

## 9 Russell's Method of Analysis

A major component of Russell's philosophical work was the development of a distinctive method of philosophising, which, though he consistently applied it throughout his career, has been largely ignored. This lack of understanding of Russell's method has been a main cause of the still widespread perception that the progress of his philosophy is fragmented and erratic. This chapter will, firstly, outline key characteristics of Russell's method of philosophical analysis and show how this method underpins a number of his best known contributions to philosophy. Secondly, because his philosophical writings from the 1920s onwards have been rather neglected, some of his work of the late 1940s and early 1950s will be discussed to show that it exemplifies the same basic philosophical method. This will have the effect of emphasising the unity and continuity of Russell's philosophy. Finally, defective accounts of Russell's philosophy in some critical works are traced to misunderstanding of his method of analysis.

### RUSSELL'S METHOD OF PHILOSOPHICAL ANALYSIS

Throughout his career Russell adhered to a characteristic view of the nature of philosophical analysis according to which it has two parts. Firstly, philosophical analysis proceeds backwards from a body of knowledge to its premisses, and, secondly, it proceeds forwards from the premisses to a reconstruction of the original body of knowledge. Russell often called the first stage of philosophical analysis simply "analysis", in contrast to the second stage which he called "synthesis" (or, sometimes, "construction"). While the first stage was seen as being the most philosophical, both stages were nonetheless essential to philosophical analysis. It is beyond the scope of this chapter

to fully document the claim that Russell consistently adhered to this two-directional view of philosophical analysis throughout his career; however, a consideration of some representative writings of Russell will further clarify his view of philosophical analysis and its implications.<sup>1</sup>

Russell's initial major applications of his method of philosophical analysis were to mathematics in *Principles of Mathematics* and *Principia Mathematica*. So we find in his writings of this period a very clear account of philosophical analysis applied to mathematics (Hager 1994, Chapter 2). However, he held also that this mathematical work was, in principle, no different from work in the foundations of any science or discipline. Increasingly from the first decade of the twentieth century, Russell turned his method of analysis from mathematics and logic to other philosophical concerns such as epistemology, metaphysics, philosophy of language, and philosophy of science. In all cases, philosophical analysis was aimed at a non-empirical intellectual discovery of propositions and concepts from which could be fashioned premisses for the basic data from which the analysis had begun.

Russell was very specific about the two-directional character of his philosophical method: "The business of philosophy, as I conceive it, is essentially that of logical analysis, followed by logical synthesis" (LA, p. 162). The first or backwards stage, logical analysis, was seen as general across all philosophy:

... every truly philosophical problem is a problem of analysis; and in problems of analysis the best method is that which sets out from results and arrives at the premisses. (Russell 1911, *Papers* 6, p. 33)

The second or forwards stage, logical synthesis, was seen as following upon and mirroring imperfectly the earlier logical analysis stage:

When the philosopher's work has been perfectly accomplished, its results can be wholly embodied in premisses from which deduction may proceed. (*POM*, p. 129)

The logical synthesis can only mirror imperfectly the logical analysis stage because it is capable of yielding more than the knowledge

<sup>1</sup> For detailed discussion see Hager (1994) for 1900 onwards, while Griffin (1991) details the period up to 1900. See also Irvine (1989), and Godwyn and Irvine in this volume.

(results or data) that was the starting point of the analysis. According to Russell (*IMP*, p. 2), we “shall find that by analysing our ordinary mathematical notions we acquire fresh insight, new powers, and the means of reaching whole new mathematical subjects by adopting fresh lines of advance after our backward journey.” This capacity of the synthesis stage to expand knowledge needs emphasising since it has usually been overlooked. When “we have decided upon our premisses, we have to build up again as much as may seem necessary of the data previously analysed, and as many other consequences of our premisses as are of sufficient general interest to deserve a statement” (*PM*, vol 1, p. v).

Each of the quotations in the last few paragraphs has been taken from a context where Russell was asserting the general features of the method of philosophical analysis. Likewise, when summing up his career, Russell repeatedly stated that a *single* method was common to all of his philosophical ventures. [See, e.g., *HWP*, pp. 788–9 and *MPD*, pp. 98 and 162.] Given this definiteness on Russell’s part, the relative lack of attention to his method of analysis is puzzling.

A careful consideration of the wide range of descriptions that Russell provides of his method of philosophical analysis points to some important characteristics that he repeatedly emphasises:

- i) Analysis is unlikely to be final.

