107).

This holistic conception of analysis is, I think, one of Lewis's most important insights. It implies that the thesis that all a priori principles are analytic has a very different significance in his work from that which it receives in the work of those, like Russell, who do think of analysis as primarily 'dissection' rather than 'relation'. It is not, I think, a distinctively pragmatist point; instead it bears witness to the idealist background of Lewis's philosophy.⁹ But there is a further aspect of Lewis's conception of the a priori which merits attention precisely because it does introduce his pragmatism.

Most of the examples Lewis offers of a priori principles concerning empirical concepts draw on commonsense judgments about the ways in

which physical objects appear to us, as round, white, etc. One might regard such judgments as elements of folk natural science (geometry, optics, etc.); as such they prepare the ground for another type of judgment which Lewis also takes to be a priori – natural law. Lewis initially puts forward this position in a way which seems to imply that these laws are imposed, not discovered:

The a priori element in natural science goes much deeper than might be supposed. All order of sufficient importance to be worthy of the name of law depends eventually upon some ordering by mind.

(MWO: 254)

However, as his discussion proceeds, the reverse direction of dependence becomes just as significant: the a priori principles which identify the empirical ‘criteria of reality’ turn out to depend upon observed uniformities which are natural laws:

The reality of an object of a particular sort is determined by a certain uniformity of its behavior in experience. The formulation of this uniformity is of the type of natural law.

(MWO: 261)

Hence Lewis is led to propose that there is here a kind of interdependence:

The determination of reality, the classification of phenomena, and the discovery of law, all grow up together.

(MWO: 263, Lewis’s italics)

As Lewis recognizes, the obvious objection to this is that he seems to be putting together ‘the discovery of law’, which is presumably empirical, and ‘the determination of reality’, which is for him a priori. Lewis’s response to this clearly reveals how his theory of the a priori is pragmatist:

If the criteria of the real are a priori, that is not to say that no conceivable character of experience would lead to alteration of them.

(MWO: 263)

4 The pragmatic a priori

We are now in a position to consider Lewis’ distinctive combination of pragmatism and conceptual analysis. The place to start involves an aspect of Lewis’s conception of the a priori which I have not yet discussed, the fact that it involves a decision on the part of the subject: ‘the a priori has its origin in an act of mind; it has in some sense the character of fiat and is in some respects like deliberate choice’ (MWO: 213).

The explanation of this aspect of the a priori is that Lewis, rejecting the Kantian project of providing transcendental arguments for some one set of principles, holds that our interpretation of experience is guided by principles which we ourselves select or construct from among a range of alternatives. The alternatives that Lewis mentions fall into three groups:

- (a) Alternative Logics: ‘The fact is that . . . there are several logics, markedly different, each self-consistent in its own terms’ (*MWO*: 248). The examples Lewis brings forward in his paper ‘Alternative Systems of Logic’ (Lewis 1932) primarily concern the differences between standard 2-valued logic and many-valued systems of logic which reject excluded middle, though Lewis also alludes to Brouwer’s different challenge to this principle and thus implicitly to intuitionist logic. But in this connection one can also think of his different systems for strict implication, S1–S5, and indeed of his discussions of the differences between algebraic logic and standard first-order logic.
- (b) Alternative Mathematics: Lewis is less inclined to envisage a pluralism of alternative mathematical systems, but in the following obscure passage he allows that we cannot rule it out if we think of an alternative mathematics as an aspect of an alternative conceptual scheme: ‘But if translation in general affected numerical alteration then an entirely different mode of categorial interpretation might better serve the purposes. Our present categories would not – *could* not – be prohibited but other modes might more simply reduce the phenomenal to order and facilitate control’ (*MWO*: 252).
- (c) Alternative scientific theories: as noted above, Lewis holds that laws of nature function as a priori principles which define the natural kinds involved. Thus where there is a deep disagreement between scientists concerning some subject-matter, including disagreement as to the laws of nature within this domain, this disagreement will for Lewis constitute a case in which a choice has to be made which involves a choice of a priori categories.

One omission here is striking: when discussing the a priori Lewis initially devotes most attention to the commonsense a priori principles which, he maintains, we employ when relating experience to judgments such as ‘This penny is round.’ But when discussing alternative conceptual schemes he does not mention the possibility of alternatives to these principles. It is in fact not obvious that there are serious alternatives here, though Wittgenstein’s speculations in his notes *On Certainty* about the ways in which ‘Moorean propositions’ might be challenged are suggestive.¹⁰ I think that Lewis himself took it that it is through the application of scientific method that alternatives to common sense arise.

Setting aside this point, we must return to the question raised by Lewis’s thesis that in some domains at least we have to choose between alternative

conceptual schemes – namely as to how this choice is to be made. We already know in brief Lewis's answer to this question: the choice is to be made 'on pragmatic grounds'. But what does this mean? Lewis initially puts his position in almost reductive naturalistic terms:

In brief, while the a priori is dictated neither by what is presented in experience nor by any transcendent and eternal factor of human nature, it still answers to criteria of the general type which may be termed pragmatic. The human animal with his needs and interests confronts an experience in which these must be satisfied, if at all. Both the general character of the experience and the nature of the animal will be reflected in the mode of behaviour which marks this attempt to realise his ends. This will be true of the categories of his thinking as in other things.

(*MWO*: 239)

But a bit later this position is spelled out in terms which emphasize our intellectual priorities:

But certain important ends, such as intellectual consistency and economy, completeness of comprehension, and simplicity of interpretation, occupy a place so much higher, for the long-run satisfaction of our needs in general, that they rightfully take precedence over any purpose which is merely personal or transitory.

(*MWO*: 267)

So although we commonly describe choices made on the basis of short-term personal interests as pragmatic, that kind of pragmatism is misguided. Instead the clear-minded pragmatist will recognize the priority of intellectual values when making their choice of a priori principles, and it is then with reference to choices made in this way that Lewis affirms his conclusion that 'It is the a priori element in knowledge which is thus pragmatic, not the empirical' (*MWO*: 266).

Since a priori principles define the concepts we employ, it follows that knowledge, which is necessarily conceptual, is dependent on the principles which we select. Equally, since the propositional contents of judgments are the fundamental bearers of truth and falsity, it follows that the truths available to us are dependent on the values which inform our pragmatic choice of a priori principles. Hence, as Lewis recognizes, pragmatic values enter deeply into the foundation of knowledge and truth:

The sense in which facts are brute and given cannot be the sense in which the truth about them is made by mind or alterable to human needs. To be sure, this a priori element in knowledge runs very deep; it is present whenever there is classification, interpretation, or the

distinction of real from unreal – which means that it is present in all knowledge. So I suppose it must be admitted, in the last analysis, that there can be no more fundamental ground than the pragmatic for a truth of any sort.

(*MWO*: 266)

One could not ask for a clearer affirmation of philosophical pragmatism than this – a pragmatism of truth and knowledge.

One key issue which now arises is whether pragmatic values always determine a unique best choice of a priori principles. On the face of it, this is unlikely: given the plurality of intellectual values Lewis invokes, it is hardly likely that there could not be cases in which competing sets of principles are favoured by different values. Indeed, the only reason one could have for rejecting this possibility would derive from a Kantian transcendental argument whose validity a pragmatist like Lewis has already rejected. And indeed Lewis does seem to envisage this possibility when he writes:

There may be alternative conceptual systems, giving rise to alternative descriptions of experience, which are equally objective and equally valid, if there be not some purely logical defect in these categorial conceptions.

(*MWO*: 271)

He then obscures the point, however, by continuing:

When this is so, choice will be determined, consciously or unconsciously, on pragmatic grounds.

(*MWO*: 271)

For this rather suggests that the ‘pragmatic grounds’ determine a unique choice. But, as I have indicated, no such uniqueness claim could be warranted. Hence, it would seem, Lewis is committed to a form of conceptual pluralism and thereby, it would seem, to a form of relativism concerning truth and knowledge.

I doubt if Lewis would welcome this commitment. For there is a chapter in *Mind and the World-Order* entitled ‘The Relativity of Knowledge’ in which Lewis argues that the familiar relativity of apparent shape to the subject’s perspective is consistent with the fact that the object perceived has a unique objective shape which explains the different ways in which it appears to viewers located in different positions. That point is indeed fair enough; but to extrapolate it into a way of rejecting the relativity of truth and knowledge to which he appears to be committed one would have to hold that the different pragmatic values (e.g. simplicity vs comprehensiveness) which motivate different choices of a priori principles are comparable

to the different apparent shapes of an object as seen by viewers at different locations, so that there is an objective pragmatic appraisal of the alternative sets of principles which both yields a unique ranking of them and explains the different value-judgments made by different people. Nothing in Lewis's discussion, or in the pragmatist tradition, warrants such a hypothesis.

5 Glimpses beyond

5.1 Lewis and Carnap

The similarities between Lewis's pragmatism and logical empiricism, especially as propounded by Carnap, were obvious to the philosophers who made this comparison in their contributions on this theme to Schilpp's Lewis volume and the comparable Carnap volume.¹¹ Indeed Carnap himself commented 'It seems to me there is agreement on the main points between the present views of the Vienna Circle ... and those of *Pragmatism*, as interpreted e.g. by Lewis'.¹²

The comparison will be obvious: in *The Logical Syntax of Language* (LS – Carnap 1937) Carnap presents a variety of languages, each with their own logical syntax made up of conventions which perform a role comparable to the a priori principles of Lewis's conceptual schemes. These conventions are of two main types: there are 'P-rules' which, like Lewis's categorial principles, define natural kinds by reference to the laws of nature within some domain; and there are more general 'L-rules' which define logic and mathematics. Like Lewis, Carnap holds that our 'liberty' extends to changing these conventional rules when it suits us to do so:

No rule of the physical language is definitive: all rules are laid down with the reservation that they may be altered as soon as it seems expedient to do so. This applies not only to the P-rules but also to the L-rules, including those of mathematics.

(LS: 318)

Carnap's talk here of 'expedience' sounds pragmatist; and a page later he spells out his position in terms that are comparable to those employed by Lewis:

The construction of the physical system is not effected in accordance with fixed rules, but by means of conventions. These conventions, namely, the rules of formation, the L-rules, and the P-rules (hypotheses), are, however, not arbitrary. The choice of them is influenced, in the first place, by certain practical methodological considerations (for instance, whether they make for simplicity, expedience, and fruitfulness in certain tasks).

(LS: 320, Carnap's italics)

The most obvious differences between Carnap and Lewis arise from Carnap's emphasis on language. Carnap, one might say, subjects Lewis's position to the linguistic turn, thereby transforming Lewis's a priori/empirical distinction into one between analytic linguistic conventions, on the one hand, and synthetic descriptive sentences, especially protocol sentences, on the other. As we have seen, Lewis himself makes the same connections, e.g. between the a priori and the analytic, but his perspective remains fundamentally epistemological. Carnap's linguistic approach, however, has the merit of removing the logical space for a conception of the given, since there cannot be anything altogether 'ineffable' that is expressed within language. Carnap's protocol sentences inherit the role of the given in Lewis's epistemology; but they do so without any presumption that they capture the subject's 'raw feels'.

An important feature of Carnap's position is that he is clear from the start about the possibility of alternative conceptual schemes, or 'languages', as he calls them, and he is relaxed about the pragmatic pluralism which this implies, as in his famous principle of tolerance:

In logic, there are no morals. Everyone is at liberty to build up his own logic, i.e. his own form of language, as he wishes.

(*LS*: 52, Carnap's italics)

He develops the implications of this tolerant pluralism in his paper 'Empiricism, Semantics and Ontology' (Carnap 1950) by introducing his famous distinction between 'internal' and 'external' questions. Internal questions are questions which can be answered by employing the logic and categorial framework of an established language; external questions are questions as to whether to continue to use this language in a situation which appears to provide a counterexample to its categories or to modify the language. Since these questions arise from challenges to the categorial framework of a language, they cannot be answered by invoking that framework; hence, Carnap infers, their answers can be motivated only by pragmatic assessments of the language and alternatives to it – assessments of what is 'more or less expedient, fruitful, conducive to the aim for which the language is intended' (Carnap 1950: 79). So far there is nothing particularly new, nor anything from which Lewis would dissent. But Carnap now adds that these external questions are 'non-cognitive' (Carnap 1950: 79) and contrasts them in this respect with internal questions. Given the positions adopted by Carnap and Lewis, this is indeed right: they both hold that judgment is essentially linguistic (or conceptual), but that the choice of language or conceptual scheme itself is to be a matter of 'convention' (*LS*: 320) or 'fiat' (*MWO*: 213) since the acceptability of such a language cannot itself be a matter of judgment. This, however, implies that cognitive questions, questions about what is known or true, are all of them internal – and therefore such that answers to them are necessarily relative to a given

language or conceptual scheme. So, as with Lewis, Carnap's pluralism leads to relativism, a relativism of truth and knowledge. The main difference between them is just that, unlike Lewis, Carnap seems content to accept this implication.

Yet it is this cognitive relativism that is intolerable in the positions of Lewis and Carnap. For familiar reasons which I shall not rehearse here we cannot work with conceptions of truth and knowledge which are inherently relative to conceptual schemes or linguistic frameworks. The person who homed in to this point, however, was not their first and most famous critic, Quine, whose criticism I discuss below, but Davidson, in his paper 'The Very Idea of a Conceptual Scheme' (Davidson 1974). For as Davidson here observes, Quine himself flirted with relativism, for example in 'Ontological Relativity' (Quine 1968). Nonetheless, once one takes on board Davidson's criticism of the relativism inherent in the positions of Lewis and Carnap, the pragmatist response has to be basically that already prescribed by Quine, namely that of giving up an absolute distinction between internal questions about matters of fact and external questions concerning the choice of a categorial framework. For only once that distinction is abandoned can one give cognitive significance to external questions. Relativism is now avoided, though there remains plenty of scope for deep disagreements concerning the best conceptual scheme or linguistic framework. But these disagreements are no longer thought of as non-cognitive differences about the best way to approach cognitive questions; instead they are themselves part and parcel of fundamental disagreements about the way the world is.

5.2 Lewis and Quine

Quine ends 'Two Dogmas of Empiricism' by contrasting his position with that of Lewis and Carnap:

Carnap, Lewis and others take a pragmatic stand on the question of choosing between language forms, scientific frameworks; but their pragmatism leaves off at the imagined boundary between the analytic and the synthetic. In repudiating such a boundary I espouse a more thorough pragmatism.

(Quine 1951: 46)

Quine's complaint is that Carnap and Lewis failed to pursue their pragmatism to its proper conclusion by leaving the analytic/synthetic distinction unchallenged. The previous discussion of the relativist implications of their position can be regarded as a way of substantiating this complaint, though it is not one that Quine himself used. What remains to be discussed briefly, therefore, is what it was in Lewis's position which led him to leave the analytic/synthetic distinction unchallenged. After all, he must have been aware that it had been challenged within the idealist philosophy of his teachers, such as Royce.

For Lewis the primary motivation must have been epistemological, his attachment to an a priori/empirical distinction, and his further belief that this distinction can be reformulated as a distinction between the truth of two types of statement, the analytic/synthetic distinction. This latter belief is of course one that he shared with Carnap and Quine, but it is one that has itself increasingly come into question.¹³ A yet more thorough pragmatism, one might say, will lead one to make a distinction between the a priori and the analytic which Quine himself did not envisage.¹⁴ But on examination it turns out that there is a further element of Lewis's position which motivates his attachment to an analytic/synthetic distinction.

The point emerges when Lewis is discussing fundamental changes in science. He says here: 'Categories and concepts do not literally change; they are simply given up and replaced by new ones' (*MWO*: 268); and he continues 'Categories and precise concepts are logical structures, Platonic ideas; the implications of them are eternal' (*MWO*: 269). So, despite his emphasis on the role of a common language in fixing meanings (see §2 above) Lewis's conception of meaning is fundamentally Platonist: the role of language in determining meaning is only epistemological, not constitutive. Thus although Lewis takes it that we are to revise our conceptual scheme in the light of experience, when we revise our conceptual scheme we do so by making use of different concepts, so that the revision is, as Lewis says, just replacement. Hence the analytic truths definitive of the old concepts are unaffected by this change.¹⁵

Hence although Quine does not argue the point in this way, he was quite right to challenge Lewis's conception of analytic truth. Lewis's pragmatism does not reach through to his conception of meaning and analyticity; giving up Platonism about meanings and allowing for genuine conceptual change is one deep truth of pragmatism which Lewis failed to grasp.¹⁶ One can put this point in terms of Lewis's conception of analysis as connection rather than dissection: Lewis's own recognition that discoveries in natural science lead to new conceptual connections and distinctions should have led him to recognize that a conception of conceptual analysis which registers connections and distinctions has to allow for genuine conceptual change. But one should not blame Lewis for not pressing his own line of thought to this radical conclusion; instead we should acknowledge the value of *Mind and World-Order* as a work which provides the dialectical framework for Lewis's successors, most notably Quine.

Quine's account of his time at Harvard as a student there in 1930–2 suggests that he was not much inspired by Lewis; it was his subsequent visits to Vienna and Prague that fired his philosophical enthusiasm.¹⁷ Yet, in retrospect, it may be that Quine took more from Lewis than he realized. In discussion with Ernest LePore, Davidson put the point this way:

LePore Surely C.I. Lewis must have impressed Quine.

Davidson I do think that C.I. Lewis had a tremendous influence on Quine, but Quine doesn't realise it. The explanation for that is that Quine had no training in philosophy and so when he took Lewis's course on epistemology, he took for granted that this is what everybody knows about epistemology. Quine didn't realise that Lewis was any different from everyone else; pretty soon he worked out that there are some things he didn't agree with Lewis about, like the analytic-synthetic distinction. I don't think Quine would put it this way. As I said, I don't think he realised any of this, but you can find most of Quine's epistemology in C.I. Lewis minus the analytic-synthetic distinction. Epistemology naturalised is very close to the heart of C.I. Lewis. I don't think that Quine knows the extent to which there really is a sequence that starts with Kant and goes through C.I. Lewis and ends with Quine.¹⁸

Notes

- 1 Lewis, who died in 1964, was in poor health by the time the book was under preparation and was therefore not able to write much by way of 'Replies to My Critics'.
- 2 For example, he has only recently been added to the list of those philosophers for whom an entry in the *Stanford Encyclopedia of Philosophy* is proposed.
- 3 For an excellent exposition of these systems see Hughes and Cresswell 1968: chs 12–13.
- 4 In his 'Autobiography' Lewis recounts that Royce gave him a copy of Volume I of *Principia Mathematica* as early as 1911.
- 5 In his 'Autobiography' (Schilpp 1968: 16) Lewis recounts how, when he returned to Harvard in 1920, one of his first tasks was to begin to bring some order to Peirce's papers which were piled up in the room which had been allocated to him as his study. In the course of doing this he read a good many of them and thereby became acquainted with the richness and the complexity of Peirce's thought, though he acknowledges that he never had the time to work properly through the papers.
- 6 Quine 1951: 20. Like Lewis, Quine regards the intension/extension distinction as a variant of the analytic/synthetic distinction.
- 7 Much the same issue arises in the context of *An Analysis of Knowledge and Valuation (AKV)*. Lewis says here that the 'sense-meaning' of an objective statement entails that it is 'translatable into the predictive statements of terminating judgments' (*AKV*: 189), which sounds like a reductive thesis. Yet these terminating judgments are conditionals of the form 'if A then E', where A is an action. So the reductive intent seems compromised again by the role of objective concepts of space and time in the specification of the action-types in question. But Lewis adds here that the actions in question are to be understood as conditions made 'indubitably true' by one's action, and not 'like a condition of my musculature in relation to the environment, an objective state of affairs only partially verified and not completely certain at the time' (*AKV*: 184). Hence it appears that Lewis here seeks to avoid the problem by means of a purely 'subjective' specification of the action-types. But this suggestion is not worked out in any detail, and the examples Lewis gives certainly involve actions specified by reference to 'a condition of my musculature in relation to the environment' (to use his quaint

- phrase), such as ‘if I step forward and down’ (*AKV*: 174). This type of challenge to Lewis’s position in *AKV* was first issued by Chisholm in his paper ‘The Problem of Empiricism’ (Chisholm 1948); Lewis replied that Chisholm had failed to take account of the role of probability in his position (Lewis 1948), but it is hard to see how this meets the point.
- 8 Quine 1951: 44.
- 9 In his later book, *An Analysis of Knowledge and Valuation*, Lewis seems to retreat from this holistic conception of analysis as connection, though it is difficult to be sure about this matter since he includes here no general discussion of analysis. But, for example, when discussing analytic truths, Lewis simply says, ‘what any explicitly analytic statement asserts . . . is some relationship of intensional meanings of constituents in it’ (*AKV*: 152), which certainly suggests the dissection model of analysis. And the ‘analysis’ of knowledge developed in the book is based on a discussion of the ‘terminating judgments’ which are the basis of empirical knowledge. Although the position then advanced is not a simple reductive dissection (see n. 7), it is an account of the way in which empirical knowledge is founded upon judgments that are, from an epistemic point of view, simpler. For a recent account of analysis as connection rather than dissection, see Strawson 1992: 19ff.
- 10 See Wittgenstein 1969, esp. §§92–9 concerning changes to ‘the river-bed of thoughts’.
- 11 See W.H. Hay ‘Lewis’ Relation to Logical Empiricism’, pp. 309–28 in Schilpp 1968, and C. Morris ‘Pragmatism and Logical Empiricism’, pp. 87–98 in Schilpp 1963.
- 12 Carnap 1936: 427.
- 13 See Kripke (1980), though one might not describe his arguments as ‘pragmatist’.
- 14 Such a distinction would be a distinction between epistemological role (a priori vs empirical) and linguistic status (analytic vs synthetic). I believe that such a distinction can be defended but this is not the place to argue the point.
- 15 This Platonism about meanings is much more prominent in *An Analysis of Knowledge and Valuation* (see pp. 110ff.). It is the fact that Lewis gives it so much attention here, without attempting to justify it, that makes this later work less interesting than the earlier one.
- 16 Carnap of course did not have a Platonist conception of meaning. The question as to how far, and why, he held on to an analytic/synthetic distinction is a complex one which I shall not pursue here.
- 17 See Quine’s ‘Autobiography’ in Hahn and Schilpp 1986: 9ff.
- 18 Lepore 2004: 237.

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11 Conceptions of analysis in the early analytic and phenomenological traditions

Some comparisons and relationships

Michael Beaney

The most valuable insights are methods.

(Nietzsche 1988: §13)

Introduction

As its name indicates, one of the defining features of ‘analytic’ philosophy is the emphasis placed on analysis. By contrast, the critique of analysis is often taken as a characteristic theme of ‘continental’ philosophy, understood as including phenomenology. This suggests that the issue of analysis provides an ideal focus for investigating the relationships between what came to be seen as the two main traditions of twentieth-century philosophy, and for assessing just what the divide is supposed to be. In this paper I offer a framework for this investigation, and consider the relationships between certain key figures in the early analytic and phenomenological traditions.

There is a far greater range of forms of analysis than is usually supposed, and recognizing these reveals similarities and differences that cut across the standard divides. In particular, there is a distinction to be drawn between those who remained wedded to a decompositional (Kantian) conception and those who broke free to pursue richer projects of analysis. This results in a division that cuts across the analytic/phenomenological divide as standardly conceived: Brentano and Moore, for example, come out on one side, and Frege and Carnap on the other, with Husserl and Russell straddling the two. More importantly, though, all six of these philosophers can be seen as pursuing ‘analysis’ in some substantial sense, so that in the wider context of the supposed divide between analytic and continental philosophy, the analytic and phenomenological traditions might both be seen as ‘analytic’. This should at least raise doubts about continuing to think in twentieth-century terms.

The paper is divided into five sections. In the first section, I outline the framework that I have been developing for exploring conceptions of analysis in the history of philosophy, identifying three main modes of analysis that are involved in these conceptions. In the middle three sections, I elaborate

on this framework in exploring some of the relationships between the projects of analysis of Frege and Russell, Moore and Brentano, and Husserl and Carnap, respectively. I conclude by commenting on the shift from decompositional to 'explicatory' forms of analysis.

1 Three modes of analysis

The word 'analysis' derives from the ancient Greek term 'ἀνάλυσις'. The prefix 'ἀνά' means 'up', and 'λύσις' means 'loosing', 'release' or 'separation', so that 'ἀνάλυσις' means 'loosening up' or 'dissolution'. The term was readily extended to the solving or dissolving of a problem, and it was in this sense that it was employed in ancient Greek geometry and philosophy. But this etymology already suggests an ambiguity which affects the use of the term throughout its history. If we think of the chemical process of 'dissolution' (e.g. dissolving salt in water), then this involves not only the loosening of something (the salt) but also its immersion in a suitable solvent (the water). If we want to dissolve something (a solid), in other words, we need to find something else (a liquid) to do so. From its earliest philosophical use, 'analysis', too, meant not merely the decomposition of something into its elements but also the finding of the additional things by means of which this loosening up could occur. Furthermore, if we are pursuing the idea of dissolution, we should also note that such a process may *transform* what it is we are dissolving (in the way that, e.g., salt yields Na^+ and Cl^- ions). Analysis, too, may involve a process of transformation, and such transformation may be essential to reveal the elements of something.

All these aspects may be exemplified in the case of solving a problem. We may need to find additional things to help us, we may need to break it down into simpler parts, and/or we may need to transform it into something else with which we already know how to deal. In general, we will need to draw on the resources of a broader theory, conceptual framework or set of techniques. If 'analysis' covers all of this, then it clearly involves far more than just decomposition, which, all too crudely, is how analysis tends to be characterized today.

For the purposes of the present paper, and to some extent corresponding to the three aspects just identified, I shall distinguish three main *modes* of analysis, which I shall call the *regressive*, the *resolutive* or *decompositional*, and the *interpretive* or *transformative*. These modes may be realized and combined in a variety of ways, in constituting specific conceptions or practices of analysis. Where one mode is dominant in a given conception, we may talk, for example, of the decompositional conception; but it should be stressed at the outset that in actual practices of analysis, all three modes are typically combined. Perhaps all three might be described as forms of 'working back to something more fundamental', but while the regressive mode involves working back to the principles, premises, causes, etc., by means of which something can be derived or explained, the resolutive mode

involves identifying the elements and structure of something, and the interpretive mode involves ‘translating’ something into a particular framework.

The regressive mode occupied centre-stage in the ancient period, at least if Pappus’ classic account of analysis in ancient Greek geometry is a guide. In his *Mathematical Collection*, composed around 300 AD, Pappus wrote:

In analysis we suppose that which is sought to be already done, and we inquire from what it results, and again what is the antecedent of the latter, until we on our backward way light upon something already known and being first in order.¹

The conception articulated here has remained a core conception of analysis ever since. Filtered through discussions of Aristotelian methodology during the Renaissance, it found expression in the Port-Royal *Logic* of the seventeenth century, for example, and can also be seen illustrated in a paper that Russell wrote in 1907 entitled ‘The Regressive Method of Discovering the Premises of Mathematics’.²

Although the decompositional mode is also exhibited in ancient Greek geometrical analysis, it rose to prominence during the early modern period, inspired by Descartes’ work in analytic geometry. It achieved its philosophically most significant form in the decompositional conception of conceptual analysis developed by Leibniz and Kant. Central to Leibniz’s philosophy was what can be called his *containment principle*: ‘in every affirmative true proposition, necessary or contingent, universal or singular, the notion of the predicate is contained in some way in that of the subject, *praedicatum inest subjecto*’ (Leibniz 1973: 62). Analysis was then seen as the process of decomposing the subject concept into its constituent concepts until the containment of the relevant predicate is explicit, thereby achieving a proof of the proposition. Although Kant came to reject the generality of Leibniz’s view, he accepted that containment held the key to what he called ‘analytic’ truths. A true proposition of the form ‘*A* is *B*’ is ‘analytic’, on Kant’s account, if and only if the predicate *B* is contained in the subject *A*.³

The decompositional conception of analysis has dominated philosophy in the modern period, from Descartes onwards. Although Kantian (along with Hegelian) philosophy was rejected by Russell and Moore in their early work, they retained the underlying conception of analysis. Indeed, their rebellion against British idealism was grounded on their endorsement of decompositional analysis as the primary method of philosophy. This endorsement can be seen as one characteristic feature of the ‘analytic’ tradition that they helped found. But precisely because decompositional analysis was not itself new, this hardly seems sufficient to explain what was ground-breaking about analytic philosophy. What I want to suggest, instead, is that it is the role played by interpretive or transformative analysis that is particularly distinctive of analytic philosophy, or at least of one central

strand in analytic philosophy, and that it was the interpretive mode of analysis that came of age in early twentieth-century philosophy.

Crucial in the development of interpretive analysis in its modern form was Frege's invention of quantificational logic, which made possible the formalization of far more complex propositions than had previously been logically analysable. In particular, Frege was able to provide a logical analysis of number statements. His central idea here was that a number statement contains an assertion about a concept. A proposition such as 'Jupiter has four moons' is to be understood not as predicating of Jupiter the property of having four moons, but as predicating of the concept *moon of Jupiter* the second-level property *has four instances*, which can be logically defined. The significance of this construal can be brought out by considering existential statements (which are number statements involving the number 0). Take the following negative existential statement:

(0a) Unicorns do not exist.

If we attempt to analyse this *decompositionally*, on the Leibniz/Kant model, then we find ourselves asking what these unicorns are that have the property of non-existence. We may then be forced to posit the *subsistence* – as opposed to *existence* – of unicorns, just as Meinong and the early Russell did, in order for there to be something that is the subject of our proposition. On the Fregean account, however, to deny that something exists is to say that the relevant *concept* has no instances: there is no need to posit any mysterious *object*. The Fregean analysis of (0a) consists in *rephrasing* it into (0b), which can then be readily formalized in the new logic as (0c):

(0b) The concept *unicorn* is not instantiated.

(0c) $\neg(\exists x) Fx$.

Similarly, to say that God exists is to say that the concept *God* is (uniquely) instantiated, i.e. to deny that the concept has 0 instances (or 2 or more instances). On this view, existence is no longer seen as a (first-level) predicate, but instead, existential statements are analysed in terms of the (second-level) predicate *is instantiated*, represented by the existential quantifier. As Frege notes, this offers a neat diagnosis of what is wrong with the traditional ontological argument (cf. Frege 1884: §53). All the problems that arise if we try to apply decompositional analysis (at least straight off) simply drop away, although an account is still needed, of course, of concepts and quantifiers.

The eliminativist strategy that this form of analysis opens up was developed most famously in Russell's theory of descriptions. Here (Ka) is

rephrased as (Kb), which can also then be readily formalized in the new logic as (Kc):

(Ka) The present King of France is bald.

(Kb) There is one and only one King of France, and whatever is King of France is bald.

(Kc) $(\exists x) (Kx \ \& \ (\forall y) (Ky \rightarrow y = x) \ \& \ Bx)$.

In interpreting (Ka) as (Kb), the definite description ‘the present King of France’ is ‘analysed away’, so that any worries that might arise as to what the phrase means when there is no King of France disappear. In the *Tractatus*, Wittgenstein commended Russell for having shown the need to distinguish between the grammatical and logical form of a proposition (cf. 4.0031), and saw in the theory of descriptions a model for analysis. According to both Russell and the early Wittgenstein, logical form reflects the metaphysical structure of the (possible) state of affairs represented, the terms of the fully analysed sentence corresponding to the ultimate constituents of the state of affairs.

What this suggests, then, is that a distinction should be drawn between analysis as *rephrasal*, which aims to avoid the problems generated by misleading surface grammatical form, and analysis as *reduction*, which goes a step further in aiming to reveal ‘metaphysical structure’ and ‘ultimate constituents’. Let us call the conceptions here *paraphrastic* and *reductive* analysis, respectively. The use of the first term alludes to Bentham’s conception of paraphrase, which John Wisdom (1931) saw as anticipating Russell’s method of analysis.⁴ The use of the second term indicates that the aim is to uncover the logically or metaphysically more primitive elements of a given complex (e.g. proposition or state of affairs). Paraphrastic analysis privileges interpretation or transformation, while reductive analysis privileges resolution or decomposition.

This distinction reflects the distinction that was indeed drawn in the 1930s, by members of the so-called Cambridge School of Analysis, between what was called ‘logical’ or ‘same-level’ analysis and ‘metaphysical’ or ‘reductive’ or ‘new-level’ analysis.⁵ The first translates the proposition to be analysed into better logical form, while the second exhibits its underlying metaphysical commitments. In Russell’s example, having ‘analysed away’ the definite description, what is then shown is just what commitments remain – to logical constants and concepts (such as *King of France*), which may in turn require further analysis to reduce them to things of our supposed immediate acquaintance. The importance of the distinction lies in the possibility it opens up of accepting logical or paraphrastic analysis while rejecting metaphysical or reductive analysis, precisely the move that was made by the second generation of analytic philosophers.⁶

2 Frege and Russell

I have suggested that what was methodologically new in Frege's and Russell's philosophy was their use of paraphrastic analysis, involving the interpretive mode of analysis. But this is not to deny that they also employed resolute forms of analysis, and more specifically, decompositional forms. Nor is it to deny that there were important differences between Frege and Russell, most notably, concerning Frege's emphasis on function-argument analysis and Russell's emphasis on whole-part analysis. In introducing the three modes of analysis in the last section, I talked of the resolute *or* decompositional mode; but as I intend 'resolution' to be understood, it covers both (decompositional) whole-part analysis and function-argument analysis. In mathematics, the latter goes back to Descartes, and was well developed by the end of the nineteenth century, but in philosophy, it only came of age in the work of Frege.

I mentioned above that paraphrastic analysis opens up the possibility of eliminativism, pruning the extravagant ontology that Meinong and the early Russell had been led to posit. This was certainly part of the aim of Russell's theory of descriptions. But what is notable in Frege's work is the absence of any eliminativist motivations. Consider his notorious problems with the paradox of the concept *horse*. On any natural view, the following proposition seems to be obviously true:

(Ha) The concept *horse* is a concept.

Yet *analysing (Ha) decompositionally*, the logically significant parts, on Frege's view, are the proper name 'the concept *horse*' and the concept expression '() is a concept'. If the proposition as a whole has a *Bedeutung*, then each of these parts must also have a *Bedeutung*, according to Frege. Since proper names stand for objects and concept expressions stand for concepts, and there is an absolute distinction between (unsaturated) concepts and (saturated) objects, 'the concept *horse*' must stand for an object, so that (Ha), taken literally, is false, not true. Clearly, something has gone wrong, and Frege's only response, biting the bullet, is to admit that 'the concept *horse*' does indeed stand for an object, but one that goes proxy for the concept, a response that seems as ontologically inflationary and metaphysically mysterious as the views of Meinong and the early Russell.⁷

In the light of the distinction drawn above, however, there is clearly a better response available. *(Ha) needs to be analysed not decompositionally, but paraphrastically*. And this is indeed just the response that Dummett (1981: 216–17) later made on Frege's behalf. On the assumption that the concept *horse* is sharp (i.e. that it divides all objects into those that fall under it and those that do not), (Ha) is to be interpreted as (Hb), which like (Ob) above, can be given a straightforward formalization in the predicate calculus, as (Hc):

(Hb) Everything is either a horse or not a horse.

(Hc) $(\forall x) (Hx \vee \neg Hx)$.

Given that the general strategy of analysing by paraphrasing had been just what Frege had introduced, it may seem surprising that he failed to pursue it here, especially since the paradox of the concept *horse* seems to cry out for such treatment. But as the history of Russell's development between the *Principles* and 'On Denoting' shows, the possibility of using paraphrastic analysis to resolve ontological problems was a hard-won insight, and Frege never appreciated its potential.

Frege's failure to appreciate the distinction between paraphrastic and decompositional analysis was also responsible for the tension in his thought concerning the status of such principles as the Cantor–Hume Principle, to which he appealed in his *Grundlagen*, and Axiom V of the *Grundgesetze*, a tension that has generated controversy in the interpretation of Frege and in the recent debate over attempts to revitalize Frege's logicism. Consider the former, asserting the equivalence between the following two propositions:

(Na) The concept *F* is equinumerous to the concept *G* (i.e. there are just as many *F*s as *G*s).

(Nb) The number of *F*s is equal to the number of *G*s.

In the *Grundlagen* Frege clearly regards (Na) and (Nb) as having the same 'content' ('*Inhalt*'), but in his later work he vacillates somewhat between saying that such principles embody sameness of *Bedeutung* alone and saying that they embody sameness of both *Bedeutung* and sense (*Sinn*).⁸ His underlying thinking, however, seems to have been the following. If (Na) is true (and again, the point here is that (Na) is logically definable), and (Na) and (Nb) are (logically) equivalent, then (Nb) is true, that is, has a *Bedeutung*, on Frege's view (since the *Bedeutung* of a proposition just is its truth-value). But if this is so, then, by the principle of compositionality mentioned above, that the *Bedeutung* of a whole is dependent on the *Bedeutung* of its parts, all the logically significant parts of (Nb) also have a *Bedeutung*. So the number terms, as proper names, stand for independent objects.

Frege's use of the Cantor–Hume Principle suggests a method of defining abstract objects such as numbers contextually. But Frege did not himself see this as a method of *abstraction* – as Russell came to understand it – in the sense of moving *up* an ontological level, from more to less basic objects. (Na) and (Nb) are regarded as on the same ontological level, an assumption that was responsible for the contradiction in Frege's system that Russell discovered in 1902. In seeking to explain or derive (Nb) from (Na), through paraphrastic analysis, and at the same time understanding (Nb) decompositionally, Frege is trying to both have his cake and eat it. Insofar as (Nb)

is genuinely equivalent to (Na), (Nb) cannot involve any other ontological commitments than are already involved in (Na), so (Nb) cannot be regarded as making reference to numbers construed as ‘independent’ objects. Rabbits can only be pulled out of hats if they are already there. So if the account of (Nb) runs through (Na), it cannot also be analysed – ontologically – compositionally.

Of course, paraphrastic and compositional analysis are not in themselves incompatible. Indeed, in reductive projects, paraphrastic analysis gives way to compositional analysis once the problematic proposition has been rephrased into its correct logical form, where what counts as its correct logical form is governed by the purposes of analysis. If the aim is just to remove some philosophical puzzle (e.g. concerning the reification of non-existent entities), then paraphrastic analysis may be enough. But this will be unsatisfying to those who want an account of just what metaphysical commitments a proposition has. This raises the question of whether there can ever be an ‘ultimate’ analysis, however, an issue on which Frege, for whom function–argument analysis was central, and Russell, for whom whole–part analysis was fundamental, differed.

To appreciate the difference, consider the example that Frege gives in the *Begriffsschrift* (§9):

(HLC) Hydrogen is lighter than carbon dioxide.

According to Frege, this can be analysed in (at least) two ways, depending on whether we take hydrogen as the argument and *is lighter than carbon dioxide* as the function, or carbon dioxide as the argument and *is heavier than hydrogen* as the function. If we respected the subject–predicate position, we might wish to express the latter thus:

(CHH) Carbon dioxide is heavier than hydrogen.

But on Frege’s view, (HLC) and (CHH) have the same ‘content’ (*Inhalt*), each merely representing alternative ways of analysing that content. However, from a Russellian perspective, it might be replied that both these analyses presuppose a more ultimate one, which identifies *two arguments*, hydrogen and carbon dioxide, and a *relation* (a function with two arguments). But which relation do we choose, *is lighter than* or *is heavier than*? Clearly they are not the same, since one is the converse of the other. So if we accept that (HLC) and (CHH) have the same ‘content’ (and there is undoubtedly something that they have in common), then it seems that there can be alternative analyses even at the supposedly ultimate level.

At least at the time of the *Principles*, however, Russell would have regarded (HLC) and (CHH) as representing different propositions (as having different ‘contents’, in Frege’s terminology), precisely on the grounds that there are two different relations involved here: ‘if we are to hold that “*a* is

greater than *b*” and “*b* is less than *a*” are the same proposition, we shall have to maintain that both *greater* and *less* enter into each of these propositions, which seems obviously false’ (Russell 1903: 228). What is driving this is the idea that a proposition is literally composed of what analysis yields as its constituents, and there is no room, so to speak, for a relational proposition to contain both the relevant relation and its converse.

How are we to decide the issue between Frege and Russell? Clearly, analysis is not as metaphysically neutral as the naïve idea of decomposition might suggest; it is not just a matter of uncovering all those constituents that are there already, waiting to be uncovered. There are constraints on the process – in Frege’s case, our judgements about sameness of ‘content’, and in Russell’s case, the assumption that any complex whole, such as a proposition, is literally composed of its constituents. Frege never gave up the idea that two sentences could represent the same ‘content’, or express the same ‘sense’ or ‘thought’ as he later put it, even if they had different forms. Function–argument analysis allows this, since two different functions, with different arguments, can nevertheless yield the same value. Russell, on the other hand, never gave up the idea that complexes are literally composed of their constituents, even when the pressures of maintaining this with regard to propositions eventually led to his rejecting the very existence of propositions.⁹ Whole–part analysis was thus more deeply rooted in Russell’s philosophy than in Frege’s, even though, as we have seen, Frege assumed a decompositional conception himself at certain points in his thinking.¹⁰

3 Moore and Brentano

Like Russell, Moore was concerned in his early work to refute idealism in both its Kantian and Hegelian forms, and the decompositional conception of analysis played a central role in this. In ‘The Nature of Judgement’ (Moore 1899), he presents his own naïve realist view that propositions are composed not of words or thoughts but of concepts, a proposition being nothing but a complex concept or ‘synthesis of concepts’ (pp. 4–5), concepts being the elements of the world, understood as independent of us (p. 8). On this view, analysis is simply the process of *decomposing* our complex concepts in order to get clear about them: ‘A thing becomes intelligible first when it is analysed into its constituent concepts’ (ibid.).

This conception is also fundamental to Moore’s main early work, *Principia Ethica* (1903). In the first chapter, he considers how ‘good’ is to be defined. By ‘definition’ here Moore means ‘real’ rather than ‘nominal’ definition, concerned not with the meaning of a word but with the nature of the object denoted (cf. p. 6). His answer is that ‘good’ is indefinable, since it is a simple notion, like ‘yellow’, incapable of being decomposed into simpler notions, i.e. analysed into component parts (cf. pp. 7–8). The test for something being simple is substitutability. If there is no complex that we can

‘clearly and correctly’ substitute for what we are attempting to analyse ‘when we are thinking of it’, then it must be simple (cf. p. 8). It is this test that underlies Moore’s so-called open question argument, which motivates the central claim in *Principia Ethica* concerning the supposed naturalistic fallacy in ethics.

Now without being drawn into the details of Moore’s ethics, we should note the Cartesian assumption that is involved here – that as long as we attend to what two terms mean, we can clearly and distinctly perceive whether they are the same or not. But such an appeal is problematic. Perhaps the suggested definition is very complex, such as Frege’s definitions of number terms, or while superficially simple, such as ‘Water is H₂O’, we may not have enough scientific knowledge to make a proper judgement. Of course, if ‘analysis’ simply means the decomposition of a complex into its constituents, then one might agree with Moore that ‘good’ is not analysable in this sense. But what is objectionable here is the implicit foreclosing of *other* conceptions of analysis. Might there not be other ways of analysing or defining ‘good’? What would be wrong, for example, with a contextual definition?

Moore has generally been regarded as one of the founders of analytic philosophy. If analytic philosophy is concerned with analysis, then it looks as if Moore’s contribution can only lie in his advocacy of decompositional analysis. But as we have seen, this particular conception is far from new. This has led some commentators, most notably, David Bell (1999), to argue that Moore’s role in the founding of analytic philosophy has been grossly overestimated. Although Moore rebelled against British idealism, he did so by taking over conceptions and methods from continental Europe. On Bell’s view, the key factor was Moore’s adoption of the mereological framework of Franz Brentano, who in his own role in the founding of the phenomenological tradition, developed the method of whole/part decomposition in his work on what he called ‘descriptive psychology’.¹¹ This influence of Brentano, however, was partly mediated by the work of English philosophers such as James Ward and G.F. Stout, who were responsible for bringing psychology, which began to emerge as a separate discipline in Germany in the 1870s, to Britain.

Bell is certainly right that a decompositional conception of analysis underlies the arguments of Moore’s early philosophy. But as we have seen, this conception was shared by Kant, and indeed, was widespread in the early modern period. Even before Brentano, it was endemic in the broad tradition of psychology from its early associationist origins in the work of Locke, Hume and others in the seventeenth and eighteenth centuries. Brentano cannot himself, therefore, be regarded as its source. However, where Brentano’s importance lies is in his contribution to the systematization of the various decompositional ideas into the theory of wholes and parts that became known as mereology; and it is this work that may have filtered through to Moore.

As Bell characterizes Moore's Brentanian mereology (Bell 1999: 202–3), it is based on three main principles: the *principle of mereological essentialism*, which states that a whole is internally related to its component parts; the *principle of mereological adequacy*, which states that all forms of complexity involve only whole/part and part/part relations; and the *principle of mereological atomism*, which states that each part of any whole can exist independently. The first expresses the idea that a whole depends essentially on its parts (so that changing a part changes the whole), which was the only half of the idealist doctrine of 'organic wholes' that Moore accepted at the time, the other half being that the parts depend essentially on the whole.¹² The second can be seen as underlying Moore's claim, as quoted above, that 'A thing becomes intelligible first when it is analysed into its components', and as Bell points out, rules out all forms of function–argument analysis where the value of a function for a given argument is not seen as *composed* of that argument.¹³ The third rules out the existence of internal relations between parts, and in particular, rules out the second half of the idealist doctrine of organic wholes, which Moore heaps scorn upon in *Principia Ethica*.

The second and third principles clearly imply a conception of analysis as merely involving the decomposition of a whole into its supposedly mutually independent parts. But the first principle does at least allow something to the idea of an organic whole, and in *Principia Ethica* Moore is at pains to distinguish what he considers the legitimate conception of an organic whole from the full-blooded idealist doctrine. However, his argument against the second half of this doctrine simply begs the question against the idealist. Moore interprets the doctrine as involving the claim that each part 'contains analytically the whole to which it belongs, or any other parts of that whole' (Moore 1903: 33). This claim, of course, is absurd, but to allege that 'this very self-contradictory doctrine is the chief mark which shews the influence of Hegel upon modern philosophy' (ibid.: 34) is no less absurd. The idea that a proper analysis of something must make reference to the wider scheme of things is far from ridiculous, as the examples of logical analysis considered above show.

Compared to Frege's and Russell's use of paraphrastic analysis, Moore's early conception of analysis seems seriously impoverished; and if it is the former, and the associated ideas of function–argument analysis and contextual definition, that lie close to the heart of analytic philosophy, then Moore cannot indeed be attributed a significant role in its founding. However, in his later work, after his return to Cambridge in 1911 (following an absence of seven years), by which time Wittgenstein had arrived on the scene, he certainly contributed to its consolidation. He engaged seriously with Russell's logic and Wittgenstein's developing ideas, and thought through their implications, especially for his own epistemological and metaphysical views. In particular, he rejected his earlier naïve realism, and put forward a theory of 'sense-data' instead.¹⁴

Moore's famous paper of 1925, 'A Defence of Common Sense', marks a key transition in his methodology. Moore writes here that sense-data are 'in a certain sense, the principal or ultimate subject' of empirical propositions (Moore 1925: 128), which suggests that a reductive conception of analysis is still dominant in his thinking. At the same time, however, following Wittgenstein in the *Tractatus*,¹⁵ he stresses that one can understand the meaning of an expression without being able to give a correct analysis of its meaning. This distinction plays a crucial role in his defence of common sense, enabling him to take the deliverances of common sense as a 'given'; but it also suggests that the ultimate (decompositional) analysis of a proposition may no longer be important. There may be enough philosophical work to do distinguishing the different meanings of expressions (which we can 'understand' even if we cannot 'analyse'), clarifying what the questions at issue actually are, explaining the role played by common sense, dispelling sceptical confusions, and so on. This is Moore's characteristic approach in his later work, and illustrates that shift to non-reductive conceptions of analysis mentioned at the end of §1 above. Moore's role in the development of clarificatory analysis may make it appropriate to speak of *two* main strands in early analytic philosophy, one Fregean/Russellian and the other Moorean/Wittgensteinian. But it remains the case that his early work, unlike that of Frege and Russell, involved little methodological innovation. In this respect, Moore was indeed closer to Brentano than to Frege, both early Moorean and Brentanian methodology having a common source in the decompositional conception of analysis that was well established by the end of the nineteenth century.

4 Husserl and Carnap

If Brentano's thought lies at the root of the phenomenological tradition, and Frege and Russell are the two main founders of at least one main strand in the analytic tradition, then it seems natural to place Husserl in the former tradition and Carnap in the latter. For Husserl studied philosophy with Brentano from 1884 to 1886, and wrote his *Habilitationsschrift* (on the concept of number) under Carl Stumpf, who had himself studied with Brentano; and Carnap attended several lecture courses given by Frege between 1910 and 1914, and according to his own report, was strongly influenced not only by Frege but also by Russell, whose book, *Our Knowledge of the External World*, had a particularly powerful effect on him when he read it in 1921.¹⁶ But such an alignment is already to read the past in the light of a division that only emerged subsequently. Husserl shared many concerns with Frege, and pursued a reductive programme bearing striking similarities to Russell's. Furthermore, both Husserl's and Carnap's work had their origins in the neo-Kantian debates over the constitutive role of mathematics in human experience. There is much to say about this common neo-Kantian source;¹⁷ I shall focus here only on the transformation of the Kantian conception of analysis.

Frege is often taken to have influenced Husserl's conversion from the psychologism present in his early *Philosophy of Arithmetic* to the anti-psychologism of the *Logical Investigations*. But whatever the extent of this influence, Frege and Husserl undoubtedly shared a common concern with the foundations of arithmetic, and became increasingly hostile to both psychologism and empiricism. In his later work, Husserl developed a much wider range of interests than Frege, but the status of mathematics remained of central significance. Indeed, his appeal to 'essences', isolated in what he calls 'eidetic reduction' and apprehended by 'essential intuition' ('*Wesensschauung*'), can be seen as a generalization of the method of analysis in ancient Greek geometry.¹⁸ This appeal to 'intuition' suggests an important divergence from Frege, whose logicist project was intended to circumvent such appeals. But Frege, too, regarded geometry as requiring 'intuition'; and even in the case of arithmetic, by talking of the 'self-evidence' of the axioms, he implicitly appealed to some form of intuition in the apprehension of their truth.

However, the more striking similarity is between Husserl and Russell. For although Russell was more of a logicist than Frege, in seeing geometry, too, as reducible to logic, he was also more of an epistemologist, concerned with what is involved in grounding our knowledge of logic, a concern that was central to Husserl's thought. Here what Husserl called 'essential intuition' Russell called 'acquaintance'. As Russell famously remarked in the preface to the *Principles*,

The discussion of indefinables – which forms the chief part of philosophical logic – is the endeavour to see clearly, and to make others see clearly, the entities concerned, in order that the mind may have that kind of acquaintance with them which it has with redness or the taste of a pineapple.

(Russell 1903: xx)

Substituting 'essences' for 'indefinables' and 'essential intuition' for 'acquaintance' would provide an equally appropriate encapsulation of Husserl's view.

Russell goes on to talk of the 'indefinables' being obtained as 'the necessary residue in a process of analysis' (*ibid.*), and this can be seen as echoed in Husserl's later talk of the 'phenomenological residuum' – what is left after the various processes of 'phenomenological reduction' (cf. Husserl 1982: I, §§33, 49–50). What Russell calls 'analysis' Husserl calls 'reduction' ('*Reduktion*'), the aim in each case being to isolate the basic entities which must somehow be apprehended to complete the reductive project. In Husserl's case, the two most important forms of reduction are transcendental reduction, which 'brackets' the natural world, or more accurately, all that is not 'immediately given' to us, and eidetic reduction, which attempts to isolate the pure essences involved in what is immediately given, i.e. isolating the

general from the particular (cf. e.g. Husserl 1982: I, §§3, 75). There is an obvious parallel with Russell here, too. For, as suggested above, there are two stages in Russell's programme of analysis – first, transforming the proposition to be analysed into correct logical form, and second, showing how the basic elements thereby revealed are items of our immediate acquaintance. In analysing 'The present King of France is bald' as 'There is one and only one King of France, and whatever is King of France is bald', for example, the assumption that in understanding this proposition we must apprehend (or presuppose) an actual King of France is repudiated. The definite description is 'analysed away'. In Husserlian terms, in the first stage of analysis we 'bracket' any assumptions about the actual world. Having done so, we then identify, at the second stage, just what remains – the relevant universals, logical constants and logical forms, all of which need to be 'intuited'.