This applies in several ways. Not only is analysis never final in the sense that new premisses may be discovered in relation to which existing premisses are results, but there also is the ever present possibility of alternative sets of premisses for the same results. In the former case, further stages of analysis in no way invalidate earlier ones. As Russell repeatedly emphasised, no error will flow from taking complex objects to be simple at one level of analysis, as long as it is not assumed that such objects are incapable of further analysis. Thus “. . . points may be defined as classes of events, but that does not falsify anything in traditional geometry, which treated points as simples” (*HK*, p. 269).<sup>2</sup> In the latter case, to ask what are the minimum premisses for a given set of results “is a technical question and it has no unique answer” (*MPD*, p. 162). Hence, one important task for philosophy is to devise alternative sets of premisses.

<sup>2</sup> See also *LA*, p. 158 and *MPD*, pp. 164–5.

However, Russell's use of the terms 'premisses' and 'results' in his discussions of analysis does require some comment. Strictly speaking, of course, premisses and results, being components of deductive arguments, can only be *propositions* or *statements*. However, analysis leads not only to propositions, but also to *concepts* or *ideas* which are *primitive* at one level of analysis and *defined* at the next level down. (See, e.g., *IMP*, pp. 3-4.) At the higher level these concepts or ideas are used in *definitions* that provide further premisses. When characterizing his method of analysis, Russell sometimes, for convenience, uses 'premisses' in a *wider sense* to refer to concepts or ideas, as well as propositions. Take, for instance, Peano's analysis of natural number theory via three primitive concepts and five primitive propositions. In Russell's wider sense, the three concepts and five propositions are the premisses, yet, strictly speaking, the only premisses are the five primitive propositions. However, including the concepts (0, number and successor) amongst the premisses is fairly innocuous since they are used in the statements of the propositional premisses as well as in the definition of further concepts used in subsequent results. In the next breakthrough in analysis, due to Frege, the concepts ceased to be primitive (e.g., he provided a definition of number). This wider sense of 'premisses' is typically employed in Russell's descriptions of philosophical analysis.

ii) Analysis enlarges the domains of particular subjects.

The current science or mathematics on which analysis is practised changes as the science itself evolves. What were formerly tentative premisses for science or mathematics later become a part of those disciplines. This view locates philosophy at the frontiers of the particular disciplines. As these frontiers are extended, territory that once belonged to philosophy becomes exact enough to be incorporated into those disciplines. Thus "every advance in knowledge robs philosophy of some problems which formerly it had . . . ." (PLA, p. 243). So for Russellian analysis, yesterday's premisses become tomorrow's results from which a new generation of philosophers will start the backwards journey of analysis. Thus, the philosophy/science distinction "is one, not in the subject matter, but in the state of mind of the investigator" (*IMP*, p. 1). It remains for philosophy to move to the new frontier. Hence, Russell's maxim that "science is what you

more or less know and philosophy is what you do not know" (PLA, p. 243).

- iii) Analysis leads to premisses that are decreasingly self-evident.

Russell made this point emphatically (LA, pp. 145–6) where he considers the case of pure mathematics organized as a deductive system in which all of its propositions are deducible from a particular set of premisses. Russell points out that

... it becomes obvious that, if we are to believe in the truth of pure mathematics, it cannot be solely because we believe in the truth of the set of premisses. Some of the premisses are much less obvious than some of their consequences, and are believed chiefly because of their consequences.<sup>3</sup>

He argues that this is always so when a science is arranged as a deductive system. So the logically simplest propositions of the system are never the most obvious in physics either. For example, taking Maxwell's equations as the premisses of electrodynamics, these equations are far from obvious and "... are believed because of the observed truth of certain of their logical consequences" (LA, p. 146). Hence, in general, philosophical analysis gives us grounds "for believing the premisses because true consequences follow from them, than for believing the consequences because they follow from the premisses" (*PM*, vol 1, p. v). An example of the premisses being far from self-evident is provided by Russell's definition of number. A "number is anything which is the number of some class", where the "number of a class is the class of all those classes that are similar to it" (*IMP*, pp. 18–19) is clearly a less self-evident definition than "a number is any of 1,2,3,4... etc".