There remain significant differences between Russell's and Husserl's projects. Husserlian transcendental reduction, for example, cannot be simply equated with logical formalization. But perhaps the key difference is their understanding of the final stage of analysis. For according to Husserl, what is 'immediately given' (after transcendental reduction) does not come pre-packaged – carved at the joints, as it were – ready for our simple apprehension (in eidetic reduction), as Russell seems to have understood 'acquaintance'. Husserl distinguishes between 'sensuous *hyle*' (matter) and 'intentional *morphe*' (form), and talks of the latter (the 'noetic level' of structure) as 'animating' or 'giving sense to' the former (the 'hyletic level' of raw stuff) in constituting our experiences (cf. Husserl 1982: I, §§85, 97). This distinction is essentially Kantian, but where Husserl moves beyond Kant is in recognizing just what problems of analysis this opens up. For if all our experiences involve the imposing of form on content, the animating of hyletic data, then how are we to apprehend this process itself? We cannot simply isolate the hyletic data, on the one hand, and the noetic structures, on the other hand, and hope to experience them in their pure form in the same way. Clearly, a different account is required, and Husserl's phenomenological project can be seen as an attempt to provide it.

In the *Critique of Pure Reason*, Kant just helps himself to the traditional logical forms of judgement to get his project off the ground, and then makes some dubious moves in trying to derive the categories. Russell and the early Wittgenstein, too, seem to find no problems in appealing to logical forms, in this case provided by the new quantificational logic. But the whole issue of the relationship between form and content was fiercely debated by the neo-Kantians, and although Husserl cannot be straightforwardly classified as a neo-Kantian, he was no less concerned with the problems involved here.

Husserl calls these problems the '*functional problems*, or those of the "*constitution of consciousness-objectivities*"', and describes them as 'the greatest problems of all' (Husserl 1982: I, §86). Although he remarks that he means something unique by 'function', it is clear that what underlies his use

of this term is the rejection of crude decompositional forms of analysis. ‘Consciousness is not a name for “psychical complexes”, for “contents” fused together, for “bundles” or streams of “sensations”’ (ibid.). Rather, experiences are to be understood by elucidating the structural relations involved. One of the implications of this is that there may be no ultimate reduction, no analysis that can be given once and for all, but that further and further relations may be progressively articulated (cf. Husserl 1982: I, §127).

The idea that ‘analysis’ does not simply mean ‘decomposition’ was not unique to Husserl. It arises naturally out of the neo-Kantian concern with form and content. For if the analysis of experience involves recognizing both form and content, then form cannot itself be regarded as a constituent. This is not just because, if it were, then it would be related to the other constituents in a certain way, and there would be a further form to isolate. It is more for the reason already alluded to. If our apprehension of anything, ‘constituents’ included, involves the imposition of a form on a content, then any division into form and content is an *abstraction*.

On the neo-Kantian view, basic experiences are indivisible, but this is not to say that they cannot be analysed. There is complexity here, too, but it is a complexity of form and content rather than of separable constituents, requiring analysis in terms of ‘moments’ or ‘aspects’ rather than ‘elements’ or ‘parts’. This idea was to become familiar in Gestalt psychology, which originated in the 1910s, and demanded the development of a new logic. The idea played an equally fundamental role in Carnap’s first major work, *Der logische Aufbau der Welt* (1928), which can be seen as taking up the task of developing the new logic.

Carnap’s key methodological conception in the *Aufbau* is that of *quasi-analysis*. Specifically citing Gestalt psychology (Carnap 1928: §§36, 64–7), Carnap held that the fundamental units of experience are not the qualities (the colours, shapes, etc.) involved in individual experiences, but those experiences themselves, taken as indivisible wholes. But if these elementary experiences are indeed indivisible, then how is it possible to determine their qualities? Analysis – understood in the decompositional sense – cannot yield these qualities, precisely because they are not *constituents* of the experiences (§68). Carnap’s answer is that they are ‘constructed’ by *quasi-analysis*, a method that mimics analysis in yielding ‘quasi-constituents’, but which proceeds ‘synthetically’ rather than ‘analytically’ (§§69, 74).

In essence, Carnap’s method of quasi-analysis is just that method of contextual definition or logical abstraction that Frege had introduced in the *Grundlagen*, as Carnap himself notes (§73). Recall Frege’s appeal to the Cantor–Hume Principle (see §2 above): here what we have is an equivalence relation holding between things of one kind (concepts) being used to define – or ‘construct’, as Carnap would put it – things of another kind (numbers). Numbers are not *constituents* of the concepts to which they are ascribed, but are ‘constructed’ from the appropriate equivalence relation.

Similarly, we can illustrate Carnap's method by considering the following (seemingly trivial) contextual definition, the term 'is equicoloured to' abbreviating 'has the same colour as' (to bring out its connection with the Cantor–Hume Principle; the term is my own):

(Fa) Object *X* is equicoloured to object *Y*.

(Fb) The colour of *X* is identical with the colour of *Y*.

In this simplest of cases, starting from statements of equivalence relations, we can immediately proceed to form the relevant equivalence classes, from which the individual colours can then be (structurally) defined.

Now the details of this procedure, and the complications and difficulties that it gives rise to, need not concern us here.¹⁹ What is important is the central distinction between analysis, understood as uncovering constituents, and quasi-analysis, understood as constructing quasi-constituents. Carnap's use of the term 'analysis' indicates that he is still in thrall to the decompositional conception, while his talk of 'quasi-analysis' suggests that he nevertheless recognizes that there are forms of analysis that do not involve decomposition (but, e.g., abstraction instead). The tension here surfaces at various points in the *Aufbau*. In summarizing his view of quasi-analysis in §71, for example, Carnap writes: 'the analysis or, more precisely, quasi-analysis of an entity that is essentially an indivisible unit into several quasi-constituents means placing the entity in several kinship contexts on the basis of a kinship relation, where the unit remains undivided'.²⁰ Carnap would like to talk of 'analysis', it seems, but feels compelled to qualify it by using the prefix 'quasi-'.

Carnap's inhibitions soon disappeared, however. Compare this last remark with his characterization of logical analysis in a paper written in 1934: 'The logical analysis of a particular expression consists in the setting-up of a linguistic system and the placing of that expression in this system' (Carnap 1936: 143). By this time, Carnap's 'linguistic turn' has occurred, but the basic idea remains the same: analysis involves exhibiting the structural relations of something by locating it in a theoretical system. After the *Aufbau*, though, Carnap is no longer hesitant about talking of 'analysis', albeit qualified now by 'logical', and there is no suggestion at all that it simply means decomposition. Although there are substantial differences between Carnap's and Husserl's projects, they have one underlying thing in common: they both involve a shift to a richer conception of analysis, in which structural relations are elucidated through some process of abstraction.

5 Conclusion: from decomposition to explication

Nietzsche remarked in *The Antichrist* that 'the most valuable insights are methods' (Nietzsche 1988: §13). Certainly, it is to methodology that we

should look to individuate philosophical traditions. But to simply view analytic philosophy as concerned with analysis and phenomenology as concerned with phenomenological reduction is to achieve little insight. There are many conceptions of analysis in the history of philosophy, and once we recognize these, there are distinctions to be drawn that cut across the supposed divide, and finer divisions to be made *within* each tradition. In fact, the danger in talking of the divide at all is that synchronic differences tend to be emphasized at the cost of both internal differences and diachronic changes within the two traditions.

As far as methodology is concerned, a common source is the decompositional conception of analysis, and the associated pressures to abandon it; and there is progression within both traditions towards a broadening and enrichment of analytic approaches, from the crude conceptions in the early work of Brentano and Moore to the more fertile methodology of Husserl and Carnap. These approaches draw upon and reconfigure earlier conceptions in the history of philosophy, developing, for example, techniques of abstraction and the use of function–argument analysis. But new forms are introduced, too, and the eliminativist possibilities opened up by paraphrastic analysis were illustrated above by Russell’s theory of descriptions.

Focusing on common sources and parallel developments, however, should not be allowed to obscure the differences that nevertheless exist between the two traditions. Both Husserl and Carnap end up describing their method as involving ‘explication’, and Carnap even acknowledges the influence of Husserl in his choice of this term.²¹ But despite their common move away from decompositional analysis, they understand ‘explication’ in significantly different ways. In *Meaning and Necessity*, Carnap characterizes explication as ‘The task of making more exact a vague or not quite exact concept used in everyday life or in an earlier stage of scientific or logical development, or rather of replacing it by a newly constructed, more exact concept’ (Carnap 1947: 8–9). Carnap gives as examples Frege’s and Russell’s logicist explication of number terms such as ‘two’ – ‘the term “two” in the not quite exact meaning in which it is used in everyday life and in applied mathematics’ – and their different explications of definite descriptions (*ibid.*).

In his fuller discussion in *Logical Foundations of Probability*, Carnap suggests that his use of the term ‘explication’ was partly prompted by Husserl’s talk of ‘the synthesis of identification between a confused, non-articulated sense and a subsequently intended distinct, articulated sense’ (Carnap 1950: 3). Husserl’s most extended discussion of explication occurs in *Experience and Judgment*. Husserl here distinguishes between ‘mere apprehension’ and ‘explication’, and with regard to the latter, does indeed talk of a ‘synthesis of identification’ (Husserl 1973: §22). Explication involves the progressive revealing of the aspects or ‘determinations’ of the object of apprehension, where those determinations are referred to a ‘substrate’ which provides the locus for the ‘synthesis of identification’ (§24). Husserl describes the objects of apprehension as having an ‘inner horizon’,

with a ‘retentional’ and ‘protentional’ structure, our apprehension being already informed by our existing knowledge and expectations. Explication elucidates what is within this horizon, sometimes fulfilling, sometimes disappointing our expectations (§22).

For Kant, ‘explication’ simply meant the unpacking of a complex concept into its constituent concepts; and both Carnap’s and Husserl’s conceptions of explication are considerably richer than Kant’s. But Carnap’s apparent acknowledgement of Husserl’s influence is misleading. Carnap does indeed want to achieve ‘distinct, articulated senses’, but he is not, in fact, interested in the ‘synthesis of identification’ with the confused senses. Both Carnap’s and Husserl’s conceptions involve the idea of *precisification*, but while for Carnap this involves ‘replacing’ our vague ordinary concepts with scientifically defined ones, for Husserl we work within our ordinary understanding to elucidate its essential structures. According to Husserl, apprehending structures requires (and reveals the role of) ‘intuition’, whereas on Carnap’s view, the articulation of structure was intended to obviate unverifiable appeals to ‘intuition’.

In their introduction to the *Jahrbuch für Philosophie und phänomenologische Forschung*, founded by Husserl and others in 1913, the editors record their

common conviction that it is only by a return to the primary sources of direct intuition and to insights into essential structures derived from them that we shall be able to put to use the great traditions of philosophy with their concepts and problems.²²

Much of analytic philosophy, too, can be seen as concerned with ‘insights into essential structures’; but while some (Moorean and Russellian) strands in early analytic philosophy also involve a ‘return to the primary sources of direct intuition’, this is far less characteristic of later analytic philosophy or of the Fregean–Carnapian strand. Perhaps all forms of analysis appeal to intuition somewhere along the line; but the emphasis placed on intuition does seem to be characteristic of Husserlian phenomenology. The descriptive concerns of phenomenology may bring it closer to the later Wittgenstein and ordinary language philosophy, but in these latter cases the appeal is to our uses of language rather than inner intuition. While there are underlying methodological connections between the analytic and phenomenological traditions, then, there remain important differences which fuller analysis reveals.²³

Notes

1 Trans. in Hintikka and Remes 1974: 8.

2 For more on the regressive conception, see Beaney 2002: §1.1; 2003a: §2; forthcoming.

3 Again, for more on the decompositional conception of analysis, see Beaney 2002: §1.2; 2003: §4; forthcoming.

- 4 For Bentham's conception, see, e.g., Bentham 1843: 246–7.
- 5 The latter was also called 'philosophical' or 'directional' analysis. For details and references, see Beaney 2003a: §6.6.
- 6 Cf. the introductory chapter of the present volume.
- 7 Cf. Frege [1892] 1997: 184–5. In accord with the editorial policy I adopted in Frege 1997, I have left *Bedeutung* untranslated.
- 8 For detailed discussion and references, see Beaney 1996: §§5.3–5.5, 8.1.
- 9 Cf. Hylton 1996.
- 10 For more on the differences between Frege and Russell here, see Beaney 2003b: §6 (on which I have drawn in this section); Levine 2002.
- 11 See, e.g., Brentano 1874, 1982.
- 12 The internal relation of a whole to its parts was thus the only exception to Moore's general repudiation of internal relations in his early work. Cf. Hylton 1990: 143–6.
- 13 For example, 3 is the value of the positive square root function for the argument 9, but is not *composed* of 9. Cf. Bell 1999: 203. Moore's principle does not, of course, rule out function–argument analysis *per se*, but only where it does not coincide with whole–part analysis.
- 14 For an account of this, see Baldwin 1990: chs 5, 8.
- 15 Cf., e.g., Wittgenstein 1921: 4.002.
- 16 Cf. Carnap 1963: 4–6 (on Frege), 13 (on Russell).
- 17 Although he focuses more on Heidegger than on Husserl, an excellent account of this common source is provided by Friedman 2000.
- 18 See Beaney 2002: 79–80, 95; cf. Haaparanta's chapter in the present volume, §5.
- 19 For discussion, see Beaney 2004, where further references can also be found.
- 20 I have slightly altered the standard English translation, to preserve the link between *unzerlegbar* ('indivisible', which George translates as 'unanalysable') and *unzerteilt* ('undivided').
- 21 For a fuller account of Carnap's and Husserl's conceptions of explication, merely summarized in what follows, see Beaney 2004. Cf. the introductory chapter, p. 5 above.
- 22 Quoted by Spiegelberg 1969: 5. Spiegelberg goes on to use the two features mentioned here as criteria for characterizing the phenomenological movement.
- 23 This paper is an abridgement of Beaney 2002, the first draft of which was written for a conference on the common sources of the analytic and phenomenological traditions held in Memphis in 2001. I am grateful to the *Southern Journal of Philosophy* for permission to publish it in this form. In shortening it, I have removed two sections and most of the notes, and pruned and slightly revised throughout. At the conference Sandra Lapointe replied to me, and I responded in a brief postscript to the published paper. I have omitted this, too, but I would like to thank her for her reply and for the discussions we have had over the last few years about analysis and Bolzano's conception, in particular (on which she eloquently speaks for herself in her contribution to the present volume). I would also like to thank Erich Reck and Amie Thomasson for comments on the first shortened version. I hope that my abridged account has not become too condensed, but for a fuller story, offering the necessary elaborations and qualifications, see Beaney, forthcoming.

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Part III

Bolzano and Husserl: semantic, conceptual and phenomenological analysis

12 Bolzano's semantics and his critique of the decompositional conception of analysis¹

Sandra Lapointe

When asked to explain what conceptual analysis is, philosophers often resort to the idea of decomposition: to analyse an expression or a concept is to break it down into its (simpler) components. Although the notion of decomposition is a convenient figure of speech, without qualifications it can hardly be said to provide an informative description of what is involved in conceptual analysis. It could be argued, however, that this was not always the case. In Kant's theory, for instance, the conception of analysis is literally decompositional: notions such as '*Zergliederung*', '*Auflösung*', '*Inhalt*' and '*enthalten sein*' are meant to provide a relatively straightforward description of the mereological conception of the formal features of and relations between concepts he had inherited from his predecessors, contrary to what influential interpretations such as Quine (1953: 21) suggest.² In what follows, I'll use the expression 'decompositional conception of analysis' to refer to the conception of analysis that underlies Kantian semantics and, most notoriously, the Kantian definition of analyticity. My concern, though, is not primarily with Kant nor with analyticity but with Bernard Bolzano's conception of analysis. A superficial reading of Bolzano's *Theory of Science – Wissenschaftslehre* (Bolzano 1837; hereafter *WL*) – could lead one to think that Bolzano also subscribed to the decompositional conception of analysis. Yet, while Bolzano sanctions Kant's account in his earlier work (cf. Bolzano 1810: §5; 1812: §30) he came explicitly to reject it. Contrary to what is often assumed, Bolzano's understanding of what it means for a concept to be 'included' in another concept or for a given concept to have a particular content is radically different from Kant's and from that of Bolzano's other immediate predecessors. In fact, Bolzano anticipated some of the most important developments of twentieth-century semantics.³

I begin the paper with a brief sketch of the decompositional conception of analysis in section 1, and then in section 2 I present Bolzano's criticism of this conception. In section 3, I explain the main lines of Bolzano's reductive programme of analysis. Section 3, I hope, will go some way towards establishing the continued interest of Bolzano's semantic analyses. One of the main consequences of Bolzano's rejection of the decompositional conception of analysis is the need to find a new way to define

semantic notions such as analyticity or validity. For that purpose, Bolzano developed a new and ingenious substitutional method. I sketch this method in section 4. I conclude by pointing out some important aspects of Bolzano's historical impact.

1 Decomposition and inclusion

In §IV of the introduction to the *Critique of Pure Reason*, Kant explains what he takes analytic judgements to be. He provides no fewer than eight presumably equivalent explanations of what warrants the truth of a proposition of the form 'All As are Bs' when it is analytic (Kant 1781: B10f). Insofar as semantics is concerned, Kant's formulations, however, involve only two ideas: decomposition and inclusion. I use the term 'inclusion' as opposed to 'entailment' in order to avoid a certain type of confusion: while entailment may denote an inferential relation, 'inclusion' does not have this connotation. This is not just a terminological point. Bolzano, for one, thought that the distinction was significant and it plays an important role in his criticism of the decompositional conception as well as in his own semantics. When, furthermore, Kant and his predecessors talk of *Enthaltensein*, they do not have an inferential relation in mind.

In Kant's theory, concepts are a type of idea (*Vorstellung*) that have or include constituents (*Teile, Bestandteile, Teilbegriffe*) whose job is to represent certain features or properties of the objects that fall under these concepts. Although Kant has a rather liberal view of what can be said to constitute the 'manifold' of ideas in general, in the case of the concepts we find in analytic judgements, constituents are always themselves concepts. In his pre-critical work, Kant recurrently discusses and in fact explicitly endorses the theory of analysis put forward by his predecessors, Leibniz, Baumgarten and the Port-Royal logicians, among others. The idea that there are, among concepts, relations of inclusion that determine (a great part, if not all of) their semantic properties was introduced in a systematic manner in the Port-Royal logic of 1662: it was one of the innovations of Antoine Arnauld and Pierre Nicole's *Ars Cogitans*. Arnauld and Nicole called 'comprehension of A' the set of concepts which A includes, i.e. '*enferme en soi*' (Arnauld and Nicole 1662: 59).⁴ Many authors of the modern period, Kant and Bolzano among them, however, use the term 'content' (*Inhalt*) for this set of concepts, and we will retain the latter here. As Kant conceives of it, we analyse (*zergliedern*) a concept (completely) when we establish the list of (all) the constituents it contains. (Cf. Kant 1781: B755.)

2 Bolzano's critique of the decompositional conception of analysis

According to Bolzano, the decompositional theory relies on an untenable semantic view, one that results ultimately from an untenable conception of

concepts as pictures of the objects they represent. On Bolzano's account, Kant and his predecessors establish the list $\{\beta_1 \& \beta_2 \& \dots \& \beta_n\}$ of the constituents of a concept α on the basis of a tacit application of the following rule:⁵

(M) If β_1 is an (essential) property of α , then the concept of β_1 is included in the concept of α , i.e. $\alpha = \{\beta_1 \& \dots \& \beta_n\}$.

(M) implies, for instance, that if being rational and being animal are essential properties of men, as was traditionally assumed, then the concepts of rationality and animality are included in the concept of humanity. (M) is here restricted to essential properties, i.e. if we follow Bolzano's definition, to the properties an object 'must have'. (Cf. *WL* §111, p. 519f.) Whether Kant would have subscribed to the restricted version of (M) stated above or to the unrestricted one is unimportant here: for Bolzano both rest on the same deficient understanding of the distinction between the properties of objects and the constituents of concepts. Bolzano's argument against (M) involves a meticulous analysis of its implications. (Cf. *WL* §64.) The general idea, however, is the following. (M) is part of an explanation of the relation between concepts and objects, and whoever subscribes to (M) conceives of this relation as one, so to say, of isomorphism: (M) supposes that the structure of (the constituents in) concepts is in some systematic way analogous to the structure of (properties in) objects. In particular, one who relies on the idea that concepts are images (*Bild*) of the objects they represent and who thinks that their being images explains *how* they represent objects will subscribe to something like (M).⁶ Kant, for instance, just like his predecessors, thought of concepts as pictures of reality. As Alberto Coffa explains:

For Meier, author of the logic text that Kant followed in many of his courses on that subject, representations were 'pictures or images' (*Gemälde oder Bilder*) of those things that we represent to ourselves (*wir uns vorstellen*).

(Coffa 1991: 9)

An exposition of Bolzano's criticism of the picture-theory of concepts would require a rather long detour into his epistemology. I'll focus here on his refutation of (M) – which, if successful, also contributes to showing some of the flaws of the picture theory. In order to rebut (M) Bolzano insists, on the one hand, on the crucial distinction to be made between properties of objects and constituents of concepts. According to him, it is not that the distinction was always altogether ignored but that it remained blurred, among other things, by deficient terminology; for instance, his predecessors' use of the term '*Merkmal*' to refer to both types of entity. (Cf. *WL* §65.11, p. 294ff.) On the other hand, Bolzano stresses the fact that the

two types of entities do not stand in a relation of the type suggested by (M). Once the distinction between properties of objects and constituents of concepts is systematically made, the refutation of (M) rests on the argument that an object a may have the (essential) property β_1 although the concept of β_1 is not included in the concept of a . This is what Bolzano seeks to show when he writes:

It is known that every equilateral triangle has the property of equiangularity; but one must admit however that the concept of this equiangularity does not lie in the concept of an equilateral triangle taken as such. For this concept arises when the concept 'triangle' is connected with the proposition: 'which is equilateral'. Now it is obvious that the concept of equiangularity occurs neither in the concept 'triangle' nor in the concept 'which is equilateral', therefore certainly no more in the whole which is indeed composed of nothing else but these two parts . . . Otherwise one would merely have to say that it is in itself impossible to connect the concept 'triangle' and the propositions 'which is equilateral' without enclosing a number of other parts and among others also those which include the concept of equiangularity. This however would be quite false.

(WL §64.2d)

It should be stressed that while he vigorously denies that a concept need include parts that represent the essential properties of its object, Bolzano claims that the properties of an object may be *inferred* (*werden gefolgert*), (WL §65.8), that they *follow* (*folgen*) or *ensue* (*sich ergeben*) from that concept (WL §114, p. 531). The contrast between a property-concept being included in another concept and a property being inferred from a concept – in the example above, though equiangularity and equilaterality are interdeducible, neither concept is included in the other – is an important part of Bolzano's views on axiomatization and scientific rationality as a whole. In particular, as Bolzano conceives of them, in a priori deductive sciences, *all* properties of an object can be inferred from the concept of the latter. Unfortunately, considerations of length do not allow us to expand on the subject.⁷

In the above passage, the example shows that Bolzano's conception of what it is for a concept to be 'part of' another concept, and furthermore what it is for a concept to be 'connected with' other concepts to form a complex idea (or a proposition) is thoroughly different from what he understood the decompositional theory to imply. On the face of it, for the advocate of the decompositional theory of analysis, the constituents of a concept are not connected with one another; conceptual contents are not structured. This follows from (M): in Bolzano's terms, (M) yields a theory of concepts as 'sums' of their constituents, i.e. non-ordered sets of constituents in which the parts of the parts are also part of the whole (cf. WL §84, p. 399). In a

sum, the parts are not structured. It is unclear whether Kant himself thought of concepts as mere sums. In some passages, he seems to suggest that the represented 'manifolds' are structured in some way, namely like the objects they are pictures of. He writes, for instance:

The idea is composed out of its component concepts in the same way in which the entire represented thing is composed out of its parts. Just as, for example, one can say that the notes of a musical piece are a representation of the harmonic connections of the tones, not because each note is similar to each tone but because the notes are connected to each other just as the tones themselves.

(Ak 16, p. 78)

But it is unlikely that Kant meant to pursue the analogy all the way: when Kant discusses the conditions of an adequate analysis, considerations of the possible structure of the constituents are not involved. (Cf. Kant 1800, §104, Kant 1781: B755.)

On the other hand, Kant has a rather strong and idiosyncratic understanding of what it is for two concepts to be 'connected' to form a proposition. Kant sees two ways for the concepts A and B to be connected in a proposition of the form 'All As are Bs': (i) A includes B or (ii) A and B are connected by virtue of their mutual relation to an object given in intuition. These two relations then give rise to analytic and synthetic propositions as he conceives of them. If we follow what Kant says (1781: B10), if the concepts A and B are connected together, then the proposition 'All As are Bs' is not only grammatically well formed – this, Kant takes for granted – but indeed true and justified.⁸ Bolzano's understanding of what it means for a concept to be part of or connected with another concept is utterly different. For one thing, in Bolzano, there is no difference between the way concepts are connected in analytic and synthetic propositions. To ask about the connection between the parts of a proposition or, as a matter of fact, of any complex semantic unit is to ask a question about their structure, and although the identification of structural features is crucial – Bolzano, as we will see, has complex and articulate views of syntax – it does not and should not tell us, by itself, anything about semantic relations such as analyticity and consequence, for instance, on Bolzano's view. In this respect, Bolzano's understanding of the relation between syntax and semantics is much closer to the contemporary one, and I'll come back to this question in section 4.

3 The analysis of propositions and ideas

Until now, I've used the term 'proposition' in an unspecified and non-technical manner to refer to truth-bearers in general. When he uses the terms '*Satz an sich*' and '*Vorstellung an sich*', however, Bolzano has a specific kind of entity in mind. From now on, I'll use the terms 'Proposition' and 'Idea'

(with uppercase ‘P’ and ‘I’ to mark the contrast) to refer to the latter. For Bolzano, a Proposition is anything that (i) is either true or false without qualification and (ii) is not ‘real’ (cf. Bolzano and Exner 1935: 62). Since for Bolzano, a thing is ‘real’ if it may be situated in time, space or in a chain of causal transactions, (ii) backs the distinction he makes between Propositions and the sentences in which they find their linguistic expression – as well as that which holds between their respective (subpropositional) parts: Ideas and terms.⁹ For the post-Fregean philosopher, the Bolzanian distinction between sentences and their abstract, objective meaning, although it predates the publication of *Über Sinn und Bedeutung* (1892) by more than half a century, will be familiar. Contrary to Frege, however, Bolzano sought to provide insight into the way in which we can, on the basis of the signs they contain, come to grasp the complete Propositions sentences express, i.e. the way in which we come to a satisfactory analysis thereof.

Bolzano assumes that for any utterance *s* of a sentence of ordinary language, there is a Proposition that it expresses. Bolzano also calls this Proposition the meaning (*Sinn*) of *s* (cf. *WL* §28, p. 121). Now let *p* be a sentence that completely expresses the Proposition, and let [*p*] be this Proposition. Then we can say that *s* expresses [*p*] and that *p* is a sentence that completely expresses what *s* may express only incompletely – I’ll come back to what ‘complete’ means in what follows. In other words, Bolzano thinks that for every sentence utterance *s*, he can provide a semantic axiom of the form:

(B) *p* expresses the complete meaning of *s*.

Bolzano would call an instance of the (B)-schema an *Auslegung* of *s* (*WL* §285, p. 68).¹⁰ *Auslegung* is a paraphrastic procedure: it consists in uncovering the meaning of a sentence utterance *s* of ordinary language by using another sentence *p* which (i) is either better known or pertains altogether to another (and presumably clearer) symbolic system (*Zeichensystem*) and (ii) is at least logically equivalent (equipollent) to *s* (cf. *WL* §387, p. 543).¹¹ While *s* belongs to ordinary language (or a scientific extension thereof) *p*, i.e. the outcome of the paraphrase, belongs to a (semi-formal) language in which every sentence expresses their meaning fully. We will call this language ‘*L_B*’. When it comes to *Auslegung*, what Bolzano has in mind involves a programme of reducing sentences of ordinary language, which are often semantically or syntactically ambiguous (or both), vague or otherwise context-dependent, to the sentences of *L_B* that are not, since they express their meaning completely.

What counts as an adequate reduction or paraphrase of a sentence in *L_B*? Bolzano offers partial answers to this question in a somewhat unsystematic way throughout the *Theory of Science*. For one thing, as we mentioned above, when he characterizes a Proposition as anything that is either true or false *simpliciter*, Bolzano implies that a sentence expresses its meaning completely – or belongs to *L_B* – only if its truth is not context-relative. Take:

(B3) 'It is raining.'

Minimally, if it is to be true *simpliciter*, what (B3) expresses in a given utterance is not true relative to a time, place, etc.¹² The requirement that the Proposition expressed by (B3) be true or false *simpliciter* ensures that it be both semantically and structurally unambiguous: the complete expression p of a Proposition [p] does not contain indexicals and contains all the completers (temporal, spatial, etc.) that make p *immutably* true or false. In this sense, it is a necessary condition for p to be an adequate paraphrase of s that:

L_{B1} The truth of p is not context-dependent.

Auslegung also involves regimentation. According to Bolzano, all Propositions have the form 'A has b' (cf. *WL* §128, p. 18); hence, it is a necessary condition for p to be an adequate paraphrase of s that:

L_{B2} p is of the form 'A has b'.

Bolzano's commitment to L_{B2} is often misleadingly stressed, however, and contrary to what it may suggest, Bolzano's logical grammar was considerably articulate. In the *Theory of Science*, Bolzano argues, for instance, that subpropositional parts of Propositions may not only be complex but also syntactically structured according to recursive patterns. More generally, Bolzano allows for intrapropositional syntactic articulations of various types and he – more or less tacitly – identifies various rules according to which these recursive patterns are composed.¹³ For instance (in Bolzano's notation, 'A', 'B', etc., stand for object-Ideas, and denote an individual or a collection thereof; 'a', 'b', etc., stand for property-Ideas and denote a property, cf. *WL* §60):

- There are simple and complex object-Ideas. Simple object-Ideas are treated as unstructured (*WL* §56).
- A complex object-Idea is typically attributive, i.e. of the form 'A which has b' in which 'which has' is a name-forming operator. If, for instance, the subject-idea 'A' of a Proposition 'A has b' is complex, Bolzano proposes the (intermediary) analysis: 'C which has d, has b', and so forth (*WL* §§58–9).
- A property-Idea, if it is complex, is typically conjunctive. Such is the predicate-idea 'b, b', b'' in 'A which has b, b', b''' (cf. *WL* §64.1).

Furthermore, as we have already hinted with respect to L_{B1}, Bolzano makes use of manifold functors such as completers (what he calls determinations, i.e. *Bestimmungen*) in order to specify truth-conditions of Propositions. The most widespread type of determinations are temporal: if the object of a

Proposition in itself ‘A has b’ is real (*wirklich*), then in order to exclude possible contradictions, the subject of that Proposition must include a temporal completer and is in fact of the form: ‘A at *t*’. Hence, all Propositions whose subject-idea refers to a real object have the form ‘A at *t* has b’ (*WL* §§79.5, 127.5).

Bolzano makes further extensive use of logico-grammatical subcategories: metaphysical distinctions among the objects denoted also make for logico-grammatical distinctions between the expressions that denote them:

- ‘A’ may designate a real object, but it may also denote an Idea, in which case it is a meta-logical Idea, what Bolzano calls a ‘symbolic Idea’ (*symbolische Vorstellung*) (*WL* §90).
- ‘A’ may designate a collection-idea (*Inbegriffsvorstellung*) – of which there are different types: sums, series, unities, pluralities, totalities, etc ... that have different structural properties, etc. (*WL* §§82ff.).
- ‘b’, on its part, may designate either a real property or a logical one. The latter are the key to Bolzano’s frequent use of metalinguistic analyses. For instance, Bolzano argues that (true or false) existential Propositions such as ‘There is a unicorn’ should be interpreted (*ausgelegt*) as ‘The idea of a unicorn has objectuality’, where the subject-idea ‘The idea of a unicorn’ refers to an idea and where ‘objectuality’ refers to a second-order predicate-idea, a property of a concept, namely the property of having a non-empty extension (*WL* §172, p. 215).

All told, then, we can see that Bolzano sees a great deal of significant, articulate structure within Propositions, and that he is committed to an elaborate theory of such structure. Though it is strictly true that Bolzano constrains the theory by adherence to L_B2 and that his doing so is the source of some of the more elaborate contortions through which he has to go in order to paraphrase various ordinary language expressions into L_B , we should not accept that, in Bolzano, ‘every Proposition is structured in the same way’ (cf. Textor 1997) if this is supposed to imply that Bolzano’s theory of syntax comes to nothing more than the claim that all Propositions have subject-predicate structure. Given the fact that ideas can be complex and that, if they are, they are themselves syntactically structured and can be so in a number of different ways, Bolzano’s claim that all Propositions are composed of the three Ideas ‘A’, ‘has’ and ‘b’ does not imply that the only form of syntactic articulation he recognizes is predication; Propositions can have a great deal of additional discernible syntactic structure beyond the ‘A has b’ form they all share. As what precedes shows, the paraphrase of ordinary sentences may involve the notions of a collection, of a sequence, of being an idea of something, etc., and the structural features that come with

them. For instance, although Bolzano did not anticipate the idea of polyadic predicates, his treatment of relational claims as claims about collections of objects is intended to account for the relevant semantic phenomena:

It is easy to see that every object will have its own properties. A collection which has several objects A, B, C, D ... as parts is, as such, a special object which is essentially different from its parts. It is obvious that each collection will have certain properties which its parts will not have. If I am not mistaken, these properties are what we call *relations between those parts*. In particular, this holds when we think of the objects A, B, C, D ... on the one hand and the property x of the collection on the other as variable, i.e. if we think that other objects A', B', C', D' ... which are of the same kind as A, B, C, D ... have a property that is, although not the same, yet of the same kind as x.

(WL §80.3, p. 381)

Hence, for Bolzano, the correct analysis of, for instance:

(B2) John kisses Jim.

would be:

(B2') John has (the property of) forming a collection of type y with Jim.

where 'y' denotes the type of collection in question, in this case a kissing-type collection.¹⁴ In general, although there are good reasons to see other problems with Bolzano's syntax, being inarticulate is certainly not one of them.

Bolzano would subscribe to the idea that p is an adequate paraphrase of s only if:

L_{B3} All non-logical terms in p are either primitive or definable on the basis of the primitive terms.

L_{B4} s and p are equipollent.

L_{B3} and L_{B4} would need to be discussed at length, but this is a discussion for which there is no place here. In particular, although the question as to what counts as a primitive term or an adequate definition in Bolzano has not been settled, it can be argued that, at least in deductive sciences such as arithmetic, geometry and logic, all primitive terms are defined implicitly by the axioms and all non-primitive terms are definable on the basis of the primitive terms within the axiomatic structure.¹⁵ On the other hand, although Bolzano himself makes it clear that he takes the equipollence of s and p to be sufficient and rejects the stronger condition that they be

synonymous (*WL* §137, p. 53), it could be argued that this is not unproblematic (cf. Textor 1997: 194).

Bolzano's paraphrastic procedure rests on a general heuristic principle:

Every word in language serves to designate an Idea and some of them even complete Propositions. Therefore, it is only natural to suppose that each Idea is composed of at least as many parts as there are words in its expression.

(*WL* §57, p. 246)

Yet, as he explains at the same place, this principle admits of important exceptions. In particular, Bolzano thinks that expressions of everyday language may contain 'redundant' (*überfüllte*) terms. Bolzano identifies two types of redundancies, what we may term lexical and semantic redundancies. According to Bolzano, an expression containing a redundant constituent is not well formed (*ist fehlerhaft*, cf. *WL* §69.1, p. 310); hence, the conditions of an adequate paraphrase also include:

L_{B5} p is neither lexically nor semantically redundant.

In lexically redundant terms, the constituents that are said to be redundant or superfluous are typically quantificational expressions. One of Bolzano's favoured example is 'All' in 'All As are Bs' (*WL* §57, p. 247ff.). The reason for this is that, on the one hand, Bolzano assumes that a concept should always be taken in its fullest extension. Under this assumption, according to him, the two expressions 'all As' and 'A' stand for the same Idea. On the other hand, as we have already hinted, in Bolzano's theory quantificational matters are dealt with systematically on the basis of metalogical (see above) or substitutional (see section 4 below) resources.¹⁶

A semantically redundant constituent of x is a constituent whose omission does not affect the extension of x (*WL* §69, p. 309). Semantic redundancy occurs when, in an attributive construction, the appositive does not modify the extension of the main clause. In the sentence 'A being, which does not have a ground for its existence and which is also perfect, omniscient, omnipotent and holy', for instance, each of the constituents 'which is (also) perfect', 'which is omniscient', etc., is semantically redundant. Strictly speaking, however, such constructions are syntactically well formed – they do not violate any of the compositional rules Bolzano sets out – and one may wonder why Bolzano seeks to eliminate them from L_B . Bolzano's concern here is to underpin his critique of (M) and his own conception of conceptual content. As we've seen above, Bolzano denies that concepts representing the essential properties of an object need be included in the concept of that object and draws a sharp distinction between concepts being included in and properties being inferable from concepts (see section 2 above). The only cases in which the inclusion of a constituent referring to a

property of the object is tolerable is when the latter also modifies (either restricts or increases) the extension of the concept in question. The constraint regarding semantic redundancies allows him to systematically reject constructions in which a constituent referring to an essential property is, in this sense, semantically idle. In fact, it allows him to reject any constructions which recursively attribute more than one essential property to its object. Such constructions as 'A being, which does not have a ground for its existence and which is perfect and which is omniscient, etc.', if they were admitted, would sanction the idea that the concept of a being which does not have a ground for its existence also *includes* the concepts of perfection, omniscience, omnipotence and holiness, which is precisely what an adherent to (M) would claim. By forbidding semantic redundancy, Bolzano makes this option unavailable. This bolsters Bolzano's distinction between inclusion and inferability: from the concept of a being, which does not have a ground for its existence, one may – although the latter does not include these Ideas – nonetheless infer that this being is also omnipotent, holy, etc. Note that, though implicitly, precisely the same considerations support Bolzano's claim in the passage from §64.2d above, according to which the concept 'triangle, which is equilateral' does not contain the concept 'equiangularity': such a concept would be semantically redundant in Bolzano's sense.

4 The analysis of analyticity

Bolzano's paraphrastic approach to the analysis of conceptual content is in sharp contrast to Kant's decompositional approach. When Bolzano discusses Kant's definition of analyticity, in particular, he often resorts to an example that underscores the disparity of their respective conceptions of conceptual content (cf. Bolzano and Příhonský 1850: 35f, *WL* §148 note 4):

(B4) 'The father of Alexander, King of Macedonia, was king of Macedonia.'

Bolzano understood (B4) to be of the form 'A has b', where 'The father of Alexander, King of Macedonia' is the subject-Idea, and 'king of Macedonia' the predicate-Idea. Under this description, and assuming Bolzano's conception of conceptual content, (B4) seems to satisfy the condition for being analytic in Kant's sense: the predicate 'king of Macedonia' is 'part of' or is 'included' in the subject: 'The father of Alexander, King of Macedonia' is a more complex construction that results from the connection of 'King of Macedonia' with 'The father of Alexander' via attribution – here the name-forming operator 'which is' (in the form 'who was') remains implicit. But Bolzano's point is that we do not want Propositions such as (B4) to come out as analytic and that, more generally, as he understands them, inclusion relations do not point to any semantically interesting features of Propositions. On Bolzano's view, his predecessors' use of the notion of 'inclusion'

and other cognates are ‘mere metaphors (*bildliche Redensarten*) which do not analyse the concept to be defined or expressions which allow for too broad an interpretation’ (*WL* §148, note 4, p. 87). In general, it seems to him that definitions of analyticity that rest on the idea of inclusion:

do not emphasise sufficiently what makes this type of Propositions *important*. It is my opinion that the latter consists in the fact that their truth or falsehood does not depend on the particular Ideas of which they are composed but remains the same whatever the modifications we undertake with the latter, granted only that one does not destroy the objectuality of the Proposition itself.

(*WL* §148, note 4, p. 88)

I think that it is safe to read ‘does not depend on the particular Ideas of which they are composed’ as meaning that, in Bolzano’s eyes, a good definition of analyticity should not rest on any particular syntax, let alone the Kantian one. Despite the fact that Bolzano never explicitly argued for a distinction between syntax and semantics explicitly, he implies this by adopting a substitutional method for the purpose of defining semantic relations such as analyticity – and of other semantic notions such as compatibility (*WL* §154) and consequence (*WL* §155):¹⁷

(A_B) A Proposition *p* is analytically true/false (with respect to *i, j, ...*) if and only if (*WL* §148):

(i) *p* contains at least one arbitrarily exchangeable constituent(s) *i, j, ...*, such that (ii) every *objectual* variant of *p* with respect to *i, j ...* is true/false.

When Bolzano says, for instance, that

(B5) Men who are virtuous deserve constant happiness.

is analytically true with respect to ‘Men’, he means that (B5) belongs to the set of objectual and *true* Propositions that are generated by substitution of ‘Men’ in (B5), and that the set of objectual yet *false* instances of the latter is empty. A Proposition *p* may also be analytically false in which case, the set of true instances of *p* with respect to *i, j, ...* is empty. (Cf. *WL* §148.) Bolzano defines *logical* analyticity in the same paragraph by a narrowing of condition (i): any Proposition such that if *all* its non-logical ideas are arbitrarily exchangeable, then all its objectual instances have the same truth-value, is *logically analytic* (cf. *WL* §148.3, p. 84). This notion allows Bolzano to identify propositional forms such that the truth-value of their objectual instances remains invariant under all interpretations of the non-logical terms they contain. Indeed, what’s novel with the substitutional method is

the fact that though condition (i) stipulates a manner of determining a set of variants of p that share some fixed constituents with p , it does not restrict analyticity to any logical form in particular.

5 Bolzano's influence

In applying the substitutional method to define logical relations, Bolzano anticipated one of the most important innovations of twentieth-century semantics. It is no accident that his definition of logical analyticity is often compared to Quine's notion of logical truth – as often as is his notion of consequence (*Ableitbarkeit*) to that of Tarski. There are striking similarities that were acknowledged by both authors (cf. Tarski 1956: 417; Quine 1954: 110). In both cases, however, the association must be qualified – not least because Bolzano's substitutional method does not preserve our intuitions about modality (cf. Lapointe 2002b, forthcoming b; Textor 2001). The literature on the topic is vast and comprehensive – here is not the place to take these questions up – but it tends to omit one important fact: there are few authors on whom Bolzano's *Theory of Science* had both a direct and significant historical impact, and neither Tarski nor Quine was one of them.¹⁸ Among those he did influence – and they are all to be found among Brentano's students – only one of them followed the spirit of Bolzano's logical grammar and adopted his substitutional method: Edmund Husserl. The kinship and indeed influence of Bolzano on Husserl is generally acknowledged by both Bolzano and Husserl scholars. In general, however, the connection between the two authors remains largely undervalued and undocumented. Until recently, the extent of Husserl's appreciation of the *Theory of Science* remained unclear. The recent publication of Husserl's *Logic* lectures of 1896, however, has contributed to showing that Husserl's conception of analysis and, in particular, his studies in the morphology of meaning and logical grammar in the fourth *Logical Investigation*, are profoundly indebted to his thorough and repeated reading of the *Theory of Science* after 1894 – the year Husserl was prompted to a closer study of Bolzano's *opus magnum* by Kazimierz Twardowski's *On the Content and Object of Ideas*.¹⁹ Husserl did not agree with Bolzano on every point – quite the contrary. Nevertheless, the first half of the 1896 *Logic* is almost exclusively designed as a critical discussion of Bolzano's theory of Ideas and Propositions, some of which Husserl rejected, some of which he took over *verbatim* in his logic lectures and also at least in spirit in either the *Prolegomena* (1900) or the *Investigations* (1901) proper. For instance, Husserl repeatedly approved of and adopted Bolzano's objective semantics – his agreement with Frege in this respect is largely a consequence thereof – and his views on analysis were themselves substantially shaped by Bolzano's discussion of what it means for an Idea to be complex and on his clearly distinguishing between properties of objects being represented by the parts of the concepts that denote them and properties of objects being inferred

from their concepts (cf. Husserl 1896: §§5–7, for instance, which are hardly more than an elaboration of *WL* §§56, 60–61 and 63–64, and underpin the essence of Husserl’s own formalism in the fourth logical investigation). This, unfortunately, is the topic of another paper.²⁰

Notes

- 1 I would like to thank Douglas Patterson and Mike Beaney for their suggestions and comments.
- 2 I deal in more length with this question in Lapointe forthcoming a.
- 3 Superficial knowledge of medieval semantics suffices to convince that similarities are not scarce but this, unfortunately, remains to be studied.
- 4 I discuss some aspects of the theoretical background of this notion in Lapointe forthcoming a. It has been suggested that the use of the term ‘*compréhension*’ in French (lit. trans. ‘understanding’) points to the cognitive or intensional dimension of concepts. (Cf. Kneale and Kneale 1962: 318.) This remark is mistaken. In fact, the Latin etymology of the words *compréhension* or *comprendre (en soi)*, as Arnaud and Nicole sometimes say, rather means ‘to take in’ or ‘to include within’.
- 5 I’m offering here a schematized version of Bolzano’s criticism of the decompositional conception of analysis. Cf. *WL* §§63–64.
- 6 At *WL* §63, Bolzano discusses another mistaken conception of the relation between concepts and objects that may uphold the picture theory and according to which the parts of a representation are the same as the representations of the parts of its object.
- 7 I discuss this at length in Lapointe forthcoming b.
- 8 The view that we know a truth ‘A is B’ only if we also grasp the connection between the concepts A and B can also be ascribed to Locke, for instance. See Carson 2005 (p. 5 for the latter point and) for a comparison between Kant’s and Locke’s accounts.
- 9 Bolzano further distinguishes propositions from the mental act in which they are ‘grasped’ but I will not discuss this here.
- 10 Bolzano defines *Auslegung* for terms (linguistic signs), not for sentences. However, if we assume, as Bolzano did, minimal compositional principles, what he says can easily be applied to complex terms and, in particular, sentences.
- 11 Bolzano actually writes with respect to (ii): ‘serve to awaken the same (subjective) idea’; I’m here relying on the semantic counterpart of this idea and I am weakening the condition (equipollence instead of identity) for reasons I will discuss below.
- 12 Note however that if we take (B1) as a sentence type, it expresses a virtually infinite number of propositions.
- 13 For a formal exposition of Bolzano’s syntax, cf. Peter Simons 1999: §§3 and 4.
- 14 As the quoted passage makes clear, collections (*Inbegriffe*) in Bolzano may be composed of concrete individuals. Simons (1997) argues that Bolzano’s theory of collections amounts neither to set theory nor to Lesniewski-style mereology, and offers an instructive presentation of it.
- 15 I defend this in Lapointe forthcoming b.
- 16 I explain this in Lapointe 2000; for a shorter English version of the paper, see Lapointe 2002b.
- 17 I discuss Bolzano’s substitutional method in more length in Lapointe 2002a.
- 18 There are at best some indirect connections between Bolzano and Tarski via Twardowski and his students in Lvov and Warsaw, but these remain largely undocumented.

- 19 Husserl's personal copy of the *Wissenschaftslehre* is available at the Husserl Archives in Leuven, and Husserl's markings – in different colours – are evidence of the fact that he read some parts of it twice or more.
- 20 I explain how Bolzano shaped Husserl's antipsychologism and his conception of deductive theories in Lapointe forthcoming c.

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13 Edmund Husserl's methodology of concept clarification

Dermot Moran

[I]t is precisely behind the 'self-evident' (*Selbstverständlichkeiten*) that the hardest problems lie hidden . . . so much so that philosophy may be paradoxically but not unprofoundly called the science of trivialities (*die Wissenschaft von der Trivialitäten*).
(Husserl, *Logical Investigations*)¹

1 Philosophy as a priori essential analysis

That Edmund Husserl (1859–1938), with his *phenomenology*, revolutionized the way philosophy was practised in the twentieth century is well known. It is less well known that his overall approach to the analysis of philosophical problems had much in common with practices associated with the then emerging 'analytic' philosophy. Both advocate rigorous method, abandoning speculation, solving *problems* rather than tracking themes through the history of philosophy, pursuing analyses through carefully drawn distinctions, and so on.² Husserl drew his own concept of analysis from several sources including: Weierstrass's conception of arithmetical analysis; Brentano's descriptive psychology; and the typical analyses of the classical empiricist tradition that involved cashing out concepts in terms of some basic sensory intuitions ('impressions'). However, he continued to develop original and unique forms of analysis, specifically those involving identifying the a priori subjective (but not empirical psychological) acts involved in the constitution of objectivities of every form. For Husserl, the practice of philosophy involves the exploration of the a priori. As he wrote in the *Logical Investigations*:

The a priori . . . is, at least in its primitive forms, obvious, even trivial, but its systematic demonstration, theoretical pursuit and phenomenological clarification remains of supreme scientific and philosophical interest, and is by no means easy.

(LU IV §14, II, p. 73; Hua XIX/1 345)

In carrying out his project, Husserl offers many penetrating and innovative a priori conceptual analyses of scientific and epistemic concepts, e.g. his

analysis of the concept of logic as a pure a priori formal science, his differentiation of the formal and the material a priori, his accounts of intentionality, signification, object, content, whole and part, universals, the meaning of identity (against Frege), inference (*Schluss*), consequence (*Folge*), direct reference, and so on. In addition, Husserl offers rich and original characterizations of perception, fantasy, memory, pictorial-awareness, judgement and other modalities of consciousness as part of an overall reflective a priori analysis of the essence of consciousness as such. Obviously, in this paper, we cannot rehearse all these various conceptual analyses; rather, we shall attempt to specify more precisely what Husserl's conception of phenomenological analysis is, especially as he employed it in the period from 1891 to 1907, when he was formulating his very particular understanding of 'descriptive phenomenology' as it evolved from Brentanian *descriptive psychology*.

In the period between 1891 and 1901, Husserl primarily understood phenomenology as the fundamental 'clarification' (*Klärung*) and 'epistemic critique' (*Erkenntniskritik*) of what he termed the 'Idea of knowledge', setting out the a priori structures of the concepts and acts involved essentially in cognition and knowledge per se. In particular, Husserl is seeking a specific kind of analysis that involves the identification of certain subjective conditions necessary for objective cognition, and trying to distinguish these 'phenomenological' conditions from the empirical, factual or 'psychological' conditions also involved in human cognition. After 1907, he came to recognize the affinity between his approach and that of Kant, and reformulated phenomenology as a new and radical kind of transcendental philosophy.³ This latter development, which included embracing the concept of the transcendental ego which he had earlier resisted, lies outside the scope of this paper, but it is worth emphasizing that Husserl's later investigations continue to deepen his interest in the a priori correlation between forms of objectivity and the subjective achievements that constitute them.

2 Philosophy as clarification of fundamental scientific concepts

Husserl originally trained as a mathematician, was briefly an assistant to Karl Weierstrass, the founder of arithmetical analysis, enjoyed close personal and professional relations with Cantor and Hilbert, and corresponded with leading mathematicians and logicians including Gottlob Frege. Due to his contact with one of the pioneers of descriptive psychology – Franz Brentano – Husserl changed career from mathematics to philosophy. His first publication, *Philosophy of Arithmetic* (1891, hereafter PA),⁴ offers a descriptive psychological analysis of basic mathematical concepts and operations. He speaks of finding the 'origin' (*Ursprung*, PA Hua XII 17; 64), 'genesis' (*Entstehung*, PA XII 17) or 'source' (*Quelle*, PA XII 179) of basic arithmetical 'concepts' (*Begriffe*) in order to clarify their 'essence and origination' (*Wesen und Entstehung*, PA XII 15). The subtitle of PA, 'Logical

and Psychological Analyses', clearly indicates that Husserl envisages different kinds of analysis, although he does not explicitly differentiate them within the work itself. Gradually, as is evident from the *Logical Investigations* (e.g. LU II §6; II §31) and later (e.g. *Formal and Transcendental Logic*), he evolved a tripartite distinction between 'psychological', 'phenomenological' and logical analyses.

Husserl was inspired by Franz Brentano's vision of philosophy as a rigorous science. For him – as for Brentano and, indeed, later for Wittgenstein – philosophy aims at 'clarification' or 'illumination' (*Klärung, Aufklärung, Klarlegung, Erhellung*).⁵ Clarification means 'making sense', casting critical light on the achievements of cognition (*Erkenntnis*), which Husserl understood in the broadest sense to include (especially in his later writings) the whole human encounter with the world as it is carried out in the 'natural attitude' as well as in scientific practice. Indeed philosophy itself aims at 'ultimate clarification' (*Letztklärung*) or 'ultimate grounding' (*Letztbegründung*) of the sense of our entire cognitive accomplishment. Clarification, however, must – as with Aristotle – accord with the level of exactness that the subject-matter itself allows.⁶ The philosophical clarification that Husserl sought involved gaining a grasp of the essential (or, in his words, 'eidetic') character of the key concepts in any specific epistemic or ontological domain.

In his early years Husserl was concerned primarily with *epistemological* clarification, the 'critique of knowledge', 'the elucidation ... of the sense and possibility of validly objective knowledge'.⁷ For him, clarification could not be piecemeal but had to extend to the interconnecting unity of all the sciences; indeed, it had to justify the very theories of science also. In short philosophy requires a complete 'theory of science' (*Wissenschaftslehre*) and must be carried out in a rigorously scientific manner:

Above all, philosophy means not irrelevant, speculative mysticism but rather nothing other than the ultimate radicalisation of rigorous science.

(*Draft Preface*, p. 30; Fink 123)

Like Kant, Husserl was dissatisfied with the vagueness and lack of definition of many central philosophical concepts and with the manner in which every philosophical insight was endlessly disputed. Philosophy had become a matter of opinion or taste with no hope of agreement and resolution of difficulties. Equally, Husserl was also dissatisfied with the lack of theoretical rigour in the formal sciences. They too displayed 'lack of inner clarity and rationality' (LU Prol. §4, I, p. 15; Hua XVIII 26). The experimental sciences of his day were shot through with prejudice, specifically, a leaning towards *positivism* (which too narrowly restricted the data of evidence to the date of sensation, Hua XXV 9). Not only was philosophy not scientific, but the sciences themselves lacked 'the philosophical spirit' as he would later put it (Hua XI 355).

Phenomenology is announced in the Introduction to the Second Volume of the *Logical Investigations* (1901) as *the* method for eliminating prejudice and clarifying once and for all fundamental epistemological and logical concepts, so as to set philosophy on the royal road to secure science. Husserl had left the analysis of purely mathematical concepts in order to focus on central *epistemic* concepts that belong to the very ‘form of knowledge’ (LU *Prolog.* §67), e.g.: ‘proposition’, ‘sense’, ‘object’, ‘state of affairs’, ‘judgement’ and, crucially, ‘evidence’ and ‘truth’. His aim was to bring these concepts to ‘clarity and distinctness’ by grasping their evidential character, which, as in PA, still involved tracing them back to their ‘ultimate sources’ (Hua XX/1 280), in the intuitions that underlie them. As Husserl insists: ‘Logical concepts, as valid thought-unities, must have their origin in intuition’ (LU, Intro. §2, I, p. 168, Hua XIX/1 10). The problem, then, is how to understand this appeal to intuition in Husserlian phenomenology.

3 Grounding concepts in intuitions

Husserl was captivated by Descartes’ project of securing science on the basis of evident cognitions, cognitions given ‘clearly and distinctly’ (*clare et distincte*).⁸ Central to the Cartesian way is an account of evidence. However, for Husserl, neither Descartes nor the modern philosophical tradition grasped the real meaning of evidence. As Husserl would put it in his 1906–7 lectures:

Descartes lacked, as did all modernity, any intentional explication of evidence as the achievement of self-presentation (*Selbstdarstellung*), in which the currently meant comes to original self-givenness.

(XXXIV 409, my translation)

For Husserl, evidence has ultimately to be construed in terms of *self-giveness* of the matter. Following the empiricist tradition, Husserl maintains that knowledge begins from experience and must be related back to experience: ‘living is ... in a certain sense, an experiencing’ (*So zu leben ist ... in gewissem Sinn ein Erleben*; Hua XXV 144). Experience, however, has to be accorded its fullest significance.

In *Philosophy of Arithmetic* Husserl had already enunciated a (superficially) empiricist principle according to which ‘no concept can be thought without a foundation (*Fundierung*) in a concrete intuition’ (PA Hua XII 79). He would continue to maintain this emphasis on the epistemic priority of intuition throughout his life (see e.g. Hua XXIV 46–7). It is not enough to merely work with signs and empty symbols and to refer to things in their absence; rather, all genuine thinking must finally be secured by relating it to direct immediate intuition of objects in their presence. In LU he writes: ‘All evidence of judging (all actual cognising in the pregnant sense) presupposes meanings that are intuitively fulfilled’ (LU I §21, I, p. 212 (trans. modified);

XIX/1 77). In his work Husserl became clearer about the kinds of intuitive fulfilment demanded by different kinds of concepts. Not all domains can meet the demands for 'apodictic evidence': 'final fulfilment represents an ideal of perfection' (LU VI Intro, II, p. 185; XIX/2 540), and involves complete agreement and synthetic unity between what is intended and what is actually grasped in intuition (called 'perception' in a wider sense). But in all cognition, there is, according to Husserl, an intention that aims at fulfilment. At least as early as LU, Husserl construes knowledge in terms of *fulfilment* of intuition. In fulfilment, 'the object is given "intuitively" in the same way in which the mere meaning means it' (LU VI §28, II, p. 245; XIX/2 625). But what Husserl does, over and against the philosophical tradition (especially against empiricism and positivism) is to extend greatly the range of possible forms of fulfilment. For him, as we shall see, classical empiricism, especially, had a false and overly restricted notion of what is given in experience with its fantastic assumptions concerning atomistic sense data and its dogmatic rejection of the possibility of directly intuiting high-order ideal and categorial objectivities (universals, abstract objects, propositions, and so on, *Ideas I* §§19–20).

Knowing something means directly having it in one's grasp, but Husserl greatly widens the concept of perception to include non-sensuous forms of categorial intuition, where 'states of affairs' are brought directly to intuition. It is part of the project of the Sixth Investigation in particular to argue for a broadened sense of intuition and perception (see LU VI, Intro., II, p. 186; XIX/2 541). For instance, Archimedes' 'eureka' moment represents an experience of evident cognition (in this instance: about the essential nature of flotation) that far exceeds what is given merely to sensuous intuition. The key to Husserl's concept of evidence, then, is to grasp its multiple character. One simply has to recognize from the outset that cognition means grasp of the matter itself, but there are, as in Aristotle, many ways in which the matter itself can be given. Once Husserl develops his concept of the relation between intention and fulfilment, *clarification* becomes for him the relating of concepts to fulfilling intuitions,⁹ that is, bringing them to 'evidence'. Meanings are to be 'clarified both by going back to the analytically explored essential connections between meaning intentions and meaning fulfilments, and also by making their possible function in cognition intelligible and certain' (LU Intro. §2, I, p. 168; Hua XIX/1 10–11).

In his mature writing (roughly 1905–38), Husserl expands the meaning of phenomenology to be the clarification of the *sense* of all the forms of 'givenness' (*Gegebenheit*), including those that resist objectification and remain in some sense 'other' (such as our experience of others' own conscious states). Husserl frequently speaks of grasping the 'being-sense' (*Seinssinn*) or 'being-validity' (*Seinsgeltung*) of a situation. Such sense clarification involves grasping how the established sense or meaning of an object is in fact a product of certain specific subjective constitutional processes of 'sense bestowal' (*Sinngebung*). Husserl believes that the true

understanding of any object, situation or region, means understanding how sense gets conferred or bestowed on that particular object or region, a sense that can be recovered in a kind of ‘reflection’ (*Besinnung*) or reflective analysis. As he defines it in his *Formal and Transcendental Logic* (1929), clarification is a matter of moving from vaguely grasped ideas to fully informed concepts:

Sense-investigation [*Besinnung*] signifies nothing but the attempt to produce the sense ‘itself’ ... it is the attempt to convert the ‘intensive sense’ (as it was called in the *Logical Investigations*), the sense ‘vaguely floating before us’ in our unclear aiming, into the fulfilled, the clear, sense, and thus to procure for it the evidence of its clear possibility.¹⁰

4 Husserl’s relation to classical empiricism and the ‘English’ logical tradition

In the mid-nineteenth-century backlash against Hegelian idealism, German philosophers turned not only (and famously) ‘back to Kant’ (*zurück zu Kant*), but also to the classical empiricist tradition exemplified not only by David Hume and J.S. Mill but also by the certain progressive English mathematical logicians: William Stanley Jevons (1835–82), Sir William Hamilton, George Boole (1815–64) and John Venn (1834–1923). The German logician Christoph Sigwart (1830–1904), for instance, in the *Preface* to the English translation of his *Logic*, acknowledges his debt to ‘English logicians from Francis Bacon down to Jevons, Bradley and Venn’.¹¹ Husserl too was deeply indebted to this logical tradition, although he also criticized it relentlessly. He wanted to purify empiricism of prejudices foreign to it.

For Husserl, empiricism represented ‘a radicalism of philosophical practice’,¹² setting itself against all idols of superstition, including Scholastic entities such as ‘ideas’ and ‘essences’. In that sense, Husserl says in *Ideas I*, it ‘springs from the most praiseworthy motives’, but it carries a conceptual and unexamined baggage.¹³ Husserl admired Berkeley and Hume for their attempt to do detailed work ‘from below’ and for producing at least a kind of proto-phenomenological analysis of certain concepts. An instance of such empiricist analysis is Locke’s suggestion that the concept of solidity has its origin in the experience of resistance. Locke writes:

The idea of *solidity* we receive by our touch: and it arises from the resistance which we find in body to the entrance of any other body into the place it possesses, till it has left it. There is no idea which we receive more constantly from sensation than solidity.¹⁴

Similarly, in his *New Theory of Vision*, Berkeley explains how the *sense of distance* is achieved in terms of certain immediately felt experiences of the

sensory movements of the eyes that act as cues, which though custom and habit come to be associated with different distances of the object from the perceiver. In similar vein, Husserl was deeply impressed by Hume's analysis of causation in terms of contiguity and succession which he interpreted as a diagnosis of the 'subjective genesis' of 'transcendent objectivities' that had been taken for granted as realities independent of subjectivity (see FTL §100).

At the same time, Husserl was a relentless critic of extreme empiricism 'as absurd a theory of knowledge as extreme scepticism' (LU *Prolog.* §26 Appendix, I, p. 59; Hua XVIII 94). Husserl's overall complaint against empiricism was that it misunderstood and incorrectly 'theorized' the very nature of the 'given' on which it depended. Empiricists start from 'unclarified pre-conceived opinions'.¹⁵ In the *Prolegomena* (1900) Husserl writes:

Extreme empiricism is as absurd a theory of knowledge as extreme scepticism. It destroys the possibility of the rational justification of mediate knowledge, and so destroys its own possibility as a scientifically proven theory.

(LU *Prolog.* §26, I, p. 59; Hua XVIII 94)

Empiricism purports to arrive at general statements yet these are supposedly drawn from 'singular judgements of experience'. It justifies its principles and laws *mediately* through induction,¹⁶ but what principles justify such induction, what principles govern this mediate inference? Empiricists are forced to appeal to 'naïve, uncritical, everyday experience' which it then explains in Humean fashion in terms of psychological regularities. Empiricism thus confuses the *psychological origin* of judgements, 'on account of their supposed "naturalness"',¹⁷ with their epistemic *justification*. This ends up as a form of psychologism.¹⁸ The radical empiricist assumes that the only access to things themselves comes through *immediate* sensory experience. But, for Husserl, natural things do not constitute the whole set of kinds of things, and thus empiricism at best only reveals things of nature. Already in LU, Husserl argues that empiricism unnecessarily and quite arbitrarily restricts the range of possible verification or confirmation of judgements. In the Second Investigation in particular, he attacks the empiricist *psychological* accounts of abstraction and points to their defects in terms of a conceptual analysis of what is required to intuit universals. In general, empiricism has no sense of the normative nature of cognition.

To overcome the empiricist misunderstanding of logic and mathematics in particular, Husserl turned to the older logical tradition of Kant, Bolzano and its contemporary exponent Lotze. Kant treated logic as an independent science (LU *Prolog.* §13) made up of purely necessary a priori laws (LU *Prolog.* §19), but he believed that the logicians who supposedly followed Kant had been seduced into psychologism. Alexander Bain, the Scottish follower of Mill, for instance, had fallen prey to psychologism. Indeed Kant's and Herbart's supposed 'pure' logics were not without confusion (LU *Prolog.* §20).

It was Husserl's chance discovery of Bolzano's *Wissenschaftslehre* in a second-hand bookshop that set him on a mission to correct what he regarded as deviant tendencies in contemporary German logic. Inspired by Bolzano, and by Hermann Lotze's *Logic*, Husserl embarked on a mission to clarify the nature of the given. In particular he needed to emphasize that the ideal (e.g. the species Red as opposed to the particular instance of *red*) is as much a part of the given of our experience as the sensuous.

The virtue of phenomenology, by contrast, was that it recognized the multiplicity of evident forms of givenness. Indeed Husserl criticized both Descartes and the rationalists as well as the empiricists for their dogmatic restriction in advance (and for theoretical reasons) of the legitimate intuitive forms. In his 'Philosophy as a Rigorous Science' article of 1910/1911 Husserl would write:

To study some kind of objectivity (*Gegenständlichkeit*) or other in accordance with its universal essence . . . means to investigate its modes of givenness and to exhaust its eidetic content in the appurtenant processes of 'clarification'.¹⁹

Analysis, then, for Husserl involves explicating an objectivity with reference to the mode of givenness by which its objective 'content' is given. Husserl came to recognize more and more that objectivities are essentially and a priori correlated to certain attitudes that disclose them. For instance, art objects appear as such under the aesthetic attitude; humans are given as persons in the personalistic attitude, and so on. The relating of objective forms to distinct attitudes became an intrinsic part of Husserl's mature concept of phenomenological analysis under the designation 'noetic-noematic' analysis that Husserl adopted from around 1913 on.

5 Psychological and conceptual clarification in the *Philosophy of Arithmetic*

I would like now to explore the manner in which subjective acts of constitution are already at work in Husserl's earliest attempts at analysis in his *Philosophy of Arithmetic*. Here Husserl employed the basic procedures of Brentanian descriptive psychology to vindicate Weierstrass's concept of number. Later in his *Draft Preface* (1913) to the revised edition of LU, Husserl describes his first work as aiming at 'elucidating the cognitive accomplishment (*Erkenntnisleistung*) of arithmetic and of purely analytical mathematics in general' (*Draft Preface*, p. 33; Fink 125/6). A particularly subtle piece of 'descriptive psychological' analysis in PA is Husserl's elucidation of the role played by time in the intuition of number. A more careful examination of this analysis is helpful for grasping how Husserl distinguishes between psychological and logical analysis.

As is well known, Kant claimed that number is based on the intuition of succession and hence is related to time as the form of inner sense. Husserl offers a richer analysis of number that tries to isolate the component 'acts' that are involved in generating the concept. The analysis of number offered in PA turns on one particular form of *synthesis* that he calls 'collective combination' (*kollektive Verbindung*). He holds collective combination to be a necessary component of the intuition of numbers. But this combination has been misconstrued by other thinkers. It is not a form of temporal (Kant) or spatial (Lange) synthesis. When I am counting a group of objects, their order and position is irrelevant (PA, pp. 36–7). Lange on the other hand thought spatial synthesis was the 'archetype of all synthesis' (PA, p. 37).

Husserl denies that the concept of number derived from our spatial intuitions:

Let us represent to ourselves by means of an example how we collectively hold together or count spatial objects. Do we, in doing this, attend constantly and necessarily to the relationships of order and position? Certainly not . . . Two apples remain two apples, whether we set them closer together or further apart, whether we shift them to the right or to the left, up or down. Number has exactly nothing whatsoever to do with spatial location.

(PA, pp. 37–8; Hua XII 36–7)

Similarly, against Kant, Husserl maintains that time does not form part of the *essence* of number. He reasons that

To perceive temporally successive contents does not yet mean to perceive contents as temporally successive . . . But it is important to consider . . . that, even where we notice a temporal sequence of contents, in no way are determinate multiplicities already marked out. That is only brought about by certain psychical acts of collecting. To overlook them means to leave out of account precisely that which forms the true and only source [*Quelle*] of the concept of multiplicity as well as of the concept of number.

(PA, pp. 30–1; Hua XII 29–30)

In other words, the act of grasping (intuiting) a temporal succession involves an act of synthesis or collecting, the bringing together of different intuitions into a unified collection, but this is not yet to attend to their temporal sequencing.

In his own analysis, Husserl discusses several examples that involve isolating the particular psychological acts involved in noticing temporal succession *as* succession:

The clock sounds off with its uniform tick-tock. I hear the particular ticks, but it need not occur to me to attend to their temporal sequence.

But even if I do attend to it, that still does not involve singling out some number of ticks, and uniting them into a *totality* by an inclusive noticing. Or take another example: Our eyes roam about in various directions, fixing now upon this, now upon that object, and evoking manifold representations succeeding one another in a corresponding order. But a special interest is necessary if the temporal sequence involved here is to be separately and specifically noticed. And in order to maintain a grasp on some or all of the noticed objects themselves, to relate them to each other, and to gather them into a totality, here again are required special interests and special acts of noticing directed upon just those contents picked out and no others. That is to say, even if the temporal sequence in which objects are colligated were always attended to, it would still remain incapable of grounding by itself alone the unity of the collective whole. And since we cannot even concede that temporal succession enters into the representation of each concrete totality merely as an invariable constituent always attended to, it is clear that even less can it in any way enter into the corresponding *general concept* (multiplicity, number).

(PA, pp. 31–2; Hua XII 30–1)

In other words, the recognition of specific psychological aspects of an experience call for ‘special interests and special acts of noticing’ and not all such psychological activities are relevant to *the concept* being considered. Simply seeing time as involved in all acts of collecting in one sense does not mean that time plays a role in the articulation of the concept in the specific sense required.

In his analysis of the kind of operation which yields number, therefore, Husserl specifies certain ‘psychological’ features of the act of combining, and in this process he rejects as irrelevant spatial or temporal ordering. Similarly, counting objects involves treating them as unities and hence abstracting from their other properties (‘cleansing them in the psychological washtub’ as Frege disparagingly called it in his review of Husserl’s PA).²⁰ Husserl himself interprets this kind of abstraction as a kind of disregard or lack of interest in certain features of the experience:

To disregard or abstract from something means merely to give it no special notice. The satisfaction of the requirement wholly to abstract from the peculiarities of the contents thus absolutely does not have the effect of making those contents, and therewith their combination, disappear from our consciousness. The grasp of the contents, and the collection of them, is of course the precondition of the abstraction. But in that abstraction the isolating interest is not directed upon the contents, but rather exclusively upon their linkage in thought – and that linkage is all that is intended.

(PA, p. 83; XII 79)

He continues:

The abstraction to be carried out can now be described in the following manner: Determinate individual contents of some sort are given in collective combination. In abstractively passing over, then, to the general concept, we do not attend to them as contents determined thus and so. Rather, the main interest is concentrated upon their collective combination, whereas they themselves are considered and attended to only as some contents in general, each one as a *certain something*, a *certain one*.
(PA p. 83; Hua XII 79)

Husserl thinks of the concept of number as arising from our specific disregard for the features of a set of objects and our passing over to the formal features relating the elements of this set to each other. In other words, we concentrate on the *binding features of the experiential act* rather than on the 'content-relations' of the objects involved. This is a very interesting form of analysis. It pays attention to the subjective processes involved in the constitution of objectivities, but not all subjective processes involved are deemed to be conceptually relevant, part of the 'content' of the concept.

Furthermore, in PA, Husserl distinguishes clearly between the *psychological* aspect of a phenomenon and its 'logical signification'. He considers the situation of reviewing a sequence of four objects (A, B, C, D) where we are likely to have only D in actual presence and the first three are retained in some kind of representation. This of course can be reversed and we can run through the sequence from D to A:

The phenomenon is the foundation of the signification, but is not identical with it. If a totality of objects, A, B, C, D, is in our representation, then, in light of the sequential process through which the total representation originates, perhaps finally only D will be given as a sense representation, the remaining contents being then given merely as phantasy representations which are modified temporally and also in other aspects of their content. If, conversely, we pass from D to A, then the phenomenon is obviously a different one.

(PA, p. 32; Hua XII 31)

Husserl argues that the psychological content of this sequence must be sharply differentiated from its logical meaning which simply is the collection of objects {A, B, C, D} ignoring the order of encountering them:

But the logical signification sets all such distinctions aside. The modified contents serve as signs, as deputies, for the unmodified ones which were there. In forming the representation of the totality we do not attend to the fact that changes in the contents occur as the colligation progresses. Our aim is to actually maintain them in our grasp and to

unite them. Consequently the *logical content* of that representation is not, perhaps, D, just-passed C, earlier-passed B, up to A, which is the most strongly modified. Rather, it is nothing other than (A, B, C, D). The representation takes in every single one of the contents without regard to the temporal differences and the temporal order grounded in those differences.

(PA, pp. 32–3; Hua XII 31–2)

Husserl concludes on the basis of this analysis that time only plays the role of a psychological *precondition* for our concepts of number and does not belong to the *logical content* of the concept of number. But, *nota bene*, what he refers to as the logical content of the concept still involves certain subjective achievements, and these will be the specific focus of what he later calls ‘phenomenological’ analysis.

These early examples of analysis in PA demonstrate that Husserl is adept in distinguishing certain psychological features and processes present in our experience from certain logical elements that must be there. Certain specific psychological activities (those involving temporal and spatial ordering) play no role in generating the *concept* of number, but the activities of collective combination and the isolation of items (regardless of their relational properties) do play an essential role. What Husserl is doing is making a distinction between merely attendant psychological features and those that play a necessary role in the formation of the concept. He is beginning to distinguish two senses of conscious activity, one *de facto* and psychological, the other eidetic and phenomenological (although not yet named expressly as such).

Husserl’s form of analysis needs to distinguish relevant from irrelevant cognitive acts. As he writes in his discussion of a book by the neo-Kantian Hans Cornelius:

A perilous reef for descriptive analysis is our natural tendency, in the description of acts which were actually given, to mix in various others that first occur in reflection after-the-fact upon the earlier psychical situation.

(‘Critical Discussion of Hans Cornelius’, EW, p. 408; Hua XXII 372)

Husserl accuses Cornelius of conflating *noticing* with *differentiating*, whereas he thinks differentiating involves a relating whereas noticing does not.

Furthermore, no amount of attending or noticing turns the perception of an individual into the apprehension of a universal (EW 413; Hua XXII375–6).

Great care is needed in descriptive analysis.

In PA Husserl argues against the property account of numbers that maintains that number concepts cannot simply be read off groups of entities. For him, on the contrary, numbers are arrived at in *reflection*:

It is impossible to explain the origination of the number concepts in the same way as, say, that of the concepts *color*, *shape*, etc., which, as positive Moments in the primary content, are isolated through mere analysis thereof . . . The enumerated contents certainly can be physical as well as psychical, but the number concepts and the *one* belong exclusively to the domain of reflexion. And accordingly it is also absurd from the outset when *Locke* (like so many after him) considers the represented numbers to be 'primary qualities', as perfect copies of original qualities, which have their subsistence in the things themselves and independently of our mind.

(PA p. 89; Hua XII 85)²¹

Husserl again draws attention to the complex and intricate role of *psychic acts* in the formation of the concepts of 'more' and 'less'. To think of one group of objects as containing *more* than another group, one has simultaneously to think of both groups, enumerate their contents and then grasp the newly collected group as larger than the first collection:

Imagine a given group [*Menge*], perhaps of balls. Add, now, one or several balls to that group. Then we say that the new group has *more* balls by those added. But if balls are taken away, then we say they are *less* by those taken away. In this case we are dealing with physical objects and with a physical operation upon them. But also in cases where we collectively *think* contents together – and not just external contents – such an adding to and taking away is present. What is meant thereby certainly can only be shown and not defined. It is an elemental fact, to be described in no other way than by reference to the phenomena, that while certain contents are thought 'together' by us, still other contents can then be added and grasped together with the ones already present. The original act is expanded by the taking in of new contents.

(PA, pp. 95–6; Hua XII 91)

Husserl's point is that these groups have to be brought into a single act of consciousness:

As any relation requires that the terms be together in a single act of consciousness, so also with our relations of more and of less. It therefore presupposes for its realization that the original and the expanded totality be present to us simultaneously and in *one* act. And even that does not yet suffice, for the latter totality must even appear as the 'sum' of two totalities, one of which is recognized as identical with the original totality, while the other represents the totality of the newly added contents . . . Consequently it is a fact that we have the capability of representing several totalities together as unified into *one* totality,

without thereby their separate unifications being lost. We represent totalities whose elements are in turn totalities. In fact, even totalities of totalities of totalities are thinkable, etc.

(PA, pp. 96–7; XII 91–2)

In order to be able to collect groups together, compare them, and think them together in one act which at the same time does not simply merge the two groups quickly catapults us into the domain of symbolic thought. Husserl's conclusion is that many concepts require mental acts that are directed on other mental acts. There are '*psychical acts of higher order*, i.e. psychical acts which are directed in turn upon psychical acts and bear upon primary contents only through mediation of these latter'.

Much of the 'psychological analyses' of PA, then, consist in identifying the elaborate network of mental acts required to carry out even simple arithmetical procedures. Husserl is clear, however, that the psychical acts must be distinguished from the logical outcomes or results of these operations. The logical contents have relations of consequence with one another that hold independently of the constituting activities of subjectivity producing them. Given the relatively clear manner in which Husserl is able to distinguish the psychological from the logical in PA, it is quite surprising that he supposedly fell into the psychologistic trap for which Frege so roundly chastised him in his famous review of Husserl's PA.²² Nevertheless, Husserl, partially in the light of Frege's criticisms, in LU offered a most extensive analysis of the 'countersense' of psychologism.

6 The phenomenological analysis of logic and epistemology

After PA, Husserl shifted his attention to the foundations of logic and epistemology. In LU, he is particularly concerned with clarifying the *concept* of logic, which means bringing the *essence* of logic to evident intuition. While Husserl was familiar with and admired the technical achievements of modern mathematical logic (Boole, Schröder *et al.*), he saw it as philosophically naïve and unclarified (Hua XXII 200); the logic of his day was an inconsistent pot-pourri of different elements:

One need only compare the works of Hamilton, Bolzano, Mill and Beneke. And how the differences have grown since then. Put together Erdmann and Drobisch, Wundt and Bergmann, Schuppe and Brentano, Sigwart and Ueberweg, and ask whether one then has a single science, or only a single name.

(LU *Prolog.* §13, I, p. 31; XVIII 48)

His aim, then, was to sort out what logic as such meant, what belonged to it as such, to give it a clear determination as a science:

Logic accordingly lacks its prime foundation; it lacks a scientifically strict, phenomenologically clarified distinction of primitive meaning-elements and structures, and a knowledge of relevant laws of essence.

(LU IV §14 n. 3, II, p. 76; Hua XIX/1 350)

To overcome this profusion of different theories and methods, and to set logic on the path of secure science, Husserl proposes reviving 'pure logic', originally envisaged but propounded in an inadequate way by Kant. This involved a return to the 'a priori', to Hume's 'relations of ideas' and to Leibniz (who also stimulated nineteenth-century British mathematical logic). In fact, Husserl credits *Leibniz* with moving him away from psychologism around 1895–6 (*Draft Preface*, p. 36; Fink, 128), not Frege!

In LU and elsewhere Husserl defended a very clear conception of logic as an a priori formal science that dealt in 'tautologies'.

Formal logic in the broadest sense (*mathesis universalis*) is the total range of the purely categorial, i.e. of all laws and theories that stand free of the sensuous ... It includes not a single existential proposition about the real world, no single assertion about facts.

(EW, p. 211; Hua XXII 166)

Husserl thought of purely formal logic as coextensive with mathematics, it dealt with pure categorial forms (with nothing material admixed). In this regard, Husserl recognizes that Lotze had already identified mathematics with logic (LU *Prol.* §45):

Lotze taught that mathematics must be regarded as an 'independently developed branch of general logic' ... mathematics 'has its home-ground in the general field of logic. (*Logik* 2nd edn §18, 34 and §112, 138)

(LU *Prol.* §45, I, p. 108; Hua XVIII 171)

Of course, as Husserl knew well, this had also been Paul Natorp's position, and the two had been in correspondence on this issue. So, in this respect, Husserl is not advancing significantly beyond some neo-Kantians in his analysis of logical concepts, although he does provide far greater detail than they did.

However, Husserl never believed pure logic was enough. It needed to be completed by 'philosophical logic', or what he would later call (again in Kantian mode) 'transcendental logic', the science that linked logic to its object:

The critique of knowledge illumines the objective sense of the 'empty' forms. It constitutes the specifically philosophical task.

(EW 215; XXII 170)

The point is that knowledge consists of a relation between knower and known. Already in the *Prolegomena* to LU Husserl acknowledges that it is an obvious truism to insist that knowledge consists of a relation to a knower (see also *Erste Philosophie* II, Hua VIII 38). The point is to have the right way of examining the part that is contributed by the knowing subject. Accordingly, in the *Prolegomena*, he distinguishes between subjective conditions which are ‘real conditions (*reale Bedingungen*) rooted in the individual judging subject, or in the various species of judging beings’ from ‘ideal conditions that lie in the form of subjectivity as such’, which he prefers to call ‘noetic conditions’ (LU *Prolog.* §32, I, pp. 75–76; Hua XVIII 119). We might want to call these ‘real’ conditions psychological conditions and refer to the *noetic* conditions as those necessary for the formation of the concept. These noetic conditions are what he will call ‘phenomenological’ conditions in the second volume of LU and thereafter. Husserl is on his way to articulate the noematic–noetic correlation central to the mature conception of phenomenological analysis. While one may abstractly and one-sidedly study one or other side of this correlation, the true analysis of knowing requires taking account of the a priori correlation itself. One has to stress, however, that Husserl himself was quite unsure of his emerging method as he wrote LU and that several competing conceptions are at work in that sprawling text.

7 Phenomenology as noetic–noematic analysis

In LU Husserl emphasizes the need to relate the frozen ideal ‘senses’ (*Sinne*) back to their origins in acts of cognizing. Later on, in his 1910–11 essay ‘Philosophy as a Rigorous Science’, for instance, he speaks of ‘epistemological analysis’ and regards its task as the ‘investigation of correlations’.²³ The peculiarly phenomenological kind of correlation analysis is driven by the recognition that the dimension of *knowing subjectivity* (*erkennende Subjektivität*), excluded for reasons of method by the positive sciences, must be restored in any complete account of knowledge. The interconnecting web of human cognitive performances (*Bewusstseinszusammenhang*), the whole architecture of cognizing subjectivity, depends on the essential *correlation* between a knowing subjectivity and an object known. As he later puts it in the *Crisis*:

The first breakthrough of this universal a priori of correlation between experienced object and manners of givenness (which occurred during my work on the *Logical Investigations* around 1898) affected me so deeply that my whole subsequent life-work has been dominated by the task of systematically elaborating on this a priori of correlation.

(*Crisis* §48, p. 166n; Hua VI 169n)

From LU onwards, Husserl’s mission was to do justice to what he terms the essential ‘two-sidedness’ of knowledge. As he writes in 1910/1911:

The field of knowledge is infinite in two directions: on the one hand, the totality of objects (*der Inbegriff der Gegenstände*) that we call nature; on the other, the totality of objects that we call consciousness, *cogitatio*, phenomenological given.

(Hua XIII 172, my translation)

In his *Phenomenological Psychology* lectures of 1925, Husserl looks back on the task and significance of the *Logical Investigations* which he characterizes as follows:

In 1900–01 my *Logical Investigations* appeared as the result of ten-year-long efforts for a clarification (*Klärung*) of the pure idea of logic by a return to the bestowing of sense (*Sinngebung*) or the performance of cognition (*Erkenntnisleistung*) which occurs in the nexus of lived experiences of logical thinking. More accurately speaking, the single investigations of the second volume [i.e. the Six Investigations themselves] involved a turning of intuition back towards the logical lived experiences which take place in us whenever we think but which we do not see just then, which we do not have in our noticing view whenever we carry out thought activity in a naturally original manner. The thinker knows nothing of his lived experiences of thinking (*Denkerlebnissen*) but only of the thoughts (*Gedanken*) which his thinking engenders continuously.²⁴

The point is, Husserl says, to bring this ‘obscurely occurring life of thinking’ into view by reflection ‘and to fix it in faithful descriptive concepts (*in getreuen deskriptiven Begriffen zu fixieren*)’ (ibid.). It is clear that fixing concepts in intuition is what Husserl meant by phenomenological analysis.

A large part of Husserl’s efforts at conceptual clarification involve the status of ideal objectivities of various kinds. The Second Logical Investigation is given over to explicating how universals and ideals are intuited directly. Based on his robust defence of direct intuition of universals, Husserl was seen by his contemporaries as a Platonist. This Platonism consisted in asserting that ideal entities (ideal *singular* objects such as *the* meaning of a word, e.g. the word ‘lion’ in the English language, or the number 2; universals and species, as well as complex combinations known as propositions and states of affairs) are *objectivities* not given through the senses. They do not have ‘actual existence’ in some absurd Platonic realm; rather, they have something like what the neo-Kantians termed ‘validity’ (*Geltung*), a concept Husserl found in Lotze. In an early essay ‘Intentional Objects’ (c. 1898), Husserl writes:

Truths, propositions and concepts are also objects. Also in their case we speak of existence (*Existenz*) in the full and authentic sense. But they are nothing which would be encountered in the domain of the actually real.

(Husserl, EW, p. 366; XXII 326)

Husserl struggles with various ways to express the kind of existence (*Existenz*) attributable to mathematical objects in distinction from the actual 'existence' (*Dasein*) of more mundane temporally located objects. They are objects because they are unities of meaning, capable of reidentification, and bearers of predicates, but they do not have temporal duration. In fact, Husserl never changes his view of the ideal self-identity of mathematical objects. In his Introduction to *Logic and Theory of Knowledge* lectures of 1906/7, for instance, he claims:

Numbers are not objects in nature (*Naturobjekte*). The number series is a world of genuine objectivities – *ideal* not *real* objectivities. The number 2 is no thing (*Ding*), no natural process, it is not located in space or time. It is certainly not an object of possible perception or of possible 'experience'. Two apples appear and disappear, have local and temporal situation, but when the apples are eaten up, the number 2 is not eaten up, the number series has not suddenly developed a lacuna, as if we now had to count 1, 3, 4 ... ²⁵

Husserl is seeking to clarify the *sense* of number, i.e. what number essentially is:

It belongs to the sense of the term 'cardinal number' that each number may be augmented by a unity. To say that a cardinal number, a quantity, cannot be augmented, means one does not know what one is talking about, it also means to enter into a conflict with the sense, the identical sense of the expression 'cardinal number'.

(Hua XXIV 49, my translation)

Husserl concludes:

The world of mathematics and of pure logic is a world of ideal objects, a world of 'concepts', as one has become used to saying. Every truth here is nothing other than an analysis of essence or concept, what is necessitated by the concepts and is indissociable from their content, from their sense, becomes known and established. One also designates this distinction as that between a priori and a posteriori. Pure mathematics is an a priori discipline, every natural science is an a posteriori discipline.

(Hua XXIV 50, my translation)

For Husserl, there are different kinds of ideal objects that need to be disambiguated. Not every ideal object is an essence or a species. An essence is something that is capable of instantiation. If an ideal object has possible instances it is an essence or a species. Essences and species are named by a peculiar type of singular term. Examples of such singular terms are 'red' and 'the tone C'.

Husserl's careful distinction between objects that have (repeatably identical) instantiations and objects (such as hammers) which can have different exemplars is repeated in *The Origin of Geometry* fragment (*Crisis*, pp. 353–78; VI 365–86). Here *ideality* is construed in terms of its availability for everyone in repeated access as the identical same. Of course, an ideal entity (e.g. a geometrical proposition) needs to be *discovered* or *disclosed* in act of primal foundation (*Urstiftung*), but it belongs to its nature as ideal to have an intrinsic essential 'repeatability' (*Wiederholbarkeit*, Hua VI 368) as the 'identically same' (*Crisis*, p. 357; Hua VI 368). Whereas a tool such as a hammer can have many repeatable 'exemplars', an ideal entity like the Pythagorean theorem is the *same identical* thing in each of its repetitions. This is the essential distinction between the mode of being (*Seinsart*) of the ideal (mathematical, semantic, scientific theoretical, etc.) as opposed to the mode of being of cultural constructions (hammers) and natural entities. For an ideal entity of the mathematical kind to be accessed in memory is exactly the same as for it now to be intuitively perceived. Its repeatability is always 'coincidence of identity' (*Identitätsdeckung*, *Crisis*, p. 360; VI 370). Phenomenology, then, articulates the different manners of givenness of different kinds of entity; and givenness is always *givenness-to*. Phenomenological description is a kind of reflective analysis that highlights this essential relatedness between subject and object.

8 Phenomenological eidetic description and language

Finally, let us address the complex issue of the relation of concept analysis to the analysis of language in Husserl. As we have seen, as specified in LU, phenomenology is a metaphysically neutral, presuppositionless clarification that aims to exhibit, with 'clarity and distinctness' conceptual contents and their connections with other concepts. This clarification of concepts is achieved, not by linguistic discussions, but by tracing back the *concepts* to their 'origin' in intuition. It is not a matter of clarifying the ordinary language use of concepts as language is of its nature intrinsically vague. It is only at the end of our investigation that we need to 'fix' language in a rigorous way. Husserl's conception of analysis does not regard the role of language as central; linguistic discussions (*sprachliche Erörterungen*, Hua XIX/1 6) are, at best, propaedeutic. Their function is to clarify words against ambiguities, equivocations and confusions. Of course, the grammatical form somehow covers their logical form and the two must be carefully distinguished:

The objects which pure logic seeks to examine are, in the first instance, therefore, given to it in grammatical clothing (*im grammatischen Gewande*).

(LU Intro. §2, I 167; Hua XIX/1 8)

But linguistic analysis is no substitute for the analysis of the a priori forms of consciousness (LU I §21). Getting clear about the meanings of words is not the same as mastering the concepts and gaining insight into their essences. Knowing how to use the word ‘triangle’ successfully is not at all the same as grasping the essence ‘triangle’.

What is logical is first given us in imperfect shape: the concept (*der Begriff*) as a more or less wavering word-meaning (*Wortbedeutung*), the law, built out of concepts, as a more or less wavering assertion (*Behauptung*).

(LU Intro. §2, I, p. 167; XIX/1 9)

Husserl does not want to be misled by language and especially not by ordinary language. Rather he wants clarification of the kinds of objects and acts involved in logic from the epistemic point of view. For instance, he wants to make use of a wider notion of perception than is usual in claiming that universals, etc., can be perceived. He wants discussions of a more ‘general kind’ (Hua XIX/1 6) relating to the wider sphere of an objective theory of knowledge and what internally relates to that, namely, ‘the pure descriptive phenomenology of the thinking and knowing experiences’ (Hua XIX/1 6, first edition). He notes that in phenomenology generally

all concepts or terms must remain in flux in a certain way, always at the point of being differentiated in accord with the progress of the analysis of consciousness (*Bewusstseinsanalyse*) and the cognition of new phenomenological strata within what is at first seen in undifferentiated unity.

(*Ideas* I §84, p. 201; Hua III/1 170)

When Husserl offers an analysis of the perception of physical objects in space for instance, he emphasizes that it belongs to the essence of such objects to always reveal themselves in profiles or ‘adumbrations’ (*Abschattungen*). A table can only be *seen* from one point of view, one position, and so on. In fact, every material thing unveils itself in endless spatial profiles. No act of perceiving a physical object can present all sides at once, or all perspectives. Even God can only grasp a physical thing in profiles (*Ideas* I §149, p. 362; Hua III/1 315). There is therefore no ‘God’s eye’ view possible because such an aperspectival view would contradict the essence of the object’s self-revealing. Husserl frequently announces this insight as having the status of an a priori eidetic law: ‘even the most intuitively vivid and rich presentation of a real thing must be in principle one-sided and incomplete’ (LU IV §3, II, p. 52; Hua XIX/1 307). Not even God can alter this eidetic truth, Husserl frequently attests (see Hua XVI 65). According to Husserl, moreover, it is neither an accident nor purely a feature of human constitution that a spatial thing can only appear in profiles (*Ideas* I §42), it belongs to the *essence* of the spatial object itself.

Husserl's mature writings are replete with this kind of 'eidetic' analysis. Such analysis is always structured in terms of both a noetic and a noematic dimension. In other words, Husserl's mature conception of phenomenological analysis always sees the objective as constituted through subjective achievement. Moreover, phenomenological analysis must be sharply distinguished from psychological analysis. Husserl wants to find a new level of description, one whereby objects are always described with attention to the subjective acts and overall attitudes in which they come to manifestation. This *Bewusstseinsanalyse* is one of the crowning achievements of Husserl's phenomenology.

Notes

- 1 E. Husserl, *Logische Untersuchungen*, 2 Bände (Halle: Max Niemeyer, 1900–1; 2nd revised edn 1913). The critical edition is published in the Husserliana series in two volumes: Volume XVIII, *Logische Untersuchungen. Erster Band: Prolegomena zur reinen Logik*, hrsg. Elmar Holenstein (The Hague: Nijhoff, 1975), and Volume XIX, *Logische Untersuchungen. Zweiter Band: Untersuchungen zur Phänomenologie und Theorie der Erkenntnis*, in zwei Bänden, hrsg. Ursula Panzer (Dordrecht: Kluwer, 1984). The English translation is Edmund Husserl, *Logical Investigations*, 2 vols, trans. J.N. Findlay, revised by Dermot Moran (London/New York: Routledge, 2001) which translates the 2nd edn. Hereafter, the *Investigations* will be cited as 'LU' followed by the relevant Investigation number, paragraph number, volume number and page number in the English translation, and volume number and page number of the Husserliana (hereafter abbreviated to 'Hua') edition of the German text. The current quotation therefore is LU IV, II, p. 76; Hua XIX/1 350.
- 2 In the Sixth Logical Investigation Husserl rejects the view that genuine problems can be solved by merely reviewing historical 'philosophemes' (his term for typical philosophical routines, see LU VI Intro., XIX/2 543) and much later he laments that the history of philosophy has been substituted for genuine philosophy, see E. Husserl, *The Crisis of European Sciences and Transcendental Phenomenology. An Introduction to Phenomenological Philosophy*, trans. David Carr (Evanston, IL: Northwestern University Press, 1970), §56, p. 196; Hua VI 199. Hereafter 'Crisis'.
- 3 For more on this topic see Dermot Moran, *Edmund Husserl. Founder of Phenomenology* (Cambridge: Polity, 2005).
- 4 E. Husserl, *Philosophie der Arithmetik*, edited Lothar Eley, Hua XII (Dordrecht: Kluwer, 1970), trans. Dallas Willard, *Philosophy of Arithmetic* (Dordrecht: Kluwer, 2003). Hereafter 'PA' followed by pagination of English translation and Husserliana volume and page number.
- 5 E. Husserl, *Introduction to the Logical Investigations. Draft of a Preface to the Logical Investigations*, ed. E. Fink, trans. P.J. Bossert and C.H. Peters (The Hague: Martinus Nijhoff, 1975), p. 29; E. Husserl, 'Entwurf einer "Vorrede" zu den *Logischen Untersuchungen*' (1913), hrsg. Eugen Fink, *Tijdschrift voor Filosofie*, Vol. 1, No. 1 (February 1939), pp. 107–33 and No. 2 (May 1939), pp. 319–39. The reference here is to Vol. 1, p. 122. Hereafter 'Draft Preface' followed by pagination of English translation and German original (designated as 'Fink').
- 6 In *Ideas pertaining to a Pure Phenomenology and to a Phenomenological Philosophy, First Book*, trans. F. Kersten (Dordrecht: Kluwer, 1983), §84, p. 202; Hua III/1 170, for instance, Husserl states that, in certain areas, 'clarity does not exclude a certain halo of indeterminateness'. Hereafter 'Ideas I'.
- 7 E. Husserl, *Early Writings in the Philosophy of Logic and Mathematics*, trans. Dallas Willard, *Collected Works V* (Dordrecht: Kluwer, 1994), p. 213; Husserliana XXII

169. Hereafter 'EW' followed by the page number and the volume and page number of the Husserliana edition.
- 8 Husserl often invokes Descartes' twin criteria of truth, namely, 'clarity and distinctness' (Hua XIX/1 10) in our concepts.
- 9 One cannot get by with insisting on definitions in the absence of intuitions, Husserl maintains in *Ideas* I (III/1 171).
- 10 E. Husserl, *Formale und transzendente Logik. Versuch einer Kritik der logischen Vernunft. Mit ergänzenden Texten*, hrsg. Paul Janssen, Hua XVII (The Hague: Martinus Nijhoff, 1974), p. 13; *Formal and Transcendental Logic*, trans. D. Cairns (The Hague: Martinus Nijhoff, 1969), p. 9. Hereafter 'FTL' followed by page number of the English translation and volume number and page of the German Husserliana edition.
- 11 Christoph Sigwart, *Logic*, 2 vols, trans. Helen Dendy (London/New York: Swan Sonnenschein/Macmillan, 1895), Vol. 1, p. ix.
- 12 E. Husserl, *Ideas* I, §19, p. 35; Hua III/1 35.
- 13 *Ideas* I, §19, p. 35; Hua III/1 34.
- 14 J. Locke, *An Essay Concerning Human Understanding*, ed. M. Cranston (London and New York: Collier Books, 1965), Book Two, ch. IV, p. 73.
- 15 *Ideas* I, §20, p. 38; Hua III/1 38.
- 16 LU, *Prolog.* §26, I, p. 60; Hua XVIII A85.
- 17 LU, *Prolog.* §26, I, p. 60; Hua XVIII A85.
- 18 Incidentally, Husserl in part absolves his hero Hume of such an absurd radical empiricism; he sees Hume rather as a 'moderate empiricist' who retained logic and mathematics and gave them a priori justification, but who still thinks mediate inferences have only a *psychological* explanation and no rational justification (LU *Prolog.* §26, I, p. 60; Hua XVIII A86).
- 19 E. Husserl, 'Philosophy as a Rigorous Science,' trans. M. Brainard, *New Yearbook for Phenomenology and Phenomenological Philosophy* II (2002), pp. 249–95; originally *Logos. Internationale Zeitschrift für Philosophie und Kultur* 1 (1910–1911), pp. 289–341 (reprinted in Husserliana, vol. XXV). Hereafter 'PRS' with Brainard pagination, followed by German pagination of original. The reference here is to Brainard, p. 260; *Logos*, p. 301.
- 20 Gottlob Frege, 'Rezension von: E.G. Husserl, *Philosophie der Arithmetik* I', *Zeitschrift für Philosophie und philosophische Kritik* (1894), pp. 313–32, reprinted in Frege, *Kleine Schriften* ed. I. Angelelli (Hildesheim: Georg Olms, 1967), pp. 179–92, trans. E.W. Kluge, 'Review of Dr E. Husserl's *Philosophy of Arithmetic*,' in *Husserl. Expositions and Appraisals*, ed. F. Elliston and P. McCormick (Notre Dame, IN: University of Notre Dame Press, 1977), pp. 314–24. The phrase in question appears on p. 315 of the English translation.
- 21 It is important to recognize that Husserl is not offering an account of number whereby it is a property of a group. Herman Philipse is therefore incorrect when he attributes to Husserl a 'Lockean theory' of number, see H. Philipse, 'Edmund Husserl and the Theory of Classical Foundationalism' in Richard Feist (ed.) *Husserl and the Sciences. Selected Perspectives* (Ottawa: University of Ottawa Press, 2004), p. 31.
- 22 G. Frege, 'Review of Dr E. Husserl's *Philosophy of Arithmetic*,' in *Husserl. Expositions and Appraisals, op. cit.*, pp. 314–24.
- 23 E. Husserl, 'Philosophy as a Rigorous Science', trans. M. Brainard, *New Yearbook for Phenomenology and Phenomenological Philosophy* II (2002), p. 260.
- 24 E. Husserl, *Phänomenologische Psychologie. Vorlesungen Sommersemester 1925*. Hrsg. W. Biemel, Hua IX (The Hague: Martinus Nijhoff, 1968), §3, pp. 20–1; *Phenomenological Psychology. Lectures, Summer Semester 1925*, trans. J. Scanlon (The Hague: Martinus Nijhoff, 1977), p. 14.
- 25 E. Husserl, XXIV: *Einleitung in die Logik und Erkenntnistheorie. Vorlesungen 1906/07*, hrsg. Ullrich Melle, Hua XXIV (Dordrecht: Kluwer, 1985), p. 48, my translation.

14 The method of analysis and the idea of pure philosophy in Husserl's transcendental phenomenology¹

Leila Haaparanta

1 Introduction

There were at least two ideas that early phenomenology, especially Husserl's thought, and most of early analytic philosophy shared. First, there was the idea of pure philosophy, which presupposed a belief in the sharp distinction between a priori and a posteriori knowledge. Second, there was the belief in the method of analysis as the method of philosophy. These two features were intertwined in various but not in any clearly formulated ways. One might suggest that an analytic philosopher used the method of analysis for purifying language or linguistic expressions, while a transcendental phenomenologist like Husserl used that method for purifying consciousness or experiences. One might even argue that there is a common core, a Platonic striving for ideas away from the dark and unclear cave of inexact expressions in analytic philosophy and likewise from the dark and unclear cave of contingent psychological experiences in phenomenology. One might criticize this comparison by saying that pure language, which is the ideal for an analytic philosopher, is formal, while pure consciousness, which is the goal of a transcendental phenomenologist, carries contents. The problem remains how to make the distinction between form and content in the first place. That is far from being a trivial task for a philosopher.

This paper focuses on how the method of analysis and the idea of pure philosophy were conceived in Husserl's transcendental phenomenology. Some comparisons are also made between Husserl and Frege. At the end of the paper, I will make one remark on the analysis of language that we can find in the analytic tradition, in particular, in Russell's 'On Denoting'. My intention is to present Husserl's thought as analytically as possible and simultaneously respect the distinction between the natural and the philosophical attitude. That distinction was central to Husserl, and it is emphasized by those who regard themselves as phenomenologists.²

There are various ways of making the distinction between the analytic and the phenomenological tradition. Several criteria can be and have been suggested, such as their attitudes towards the history of philosophy, towards their own history, towards science, and towards the idea of scientific philosophy,

their views on what are the central problems, the objects of research and the methods of philosophy, and their attitudes towards the ideal of clarity in philosophy. It has been suggested that views on the relation between logic and metaphysics are an important criterion if we wish to divide philosophers into the two camps.³ Here I seek for similarities rather than differences. I do not wish to deny that there are significant differences, for example, in styles of practising philosophy. However, as I do not believe in any sharp distinctions, and I think few do nowadays, I prefer proceeding locally, that is, by looking at individual thinkers and their texts and by trying to be as conscious as possible of my own background assumptions.

2 The idea of pure philosophy

The concept of naturalism has various uses in contemporary philosophical discussion.⁴ Philip Kitcher writes in his article 'The Naturalists Return' (1992) that after Quine there was a radical change in the analytic tradition: philosophy returned to what Frege and Wittgenstein had rejected at the end of the nineteenth century and at the beginning of the twentieth century: that is, to the view that empirical sciences are relevant to philosophical claims and that philosophy must take the results of empirical research into account. The version of naturalism that Kitcher characterizes could be called metaphilosophical naturalism. According to Robert Koons (2000), metaphilosophical naturalism is the view that there is continuity between the methods of philosophy and those of natural science and that philosophical theories are merely a species of scientific theories (Koons 2000: 62). Elsewhere I have suggested that as a metaphilosophical doctrine naturalism is the view that philosophical knowledge and philosophical chains of arguments cannot be distinguished from empirical knowledge and the chains of arguments put forward by the special sciences (Haaparanta 1999: 32). In the present paper, I focus on this version of naturalism.

Following my earlier suggestion, I regard pure and naturalistic philosophy as doctrines concerning the task of philosophy and the nature of philosophical practice. That way of understanding the distinction has one of its sources in Gottlob Frege's philosophy, although Frege neither uses the terms 'pure philosophy' and 'naturalistic philosophy' nor formulates the distinction between the doctrines by referring to philosophers' practices. Frege considers the distinctions between syntheticity and analyticity as well as apriority and aposteriority in his *Grundlagen der Arithmetik* (1884) and states that those distinctions concern the justification for making a judgement, not the content of the judgement. According to Frege, when we use those concepts, we speak about different ways of justifying the taking to be true of a proposition. Frege gives the following characterizations of the four concepts. If we prove a proposition and in the proof only rely on general logical laws and definitions, then the proposition is analytic. If it is impossible to give a proof without making use of truths which are not general

logical truths but which belong to a special field of knowledge, then the proposition is synthetic. A truth is a posteriori, if it is impossible to construct a proof without referring to facts, that is, truths which cannot be proved and which are not general, because they contain claims about particular objects. If a truth can be derived solely from general laws that do not need a proof and that cannot be proved, then the truth is a priori (Frege, GLA, §3).

Frege states in his *Grundlagen* that if a proposition cannot be justified by means of logic and definitions, sense perception or general laws which neither need nor allow justification, then we cannot say whether the proposition is analytic, synthetic, a priori or a posteriori. If Frege thinks that philosophical propositions can be classified by means of those concepts, he must either take them to be analytic a priori, or he must think that there is a special field of knowledge for philosophy like the field of geometric knowledge which gives us synthetic a priori truths based on pure intuition. However, Frege does not discuss those alternatives. No matter what his view of philosophical propositions might have been, his distinctions are a useful means of clarifying the distinction between pure and naturalistic philosophy. What is especially interesting in Frege's approach is that he implicitly refers to our argumentation or justification strategies when he characterizes distinctions between analytic and synthetic propositions, on the one hand, and between a priori and a posteriori truths, on the other. This paper seeks to make the reference explicit.

Following Frege's line of thought, I construe pure and naturalistic philosophy as views on what kind of argumentation strategies are permitted in philosophical discussion. The underlying question is what kind of judgements one is or is not permitted to make or to what kind of propositions one is or is not permitted to refer in philosophical discussion. In order to find out a philosopher's metaphilosophical commitments one has to study what the propositions or beliefs are like on which a philosopher constructs his or her judgements. The beliefs that underlie a philosopher's judgement may be pure, that is, they may concern logic, the relations between concepts or what are traditionally called essences of things, or they may be everyday beliefs or empirical, more specifically, scientific beliefs, hence, beliefs based on what the philosopher takes to be results of scientific research. On this characterization, a naturalist is a philosopher who thinks that a philosopher is permitted or even obliged to refer to empirical beliefs, even to beliefs produced by scientific research, in philosophical discussion. On the other hand, a pure philosopher does not allow that kind of beliefs to occur in argumentation; he or she denies what a naturalist regards as permitted or as obligatory in philosophical discussion. Behind these foundational problems of the philosophical enterprise there is naturally the requirement that philosophical research must be reliable, but there are various views on what guarantees reliability. One who speaks in favour of pure philosophy may argue that a philosopher must not resort to empirical beliefs, because in referring to them he or she relies on research that he or she as a professional

philosopher has not done or is not even able to evaluate. That is to argue that, paradoxically, a philosopher who relies on scientific research is not on the sure path of science. Naturalism can also be seen as a threat to the whole field of philosophy, as it creates the impression that natural scientists can take care of the tasks that belong to philosophers. That was one of Edmund Husserl's concerns. In fact, it was precisely Husserl's requirement that philosophy must be pure that led him to transcendental philosophy and to the idea of reduction.

3 On phenomenological reductions

Husserl's analysis is analysis of the stream of experiences (*Erlebnisse*). Husserl uses the expression 'the stream of experiences' at the beginning of *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie I* (1913). He also uses the terms '*Erlebnisstrom*' and '*Bewusstsein*' as synonyms and refers by them to what is not excluded and what becomes the object of philosophical studies when one moves from the natural attitude (*natürliche Einstellung*) of everyday life and science to the philosophical attitude (*philosophische Einstellung*). In Husserl's view, the possibility of self-reflection belongs to the essence of experience (Husserl 1950: §111). Husserl did not think that experiences are throughout changing, passing away and beyond the reach of our concepts. On the contrary, he assumed that they can be expressed by means of concepts.

At the beginning of the *Ideen I*, Husserl construes the revealing of pure consciousness as the end of a process of bracketing the positing of the outer world, of the empirical self and various other commitments of everyday thought, the sciences and the humanities.⁵ However, it is not at all clear whether he means that pure consciousness can be reached or whether he is saying that it is a limit towards which a philosopher ought to strive. The task of philosophy can thus be presented in at least two ways on the basis of the *Ideen I*: a philosopher studies consciousness or the stream of experiences after having purified it from commitments of everyday thought and science, and philosophy thus has a specific object of research, or practising philosophy is essentially the activity of purifying, and a philosopher can approach but never reach the end-state of the process. If philosophy were for Husserl a process of freeing oneself from all assumptions and conceptual frameworks, phenomenology would come close to mysticism. It holds at least that phenomenological bracketings have to do with a step or a series of steps from the natural attitude of everyday thought and science to the radically transcendental attitude, which for Husserl is the anti-naturalistic attitude. It is a process in which one becomes conscious of the nature of the beliefs to which one is tied in everyday thought and science. Husserl takes it to be the philosopher's first task to analyse that set of beliefs and, like Frege, to distinguish between synthetic and analytic propositions as well as between what is a priori and a posteriori in that set. Second, Husserl would say that the philosopher is permitted to make both synthetic a priori and

analytic a priori judgements. I do not intend to argue that Frege and Husserl give the same meanings to the concepts of analyticity, syntheticity, apriority and aposteriority.

Husserl writes that in the natural attitude we posit concrete objects and values as present and as being on hand (*vorhanden*). According to his *Ideen*, one who has a philosophical attitude does not posit anything; he or she excludes the world of the natural attitude. Husserl uses such terms as '*Aufhebung der Thesis*' ('the suspension of the thesis', 'the annulment of positing'), '*Einklammerung*' ('bracketing') of objects, '*Ausschaltung*' ('exclusion') of the sciences of matters of fact and '*Urteilsenthaltung*', that is, 'refraining from spatiotemporal judgements which have to do with the existence of objects' (Husserl 1950: 64–6). By means of phenomenological reductions or exclusions pure consciousness is also distinguished from the empirical consciousness that is typical of the human race and that is the consciousness posited by the natural attitude; that consciousness is the object of research of anthropology and psychology. The task of phenomenology is to study the stream of experiences by using factual psychological phenomena merely as examples. Husserl states that the method of studies is the method of analysis or the method of intuition (*ibid.*: 40–4, 153).

What I said above is a simplified presentation of phenomenological reductions as Husserl presents them in the *Ideen I*. They are an effort to think of consciousness without thinking of it as natural, that is, in terms of everyday thought and science. One might suggest that they are an effort to get rid of the natural attitude, of its positings, its ontological and other presuppositions. Husserl's message can be and has also been read differently. We could say that liberating oneself from the natural attitude is required to reflect critically on the background assumptions of everyday life and science. We can recognize the background assumptions or hidden beliefs only if we distance ourselves from them and at least try to think differently. Here we find one of the many tensions of phenomenological thought. On the one hand, it is an effort to find out the beliefs that we necessarily have, hence to find out the conditions to which our thought is tied, what cannot be excluded, hence to find out the form of pure consciousness. A phenomenologist is thus a philosopher who is interested in logical forms and unshakeable propositions and who turns away from everyday thought and science. On the other hand, and this is the side of phenomenology that I will focus on here, a phenomenologist is a philosopher who pays special attention to this world of ours, to our everyday and scientific beliefs and who tries to evaluate our contingent tacit commitments by first making them explicit.

4 Noesis, noema and object

When Husserl writes about the analysis of the stream of experiences, he means the analysis of intentional experiences (Husserl 1950: §36). He distinguishes between noesis, which is the cognitive act (for example, the act of

perception, the act of loving or the act of willing), noema, which is the experienced as experienced (for example, the perceived as perceived, the loved as loved or the desired as desired) and the object itself, to which the intentional act is directed (*ibid.*: 218–22). The act determines the quality of the noema, in Husserl's view. The act determines whether the quality of the noema is being perceived, being loved or being desired, for example (*ibid.*: 316–17, 324). If one changes 'the experienced as experienced' type of expressions into sentences which express propositions, one says, for example, that this object has the quality of being perceived as a tree, being loved, being desired, being valued, etc. Moreover, one may say that this object is white or not white, that it is related to other objects, etc., hence the latter examples show that one may list such forms as the object has independently of our perceivings, emotions or volitions, but not independently of how consciousness is structured.

In the literature there are various theories of how the relations between act, noema and object ought to be understood. John Drummond (1990) distinguishes between two theories, the mediator-theory and the object-theory. The models which have been popular in the analytic tradition could be called semantic models. The term 'mediator-theory' applies to most of these models. In his classic paper in 1969 Dagfinn Føllesdal argued that there is an analogy between Frege's theory of meaning and Husserl's theory of intentional acts. Smith and McIntyre (1982) proposed an interpretation which may even be a better example of a mediator-theory than Føllesdal's model. Føllesdal's and Smith and McIntyre's interpretations can be taken to be semantic in the sense that in those theories Husserl's philosophy is considered in terms of the referential theory of meaning. Another type of semantic model is presented by Hubert Dreyfus (1982), who construes the noema as a hierarchy of rules. In Dreyfus's interpretation noemata are formal structures along the lines of formal semantics. The problem with semantic models is that they do not pay much attention to the distinction between the natural and the philosophical attitude, which Husserl repeatedly stressed. The role of phenomenological reductions is thus not spelled out.

Drummond (1990) labels the other type of interpretations as object-theories, and he mentions Aron Gurwitsch (1964, 1966) as a representative of those views. According to Gurwitsch, noemata are genuine objects, hence not mediators to anything. They are precisely objects as they are experienced. If Husserl is read via Kant, his noemata correspond to Kant's objects of experience. In the Kantian reading, the phenomenologist pays attention, not to any transcendent objects, but to noetic acts and noemata. This interpretation is supported by Husserl's statement that the phenomenologist neither acknowledges nor denies the existence of the outer world; that kind of consideration does not belong to the field of transcendental phenomenology.

Whatever reading one supports of the mentioned alternatives, the crucially important theme in phenomenology is the relation between the

objects of the natural attitude and the objects of the philosophical attitude. It may seem that a philosopher cannot study the objects of the natural attitude from the philosophical attitude, because he or she has left them behind. The attitudes have their own ontologies. It seems to be problematic to argue that the two attitudes are dealing with the same objects, which we consider from two different points of view, because we do not have a third point of view from which we could make such an identity statement. Hence, these considerations seem to lead us to the conclusion that the philosophical attitude changes radically the philosopher's own objects of experience. The objects of philosophizing cannot be the same as the objects of naive everyday thought or of science. A philosopher lives in a different world. Still, if phenomenology is a study that starts with the natural attitude and seeks to reflect on it critically, the relations between the objects of the original natural attitude and the objects of the philosophical attitude must somehow be clarified. That clarification requires a careful look at Husserl's method of analysis.

I suggested above that phenomenological philosophizing is possible on the condition that we can distinguish between what is a priori and what is a posteriori. Phenomenologists are not permitted to make judgements that rest on what is contingent. First, they give up the positings of the natural attitude and then distinguish between what is necessary and what could be otherwise. Finally, they either make critical judgements concerning everyday thought and science in cases where everyday thought and science regard as necessary what could be otherwise, or they make synthetic or analytic a priori judgements that they are permitted to make. Hence, in their critical task phenomenologists show that some beliefs that we hold in everyday life or in science, and there take to be necessary, rest on contingencies and that we are not tied to them. The task of phenomenologists is to make the objects of our natural attitude explicit, that is, to open up the whole set of beliefs that we have of those objects. But if phenomenologists try to make the objects which they now name by the technical term 'noemata' explicit, how should we understand the relations between the objects of the natural attitude and the noemata in order that we can say that phenomenological analysis is analysis of these objects and not some others? Here we need a model which would help us in understanding the process of analysis. I do not promise that we can get rid of problems. What we can do is to localize them.

5 Husserl's transcendental phenomenology and geometrical analysis

The model I suggest is geometrical analysis. Models may be historically true in the sense that the philosopher whose views we try to understand by means of a model proposed that model. Models can also have heuristic and cognitive value, whether they have been openly proposed by the philosopher himself or herself. The only requirement is that they are not in contradiction with the philosopher's purposes.

My proposal is that Husserl's phenomenological analysis is related to the method of geometrical analysis and that by means of this model we can throw new light on the relation between the natural attitude and the philosophical attitude. In the *Ideen* there is an argument, which seems to undermine my thesis. From paragraph 72 onwards Husserl discusses the comparison between geometry and phenomenology and states that they both belong to the class of eidetic sciences and that they are not formal. He then asks whether phenomenology is geometry of mental experiences and gives a lengthy description of what geometry is. According to Husserl, geometry fixes the basic axioms and is able to derive purely deductively all the spatial shapes 'existing', that is, ideally possible shapes in space and all the eidetic relationships pertaining to those shapes. He states that in geometry one introduces concepts which replace essences and the concepts remain foreign to our intuition. Moreover, he argues that the concept of truth comes to mean the same as 'formal-logical consequence of the axioms' and the concept of falsity comes to mean the same as 'formal-logical anti-consequence of the axioms'. That characterization may apply to Hilbert's project, but it does not apply to all aspects of the ancient tradition of geometrical problem-solving. In what follows, I will focus on some of those aspects.

After describing geometry in the *Ideen I*, Husserl states at the very end of paragraph 75: 'Transcendental phenomenology as a descriptive science of essence, belongs however to a fundamental class of eidetic sciences totally different from the one to which the mathematical sciences belong.' It is obvious that phenomenology is not like geometry if geometry is described in the way Husserl describes it. When I argue that the ancient tradition of problematic analysis serves as a model for phenomenological analysis, I do not mean to say that Husserl himself argued that there is analogy between the two methods of analysis.

In his book, *The Ancient Tradition of Geometric Problems* (1986), Wilbur Knorr states that in ancient geometry there were two ways of understanding the nature of geometry. There were the Platonists, the theoreticians and those geometers who were close to geometric practice. For theoreticians, the main points of interest were the theorems, while for the practical men, it was the problems that mattered more. There are certain features in problematic analysis and synthesis which are particularly relevant to my approach. Solving geometrical problems in Euclid's geometry had to do with making certain constructions, which were described in the given problem. Analysis was the general method which the Greeks used for finding the solutions. In geometrical analysis, one takes that which is sought *as if* it were admitted and moves from it via its consequences to something that *is* admitted.⁶ Taking something as if it were already admitted normally means drawing a model-figure. This then becomes the object of analysis. The methods of analysis and synthesis were used both in proving propositions and in solving problems. However, Thomas Heath, who comments on the *Elements*, tells us

that ancient analysis had the greatest significance in relation to problems (Euclid 1926: 'Introduction', 140). Knorr also stresses in his work that the method of analysis was basically meant to offer heuristic power to the ancients in their search for solutions to geometrical problems (Knorr 1986: 356). He calls special attention to the fact that the activity of investigating problems of construction was prominent in ancient geometry and that the questions of construction primarily concerned problems; what was primarily applicable to problems was then transferred to theorems (ibid.: 360, 368). As I mentioned above, the primacy of problems was emphasized by writers who were close to the actual work of geometers. Knorr notes that Plato's philosophy gave rise to an opposite view, according to which theorems were the proper objects of geometry, as they were taken to be eternal and unchanging verities (ibid.: 351). Theorems had being absolutely, they were not constructed. Constructing geometrical figures seemed to be a lower activity typical of human beings who are close to what is sensible.

In order to be able to draw a certain geometric figure, Euclid relied on the method of analysis. The parts of the required construction were hypothetically assumed in the model-figure, even drawn at the beginning, but that did not mean that they were really found at that stage. The figure was not known before analysis. It was precisely problematic analysis that was needed for revealing the parts of the required figure. We may now ask: are the model-figure and the construction the same? The construction ought to be the same as the result of the process of construction as it is imagined at the beginning, hence, it ought to be the same as the model-figure. If it is not, analysis has not succeeded and we have not constructed what we intended to construct. On the other hand, if it is the same, how can we claim that we did not know how to construct the figure at the very beginning, that is, before analysis?

To put things more concretely, when we try to solve a geometrical problem, we may first draw a figure, which is meant to be a model of what the problem requires to be constructed. In order to find out what we have to do, we then analyse our figure. That is, we try to find out what we ought to do with the material given in the original problem, for example segments of a line, in order to manage to construct the desired figure. When we have found out the conditions for the realization of the figure, we are able to construct it on the basis of the very information we have received from it by 'stepping backwards' from the imagined end-state of our constructing activities.

Let us consider one geometrical example. If we have to draw a triangle the sides of which are known, we have three segments of a line as our given data. In order to find out how to construct the desired figure, we take it as if we already had the figure. We then try to find out how its various parts are constructed starting from the given elements. The model-figure, say, the triangle *ABC*, which we try to analyse, is the imagined end-state of our constructing activities. We ask questions like 'Where are all the points, such as

B , which are at the distance a from the point A ?', 'Where are all the points, such as C , which are at the distance b from the point A ?', and 'Where are all the points, such as C , which are at the distance c from the point B ?'. By answering these questions, hence, by analysing the model-figure, we find out what we have to do in order to construct the figure. That is, even if we have the model-figure, we still have to find its parts in order to solve the geometrical problem. After having analysed the model-figure, we may proceed with synthesis: that is, we may construct the required triangle.

Hence, the peculiar thing in problematic analysis is that even if we draw the model-figure at the beginning, that is, even if we seem to construct the figure, in the real sense of the word we have not constructed it. That is because we do not know how to construct it, which means that we do not have the intuition, the immediate knowledge, which is presupposed by constructive activity. The imagined end state, that is, the model-figure, is that from which we as it were step backwards in analysis; in analysis we reveal the matter and the form that the subject gives to the figure in the act of drawing.

If we compare Husserl's phenomenology with geometry, we may think as follows: in phenomenological analysis we have our naïve experience, hence the objects of the natural attitude, as we have the model-figures in geometry, that is, we do not know our experience at the beginning; it is not intuitively given, as we do not know its various layers. Like geometrical analysis, phenomenological analysis is stepping backwards, researching into how experience is structured. The phenomenological description is the phase of construction. Phenomenologists construct in the peculiar sense that they articulate or make the constitution of the world of the natural attitude explicit.

When phenomenologists start to analyse experience, they study it like geometers who analyse model-figures. The task of phenomenologists is, as it were, to step backwards from the world of the natural attitude in order to find out how it was made. After such a procedure, they are able to show how it was made. This is how phenomenologists construct the objects of the philosophical attitude.

Are the objects of the philosophical attitude the same as the objects of the natural attitude? I do not answer this question. Instead, I refer to the model and say that they are the same as far as the geometrical constructions are the same as the model-figures, hence, as far as the realized constructions are the same as the desired constructions in geometrical problem-solving.

6 Conclusions

Michael Beaney distinguishes three main modes of analysis, which he calls the regressive, the resolutive or decompositional, and the interpretive or transformative, and argues that these modes may be combined in a variety of ways (Beaney 2002: 54–5). In his view, the regressive mode was central in

ancient geometry, while the resolutive mode prevails today (*ibid.*: 55, 59). Regressive analysis is the process of working back to the more basic propositions or principles by means of which one can solve a given problem, while resolutive or decompositional analysis is breaking down into components (*ibid.*: 58–9). Beaney argues that interpretive or transformative analysis has been important in analytic philosophy (*ibid.*: 67). The interpretive mode of analysis involves ‘translating’ something into a particular framework, hence also transforming the object of analysis (*ibid.*: 55). In his article, Beaney also compares Frege’s, Russell’s and Husserl’s analyses. He stresses that in actual practices of analysis, all three modes are present; in particular, he points out that in geometrical analysis we can find both resolution and transformation (*ibid.*: 55, 59).

It is interesting to evaluate my argument concerning Husserl against the background of Beaney’s study of the history of analysis. If Husserl’s phenomenological analysis is construed in the way I have done in this paper, then it is easy to see similarities between Husserl’s and analytic philosophers’ methodologies. Phenomenological analysis is clearly transforming something into something else; that is, it is transforming the objects of the natural attitude into the objects of the philosophical attitude. However, I have tried to show that the analysis that we find in problem-solving in ancient geometry resembles the analysis that we find in Husserl. I said at the beginning of the paper that my intention was to present Husserl’s procedure in such a way that I respect the distinction between the natural and the phenomenological attitude, which for Husserl is the philosophical attitude. What I argued was that it is essential to consider the relations between the objects of the natural attitude and the objects of the philosophical attitude. Analogously, when we discuss Frege or Russell, we may consider the relations between the expressions of natural language and the expressions of the logically perfect language, when the latter are claimed to be translations of the former. The result of constructing activities in logical analysis as Russell, for example, practises it, is an analysed expression or an analysed proposition.⁷ I would say that it is a new stage in the philosopher’s cognitive process. On the one hand, it must be the same as the original that was fixed as the object of analysis; on the other hand, it is a different object for the philosopher who knows more after the analytic procedure. It is no news that the so-called paradox of analysis belongs to the essence of our cognitive processes. I argued above that the case is the same in geometrical analysis and in Husserl’s analysis of experience. I wanted to pay attention to the fact that a similar paradoxical situation is faced both in ancient geometry and in Husserl’s phenomenological analysis. Moreover, I wanted to show that even if much has happened in the history of analysis, ancient analysis is strongly present in twentieth-century philosophy. For that reason, ancient geometry also offers a useful point of view to one who wishes to analyse Husserl’s analytic practice.

Notes

- 1 I have used extracts from p. 218 of my article 'Intentionality, Intuition and the Computational Theory of Mind', in L. Haaparanta (ed.) *Mind, Meaning and Mathematics: Essays on the Philosophical Views of Husserl and Frege*, Dordrecht, Boston, MA, London: Kluwer Academic Publishers, 1994, pp. 211–33, by permission of Kluwer Academic Publishers.
- I am grateful to Michael Beaney for useful comments.
- 2 The present paper continues my earlier studies of the method of analysis in Frege, Husserl, Peirce and ancient geometry. See, e.g., Haaparanta 1988, 1994, 1996, 1999.
- 3 See, e.g., Friedman 1996, 2000 and Haaparanta 2003.
- 4 See, e.g., Haaparanta 1999.
- 5 See Husserl 1950: 136–49.
- 6 See Euclid 1926: Book XIII, Prop. 1, and Pappus 1965: II, 634–5.
- 7 Russell's analyses in 'On Denoting' are naturally prime examples of the process of translation in which analysed expressions are constructed.

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15 Conceptual analysis in phenomenology and ordinary language philosophy

Amie L. Thomasson

Phenomenology and analytic philosophy were born out of the same historical problem – the growing crisis about how to characterize the proper methods and role of philosophy, given the increasing success and separation of the natural sciences. A common eighteenth- and nineteenth-century solution that reached its height with John Stuart Mill’s psychologism was to hold that the while natural science was concerned with ‘external, physical phenomena’, philosophy (along with mathematics and logic) was concerned with ‘internal, mental phenomena’, and thus proceeded by turning our observational gaze inward at the mind, rather than outward towards the world (Ryle 1971b: 366). Both Husserlian phenomenology and early analytic philosophy grew from dissatisfaction with psychologism, and figures from both traditions developed relentless criticisms of psychologism, beginning with Brentano and Frege, and continuing with Husserl, Moore and others.

I will argue that both phenomenology and early to mid twentieth-century analytic philosophy also offered the same sort of alternative solution: seeing philosophy as distinctively involved in the analysis of meanings or concepts, not the discovery of empirical facts and regularities.¹ Husserl spends the first two hundred pages of the *Logical Investigations* attacking psychologism, and thereafter turns to develop the idea of a ‘pure’ *a priori* logic that can study meanings or concepts without relying on any empirical facts whatsoever – including facts of psychology. The idea that philosophical study is distinguished from the natural sciences in terms of its *a priori* focus on meanings rather than on any empirical matter of fact finds its echoes in the analytic tradition among the logical positivists’ distinction between analytic and empirical statements, with only the former providing a legitimate realm for philosophy, as concerned with definitions and formal consequences of definitions, not with questions of empirical fact (e.g. Ayer 1946: 57). It also shows up in ordinary language philosophers’ rejection of the relevance of or reliance on empirical claims.² Here I will focus particularly on relations between post-war Oxford analytic philosophy and Husserlian phenomenology. While I will not claim that the methods they developed and utilized are just the same, I hope to at least

make it clear that they are far more like each other than either resembles the psychologism that came before them or the naturalism that came after them.

The goals of this paper are both historical and thematic. On the historical side, I hope to clear away some common misconceptions about sharp differences supposed to divide phenomenology and analytic philosophy. First, there is the common view that phenomenology is concerned with analysing meanings of our *mental states*, whereas analytic philosophy is expressly concerned with analysing meanings in *language* (Dummett 1993). Second, there is the supposition that Husserl's methods for phenomenology involve him inextricably in a baroque ontology of essences and an obscure methodology of 'inspecting' these, both of which would have been anathema at least to later ordinary language philosophers (though perhaps not to earlier analytic figures such as Moore and Russell).³ In sections 1 and 2 I address these superficial differences with the aim of clearing the way to seeing the deeper commonalities between phenomenology and ordinary language philosophy about the proper methods and goals of philosophy.

The second and more important goal of this paper is to begin explicating exactly what this distinctive method is supposed to be. While it may be glossed as involving the analysis of meanings or concepts, serious questions arise about how this method of analysis is supposed to be undertaken, how it is supposed to provide a distinctive non-empirical method for philosophy (distinguishing it from the natural sciences), and whether it can hope to provide any insights about the ontological structure of the world, rather than leaving us with trivial linguistic results. The central thrust of sections 3 and 4 below will be to address the ways in which Husserl answers those questions, while also pointing to some parallels with work in the analytic (especially ordinary language) tradition.

For if I am right that Husserl and early to mid analytic philosophers at least offered the same general kind of answer to what the proper and distinctive methods of philosophy could be, there is an additional motivation for paying close attention to Husserl's proposed methodology: he offers a more explicit and thorough development and defence of the idea of a priori meaning analysis as the proper method of philosophy than any other philosopher. Husserl's central goal throughout his life was to lay out a method for doing phenomenology – which he considered 'one and the same' as 'philosophy in general' (Husserl 1952/1989: 328), and indeed he has almost certainly written more on philosophical methodology than any other twentieth-century philosopher. He returns again and again in all his major works to attempt to describe and justify the methods for phenomenology, and is especially concerned to justify his claim that phenomenology may be done without reliance on any empirical fact. In fact, Husserl's obsession with methodology sometimes seems to come at the

expense of simply applying these methods in a way that would demonstrate their fruitfulness.

The reverse seems to be the case for the ordinary language philosophers who shared a similar conception of philosophy. Where Husserl focused primarily on method, practitioners of ordinary language philosophy mostly simply put their methods to work on philosophical problems, and often seem embarrassed or put out by questions of methodology. Thus, for example, Grice complains of being asked about ‘The Ordinary Language Approach to Philosophy’, reporting:

I do not find it by any means easy to give a general characterization of the philosophizing in which I engage; indeed I am not sure that it is all of one sort; moreover, I am sure that one could find numerous methodological divergences among Oxford philosophers, though there does, no doubt, also exist a noticeable family resemblance.

(Grice 1989: 171)

He later admits that mid-century Oxford philosophers had a tendency to ‘fudge’ rather than ‘face’ questions about what is and is not properly philosophical (1989: 182).

Of course some analytic philosophers make apologetic or grudging attempts at describing methods – thus, e.g., G.E. Moore begins his course of lectures ‘What is Analysis’ by saying:

it’s a matter of extreme difficulty to give a precise definition of philosophy: I have to confess I’m very vague; but I will try to be as definite as I can. It’s very hard and I shall very likely be wrong. But I think there are some things worth saying.

(Moore 1966: 153)

Ryle attempts to ‘ungarble’ the question of the role of ordinary language in doing philosophy in his essay ‘Ordinary Language’ (Ryle 1971b: 301ff.), and Grice (1989: 171–80 and 181–6) and Strawson (1992) both at places broach the issue of the role of philosophy and the role of conceptual analysis in it. Nonetheless, for ordinary language philosophers,⁴ questions of method seem to be a largely unwelcome sidetrack – for the most part, the methods are simply employed.

Thus re-examining Husserl’s attempts to develop a new method for philosophy may not only help rectify our historical understanding of the relations between pre-Quinean analytic philosophy and phenomenology, but also may help us come closer to understanding what methods and goals for philosophy were seen as available in the wake of psychologism. More broadly, it may help us re-examine what room there is for developing distinctively non-empirical methods for philosophy and re-evaluate whether or not such methods are viable.

1. Analysing meanings in mind and language

If we are attempting to draw out a methodology common to both Husserlian phenomenology and early to mid analytic philosophy, a crucial objection might arise. Though the work of both sides might be glossed somehow as involving a form of meaning-analysis, is there not this crucial difference: Husserl was interested in the analysis of meanings *of our mental states*, whereas analytic philosophers are concerned with meanings *in language*?

While at a superficial level this may ring true, in fact this surface difference masks the deep cohesion between what philosophers on the two sides are doing. Husserl begins the second volume of the *Logical Investigations* by citing approvingly Mill's claim from *A System of Logic* that we must 'begin logic with linguistic discussions' to clarify the meanings of the propositions involved in logic (Husserl 1913/2000: 248). He quickly continues, however, by noting that:

Linguistic discussions are certainly among the philosophically indispensable preparations for the building of pure logic: only by their aid can the true *objects* of logical research . . . be refined to a clarity that excludes all misunderstanding. [But] We are not here concerned with grammatical discussions, empirically conceived and related to some historically given language.

(1913/2000: 249)

At least all higher thought, Husserl concedes, requires verbal expression, so 'The objects which pure logic seeks to examine are, in the first instance, therefore given to it in grammatical clothing' (1913/2000: 250), and:

Rough reflection on our thoughts and their verbal expression . . . suffice to indicate a certain parallelism between thinking and speaking . . . If we could regard such a correspondence as perfect, and as given *a priori*, and as one particularly in which the essential categories of meaning had perfect mirror-images in the categories of grammar, a phenomenology of linguistic forms would include a phenomenology of the meaning-experiences (experiences of thinking, judging etc.) and meaning-analysis would, so to speak, coincide with grammatical analysis.

(1913/2000: 257)

Unfortunately, however, such strict correspondences do not hold: there may be (ambiguous or equivocal) words with more than one meaning, and there may also be two or more words (which are mere aesthetic or stylistic variants) with the same meaning. Moreover, there is also no strict parallelism between logical and grammatical form – 'Everyone knows how readily and how unnoticeably an analysis of meaning can be led astray by grammatical analysis' (1913/2000: 257), and so 'the rough concomitances among

verbal and thought-differences, and particularly among *forms* of words and thoughts, makes us naturally tend to seek logical distinctions behind expressed grammatical distinctions' (1913/2000: 258).

Husserl's reservations about considering the methods of philosophy to involve *linguistic* analysis are perfectly mirrored by those of early analytic philosophers – as, e.g. G.E. Moore insists that it is misleading to speak of analysing *the* concept of a number, or cause, since 'there are hardly any words which are used in one sense only' (1966: 159). Russell, of course, offers the most famous distinction between grammatical form and logical form (detailing the ways in which the former may lead us astray) in 'On Denoting', again making it clear that it is relations among concepts (not the words in which they are expressed) and the logical form of propositions (not the grammatical form of sentences) that are the objects of analysis in the analytic case as well as in Husserl's developing phenomenology. And despite hesitation among later ordinary language philosophers to speak of 'meanings' or 'concepts' themselves (lest these expressions systematically mislead us into thinking that they refer to a special kind of thing (Ryle 1971b: 51–2; Austin 1961: 55ff.)), even among them it is clear that while we may need to start from words and sentences, and certainly to use these in our researches, we cannot consider what we are doing as mere analysis of actual pieces of language.

Ultimately, both Husserl and ordinary language philosophers hoped to use their forms of analysis not to gain insight into words, or even into meanings as such, but rather into the objects and kinds of objects *meant* or represented by us. As Austin writes:

In view of the prevalence of the slogan 'ordinary language', and of such names as 'linguistic' or 'analytic' philosophy or 'the analysis of language', one thing needs specially emphasizing to counter misunderstandings. When we examine what we should say when, what words we should use in what situations, we are looking again not *merely* at words (or 'meanings', whatever they may be) but also at the realities we use the words to talk about: we are using a sharpened awareness of words to sharpen our perception of, though not as the final arbiter of, the phenomena. For this reason I think it might be better to use, for this way of doing philosophy, some less misleading name than those given above – for instance, 'linguistic phenomenology', only that is rather a mouthful.

(Austin 1961: 182)

This echoes Husserl's description of phenomenology as ultimately concerned not with words but with 'the things themselves':

we can absolutely not rest content with 'mere words', i.e. with a merely symbolic understanding of words, such as we first have when we reflect

on the sense of the laws for ‘concepts’, ‘judgments’, ‘truths’ etc ... which are set up in pure logic. Meanings inspired only by remote, confused, inauthentic intuitions – if by any intuitions at all – are not enough: we must go back to the ‘things themselves’.

(Husserl 1913/2000: 252).

But how and in what sense can these meaning analyses tell us something about the entities meant, providing not just conceptual but ontological insights? I will return to that issue in §4 below.

2 Platonism and pleonasm

Husserl often speaks of phenomenology as involved in intuiting the *essences* corresponding to our meanings or concepts:

Assertions of phenomenological fact can never be epistemologically grounded in *psychological experience (Erfahrung)*, nor in *internal perception* in the ordinary sense of the word, but only in *ideational, phenomenological inspection of essence*.

(Husserl 1913/2000: 607)

While he is particularly concerned with analysing the concepts central to logic (e.g. *meaning, expression, proposition, truth* ...) in the *Logical Investigations*, in his later work his interest broadens out to analysing other kinds of concepts and the corresponding essences – both of aspects of our mental life (e.g. in the first book of *Ideas* and in *Cartesian Meditations*) and of other features of the world represented, e.g. of animals, cultural objects, mere physical objects, and so on (e.g. in the second book of *Ideas*). Ultimately, Husserl characterizes the goal of phenomenology as clarifying all concepts and analysing all corresponding essences (via what he calls ‘eidetic analysis’):

In this relation it will be shown that the universal task of the clarification of *all* concepts – understood in the universality of principles – and the correlative task, to be accomplished in the most perfect intuition, of the eidetic analysis and eidetic description of *all* objectivities and *all* kinds of unity pertaining essentially to them, coincide with phenomenology.

(Husserl 1952/1989: 328)

This talk about discovering *a priori* truths about *essences*, however, marks another apparently stark difference between phenomenology and ordinary language philosophy. For Husserl’s talk of ‘intuiting essences’ might seem to commit him to an odd platonistic ontology (of a range of eternal essences) and still odder epistemology (involved in a quasi-perceptual inspection of

these essences) that would be repudiated by ordinary language philosophers, even if certain earlier analytic philosophers like Russell and Moore might have found it unobjectionable. So, for example, while Gilbert Ryle admires (and adopts) Husserl's method as it is actually used (cf. Thomasson 2002), he complains that Husserl was 'bewitched by his Platonic idea that conceptual enquiries were scrutinies of the super-objects that he called "Essences"' (Ryle 1971a: 180–1), whereas Ryle himself described his conceptual enquiries as merely involved in examining 'the live force of things that we actually say' (1971a: 185).

But it is (as Ryle admits, 1971a: 181) a caricature of Husserl's method to describe it as inspecting Platonic 'super-objects' – a caricature Husserl fights directly against in several places. We can see this by examining more closely what is really involved in Husserl's inspection of essences (*Wesensschau*). The 'inspection of essences' Husserl also calls 'ideation', and describes most fully in his posthumously published *Experience and Judgement*.

In coming to grasp essences, we take as our 'point of departure' an individual experience that (apparently) presents us with an individual (say, an instance of redness) (Husserl 1939/1973: 339). The experience need not be a perception – imagination will do. We then determine what essence it is we wish to find out about (e.g. the essence *red*) (1939/1973: 357), and put aside (bracket) the question of the real existence and nature of the object presented to us, taking it only as an arbitrary (possibly imagined) example. (Call this 'eidetic bracketing' or 'eidetic epoché'.) In this way, we are freed in the further conclusions we may draw from relying on premises about, e.g., this actual object really existing and being perceived by me.

We then proceed to engage in 'eidetic variation'. That is, we begin to imagine the situation to vary in arbitrarily many different ways. *Wesensschau*, Husserl writes:

is based on the modification of an experienced or imagined objectivity, turning it into an arbitrary example which, at the same time, receives the character of a guiding 'model', a point of departure for the production of an infinitely open multiplicity of variants. It is based, therefore, on a *variation*.

(1939/1973: 340)

In these variations, we then distinguish what is held in common that makes them still, e.g. instances of redness, despite all the obvious differences generated in the variations (1939/1973: 346–7):

It ... becomes evident that a unity runs through this multiplicity of successive figures, that in such free variations of an original image, e.g., of a thing, an *invariant* is necessarily retained as the *necessary general form*, without which an object such as this thing, as an example of its kind, would not be thinkable at all ... The essence proves to be that

without which an object of a particular kind cannot be thought, i.e. without which the object cannot be intuitively imagined as such.
(1939/1973: 341)

So Husserl's talk of '*Wesensschau*' – 'seeing' essences – as he emphasizes, is not to be interpreted literally as a kind of (quasi-sensuous) seeing of (Platonic) objects; instead, it is nothing more than beginning from a presentation of an object of a certain kind and imaginatively varying the presentation in various ways to yield general truths about what changes can and cannot be tolerated if we are to be presented with an object of that kind (1939/1973: 348–9).

So understood, Husserl's method of eidetic variation is strikingly similar to the methods of central ordinary language philosophers as they describe and employ it. Grice describes the method of conceptual analysis in terms of consideration of imagined cases,

To be looking for a conceptual analysis of a given expression E is to be in a position to apply or withhold E in particular cases, but to be looking for a general characterization of the types of case in which one would apply E rather than withhold it.

(Grice 1989: 174)

And Austin famously undertook his 'linguistic phenomenology' by considering what we *would* say in various *imagined* situations, e.g. in what situations we would say something was (or was not) an accident, mistake, etc., without regard to whether or not the object of predication actually exists (Austin 1979: 184). In fact, in explicating Austin's method, Joseph DiGiovanna notes the 'almost total absence of actual cases' cited by Austin (1989: 33). The one exception he notes is Austin's quote from a law case in 'A Plea for Excuses', but even here, DiGiovanna argues, the case is not used to throw light on the phenomenon of excuses (which is done instead through considering imagined examples), but rather to demonstrate the confusion in the counsel and judge's talk of excuses. As a result, he concludes that, 'actual cases do not figure in linguistic phenomenology in either an essential or a significant way' (1989: 34).

So, properly understood, the methods of Husserlian phenomenology do not involve some mysterious form of intuition, but rather are based on using imaginative variations to gain general truths about, e.g. what it takes to be a person, an animal or a work of art. The answers this 'eidetic variation' or 'ideation' yields about essences are independent of any presuppositions about the empirical existence of the thing presented – I may equally well imagine a unicorn, vary cases, and determine what is essential to being a unicorn without in the least presupposing that unicorns exist. It is in this sense that, although individual experiences provide the points of departure for ideation, the results of ideation are meant to provide purely *a priori*

knowledge of what is required for anything to be of that kind (cf. Husserl 1931/1960: 70–2). This, then, is also the sense in which the methods of phenomenology (and thus philosophy generally) are supposed, in Husserl’s hands, to be distinct from those of the natural sciences: the former methods are entirely non-empirical in the sense that the knowledge gained does not depend on the actual obtaining of any empirical fact.⁵

While Husserl talks of ‘ideal essences’ to reinforce the independence of the conclusions from any matters of empirical fact, this should not be understood as making a metaphysical claim to a Platonist ontology, ‘This general essence is the *eidos*, the idea in the Platonic sense, but apprehended in its purity and *free from all metaphysical interpretations*’ (Husserl 1939/1973: 341, italics mine). For we can derive truths about essences by way of trivial transformations from our observations about possibilities for the *object* being imaginatively considered:

When, for instance, we judge in an essentially general way ... that ‘a colour in general is different from a sound in general’ ... it belongs to the essence of the situation that we are free at that time to pass over to the corresponding standpoint from which the essence is objectified, and that the possibility of doing this is in fact an essential one. In keeping with the changed standpoint the judgment would also suffer change, and would run as follows: the essence (the ‘genus’) Colour is other than the essence (the ‘genus’) Sound. And so in all cases.

(Husserl 1913/1962: 52–3)

In short, in using Husserl’s method of *Wesensschau* we arrive at talk of essences by way of simple transformations permitted by the concepts employed, which license us to transform a general truth derived from eidetic variation (involving no talk of essences) ‘a colour in general is different from a sound in general’, to a truth about essences: ‘the essence Colour is other than the essence Sound’. The second is, in Husserl’s use of the term ‘essence’, redundant with respect to the first; it just uses the device of linguistic hypostatization to move from asserting a general truth to an apparently singular truth about essences.

Speaking directly against the misinterpretation of him as Platonist, Husserl writes:

It has ever and anon been a special cause of offence that as ‘Platonizing realists’ we set up Ideas or Essence as objects, and ascribe to them as other objects true Being, and also correlatively the capacity to be grasped through intuition, just as in the case of empirical realities. We here disregard that, alas! most frequent type of superficial reader who foists on the author his own wholly alien conceptions, and then has no difficulty in reading absurdities into the author’s statements. If *object* and *empirical object*, *reality* and *empirical reality* mean one and the

same thing, then no doubt the conception of Ideas as objects and as realities is perverse 'Platonic hypostatization'. But if, as has been done in the *Logical Studies*, the two are sharply separated, if Object is defined as anything whatsoever, e.g., a subject of a true (categorical, affirmative) statement, what offence then can remain, unless it be such as springs from obscure prejudices?

(Husserl 1913/1962: 80)

That is, truths about essences are just *verbal* hypostatizations out of general truths about colors, sounds, etc., as represented. And when Husserl speaks of essences as *objects*, as he emphasizes, that is only to say that there are such true (affirmative, categorical) statements about them. Since these statements may be derived by trivial transformations from talking about ways (imagined) objects may and may not be, Husserl's essences seem more properly understood as pleonastic than as Platonistic.⁶ If so, the apparently great gulf between Husserl's methods and those of analytic philosophers including ordinary language philosophers is substantially narrowed.

3 Study of essences and conceptual analysis

While Husserl's method of 'eidetic variation' gives us insight into the essences of various types of things, essences are not the same as concepts – essences are features that must be had by any actual or possible object of that type; concepts are representations *of* certain types of things *as* necessarily involving certain sorts of feature. So we might still ask how this analysis of essence (however innocuously understood) is supposed to be related to *conceptual* analysis.

For Husserl, discovering truths about an essence (by way of eidetic variation and verbal hypostatization) gives us all we need for an analysis of the corresponding concept, for the essences contemplated may be 'fixed' descriptively 'into pure concepts' (1913/2000: 261). Just as pleonastic transformations enabled us to transform talk about a colour in general to talk about the essence *colour*, so can other trivial transformations enable us to move us from essence-talk to concept-talk, so that from truths about essences (derived from eidetic variation) we may derive truths about concepts.

In the results we get from eidetic variation and verbal hypostatization, the *object* of our intention (the object meant) is an essence; the difference between concept and essence is just part of the general difference between 'meaning and objectivity meant' (1913/1962: 62). So to talk of the *concept* involved requires a certain shift from considering the represented (essence) to the representing (meaning or concept). As Husserl describes it, the concepts of 'essence' and 'concept' are correlated in such a way that it is a necessary conceptual truth that whenever we have a truth about an essence (e.g. the essence *red* involves colouration), we can transform that into a truth about the concept *of* something of that type (e.g. the concept of something red is the

concept of something coloured) by simply shifting from a straightforwardly descriptive locution to an ‘of’ locution, moving from describing the (represented) essence to describing the (representing) concept *of* something of that type.

Thus in sum we can perform ‘conceptual analysis’ on Husserl’s model by way of beginning from an actual or imagined experience of some (perhaps imagined) object, bracketing the issue of whether or not the object is real, considering it simply as an example of a certain (possible) type T, and so freeing ourselves from relying on empirical matters of fact. We can then imaginatively generate a variety of similar experiences asking in what cases an object of the type T would still be presented. The device of verbal hypostatization enables us to transform these general truths about T-objects into apparently singular truths about the essence T. Finally, such truths about the essence T can be transformed again into truths about the concept *of* T, as the concept of an object that can tolerate these sorts of variation but not others.

Analysing general concepts, then, at bottom requires a prior ability to properly *apply* (and refuse) the concept, so that we can (at the first stage) say of the various imagined cases whether or not it still counts as a situation in which there is an entity of the relevant type. As Grice writes,

we may notice that in reaching one’s conceptual analysis of E, one makes use of one’s ability to apply and withhold E, for the characteristic procedure is to think up a possible general characterization of one’s use of E and then to test it by trying to find or imagine a particular situation which fits the suggested characterization and yet would *not* be a situation in which one would apply E.

(Grice 1989: 174)

This point is echoed by Moore (1966: 166) and Strawson (1992: 6–7). And conceptual analysis roughly is a matter of determining the *a priori* conditions governing when a concept may and may not be properly applied in various (factual and counterfactual) situations, though Husserl, like ordinary language philosophers, does not presume that such discoveries may be stated in the form of necessary and sufficient conditions for applying a concept.

Of course neither Husserl nor ordinary language philosophers were interested just in individual concepts or meanings; they were also interested in essential relations and connections among them, looking also to their possible ‘forms of combination’ (Husserl 1913/2000: 238). Thus, e.g., Ryle tried to chart the ‘logical geography’ of mental concepts (Ryle 1949: 8; 1971b: 372), Strawson (1992: 19–20) defended the idea of ‘connective analysis’, and Austin examined relations among terms grouped into ‘convenient clusters’ (1979: 187). The method of imaginative variation does not merely consider individual concepts in isolation; in determining in which possible situations a concept would apply or not apply, we are also determining its relation to other concepts and their application conditions, as we determine, e.g. whether one concept could apply without another.

4 Conceptual analysis and ontology

If the above is correct, then once we break down certain misconceptions about Husserlian phenomenology, we can see that it shared with early analytic philosophy up through ordinary language philosophy a general conception of philosophy's proper goals and methods: Philosophy is distinct from the natural sciences insofar as it is not concerned with any empirical matters of fact, but instead is involved in the analysis of meanings or concepts. This conceptual analysis is based largely in determining the application (and reapplication) conditions for our concepts, where these are considered *a priori* – in the sense that we are concerned only with whether or not the concept *would be* properly applied or refused in various imagined cases, not with whether any such cases are actual. Performing conceptual analysis on this model relies on a prior ability to apply and refuse these concepts, but need not involve laying out a strict set of necessary and sufficient conditions for their application.

Husserl and ordinary language philosophers alike were cognizant of a certain danger in this characterization: that it may make the tasks of philosophy 'seem to the layman to be barren, pettifogging word-exercises' (Husserl 1913/2000: 238), which involve shunning the grander traditional roles of philosophy in determining 'the answers to certain nonlinguistic questions about Reality' (Grice 1989: 183–4).

But there is also a sense in which we may say that conceptual analysis yields *ontological* results – as long as we understand 'ontology' carefully, as Husserl and his followers did, as involving a purely *a priori* study of essences and their interrelations, *not* claims about what 'really' exists. 'Every concept of essence attained according to an authentic method . . . belongs at the same time to universal ontology' (Husserl 1939/1973: 364). Husserl provides a number of such ontological analyses in the second book of *Ideas*, where he analyses such concepts as 'cultural object', 'animal', 'mere physical thing' and so on, laying out the essences of things of those kinds. Some of his realist students apply this method to a variety of other concepts, e.g. Roman Ingarden famously develops an ontology of works of art such as literary works, pictures, musical works, and so on, undertaking this explicitly on the model of conceptual analysis: 'What constitutes the general nature . . . of the literary work of art? Phenomenologists would say that in this case it is a question of an a priori analysis of the substance of the general idea "the literary work of art"' (Ingarden 1931/1973: 10). Adolf Reinach similarly seeks to describe the essences of laws, speech acts and other social phenomena (1989), but again does so by means of conceptual analysis, taking off from word meaning: 'When we aspire to essence-analysis, we will naturally set out from words and their significations' (1969: 209). So conceived, ontology may tell us what it would take for there to be a literary work of art, and what such things would be (including how they would be related to authors, copies of texts, readers, and so on), but not whether or

not there are, in fact, any such works (cf. Thomasson 2004). And of course, much (though not all) of what is done to this day on social ontology, the ontology of works of art, and so on, in analytic philosophy may be understood similarly as based in conceptual analysis, with results to be evaluated centrally by their cohesiveness with our willingness to apply and refuse the concept in various imagined situations.⁷

In its most general form (when based in analysing the most general concepts), ontology so conceived very closely resembles what P.F. Strawson called ‘descriptive metaphysics’, which aims only to ‘reveal the overall structure of our conceptual scheme’ (Magee 1971: 125), and differs from conceptual analysis only in ‘scope and generality’, by its concern with interconnections among our most general and basic concepts (Strawson 1963: xii–xiv).⁸ Husserl similarly took interest in these kinds of fundamental ontological questions, distinguishing a range of basic material categories or ‘regions’ by way of analysing successively more general concepts (1913/1962: §§9–11), and later proposed undertaking the task of ‘a life-world ontology, understood as a concretely general doctrine of essence’ for the universe of spatiotemporal things (1936/1970: 142).

This *a priori* approach of course involves a rather different idea of ontology than much of what goes under that name today, as contemporary ontologists often present themselves as (like natural scientists) engaged in determining what *really* exists, not in explicating the basic categories of our conceptual scheme and their interrelations, and often tout ‘ontological discoveries’ that would require thorough revisions of our conceptual scheme. Indeed in the wake of naturalist criticisms, the *a priori* approach to ontology and to philosophy developed in phenomenology and ordinary language philosophy has since fallen somewhat out of fashion – at least among those who explicitly discuss methodology. Whether or not the approach to philosophy developed by phenomenology and early to mid-century analytic philosophy has the resources to overcome the criticisms of naturalists and discredit the claims of revisionists cannot be addressed here. But it is, at least, interesting – for some even heartening – to see that they present something of a united front. And time spent explicating Husserl and eradicating misunderstandings of his methods is well worthwhile. For since he offered the most explicit development, justification and defence of this method, we can hope that understanding his methods can enable us to better evaluate the prospects for this sort of distinctive approach to philosophy.

Notes

- 1 Dummett (1973: 667) calls Frege the first philosopher to make the analysis of meanings the primary task of philosophy, also making much of metaphysics (especially ontology) part of the theory of meaning (1973: 671).
- 2 For example, Ryle writes of his *The Concept of Mind*, ‘The book does not profess to be a contribution to any science, not even to psychology. If any factual assertions are made in it, they are there through the author’s confusion of mind’ (Ryle

- 1971a: 188), and Grice similarly rejects the idea that conceptual analysis involves making empirical claims about people's language habits that would be better settled by sociology (Grice 1989: 173).
- 3 In addition to these is the common assumption that Husserl's methods of studying the mind are based on a kind of introspective peering inwards at experience (Dennett 1987: 154, 157–8) – a method roundly repudiated by prominent analytic philosophers such as Ryle and Wittgenstein. I have argued at length elsewhere (Thomasson 2005a) that this is based in a complete misrepresentation of the phenomenological approach to the mind, which is not based in introspection but rather in conceptual transformations from world-oriented experiences.
 - 4 With the possible exception of Ryle, who was heavily influenced by Husserl (Thomasson 2002) and is sometimes enthusiastic about discussing philosophical methodology.
 - 5 Nor does it depend on the empirical existence of any of the experiences involved in the process of ideation. In later stages of bracketing, the real existence of these particular experiences is likewise bracketed.
 - 6 A somewhat analogous treatment of properties and propositions as pleonastic entities is developed in Schiffer 1994.
 - 7 See Thomasson 2004 and 2005b for arguments that work in the ontology of art *must* proceed by way of conceptual analysis.
 - 8 Dummett also notes that much of what traditionally belonged to metaphysics – especially ontology – becomes part of the theory of meaning in Frege's hands (Dummett 1973: 671).

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