The decreasing self-evidence of the premisses has ontological implications. According to Russell the current premisses provide our best guide to the nature of the most fundamental entities, hence, e.g., his replacement of common sense physical objects by sense-data and events. The decreasing self-evidence of the premisses was also the basis of Russell's vintage statement that "the point of philosophy is

<sup>3</sup> This point appears to have made little impact on Russell commentators. An exception is Irvine (1989) and Godwyn and Irvine in this volume.

to start with something so simple as not to seem worth stating, and to end up with something so paradoxical that no one will believe it" (PLA, p. 172). This decreasing self-evidence of the premisses, coupled with the earlier claim that there may be alternative premisses from which the same given set of results is deducible, is the basis of Russell's characteristic open-mindedness about the finality or otherwise of his philosophical views at any given stage.

Since the decreasing self-evidence of the premisses is the feature of Russellian analysis that is most at odds with some common interpretations of Russell's work, it will pay us to consider it in more detail. The following table catalogues the multitude of ways that Russell describes the results and premisses in his accounts of analysis:

Characteristics of Russellian Results and Premisses<sup>4</sup>

<i>Results (or Data)</i>	<i>Premisses</i>
More complex	Simpler
Relatively concrete	Abstract
Common knowledge	[The outcome of special inquiry]
Vague	Precise
Logically interdependent	Logically independent
More obvious	Less obvious
Undeniable	[Disputable]
Inexact and approximate	Definite
Indubitable	Dubitable
Puzzling	[Explanatory]
Confused	Clear
Self-evident	[Requiring justification]
Ambiguous	[Unambiguous]
[Disorganised]	[Ordered]

At first sight it may appear puzzling that though the results (as compared with the premisses) are "self-evident", "undeniable", and

<sup>4</sup> The sources for these characteristics include *OKEW*, *PLA*, *LA*, *RTC*, *HWP*, and *MPD*. For full details of all of the sources and the relevant quotations that span fifty five years, see Hager (1994, Chapter 3). The characteristics shown in brackets are implied by what Russell says whereas the others are direct quotations.

"indubitable", they are also "inexact", "vague", and "confused". Russell produces some striking examples to show that there is no inconsistency here: the something approaching us through a thick fog is undeniably (indubitably) some object or other though we have only a vague (confused, inexact) idea of just *what* it is (*MPD*, pp. 98–99); likewise, the novice hearing a symphony might be impressed by the parts evidently (indubitably) forming a whole, yet be very vague (confused) about how the parts relate to one another to constitute the whole (*MPD*, pp. 169–70).

The characteristics of results and premisses listed in the table clarify an ambiguity in Russell's use of 'simple'. The premisses are *simple* in the primary sense that the results can be *compounded* from them. However, as the Oxford dictionary confirms, 'simple' also means 'easily understood', i.e., the *results* could also be seen as simple in that they are concrete, common knowledge, obvious, and indubitable. Russell appears to have been using the term in this second sense when he said that "the point of philosophy is to start with something so simple as not to seem worth stating, and to end up with something so paradoxical that no one will believe it" (*PLA*, p. 172).

However, there is an even more fundamental reason why there is confusion about simples in Russell's philosophy. It stems, I believe, from another ambiguity – this time in what Russell means by 'analysis'. It has been pointed out already that, on one understanding of the term, *analysis* refers only to the first, and more philosophical, stage of Russell's method. The second, more mathematical or logical, stage is, of course, synthesis. However, on the other understanding, *analysis* is the name of Russell's entire philosophical method. Let me call the former understanding the *narrow* interpretation of analysis, and the latter the *broad* interpretation. I suggest that the confusion resulting from these two meanings of 'analysis' has led people to concentrate on the first stage of Russell's philosophical method and treat that as all there is to it. What is left out makes all the difference about how one treats relations in Russell's philosophy (Hager 1994, Chs. 5–7).

Russell's work is, of course, replete with examples of philosophical analysis that exemplify the scheme that has been detailed so far in this chapter. These include the overall program of *Principia Mathematica* as well as the specific analyses that make up that program,

such as the analysis of classes; points and instants analysed as events; everyday objects such as tables and chairs as logical constructions; the theory of definite descriptions, and many others.<sup>5</sup>

HUMAN KNOWLEDGE AS AN EXAMPLE  
OF RUSSELLIAN ANALYSIS

Judging by the frequency with which they are referred to and discussed, it appears that Russell's works prior to the 1920s, such as *Principles of Mathematics*, *Principia Mathematica*, 'Philosophy of Logical Atomism', the theory of descriptions, etc., have made the greatest impact on philosophers. By comparison, later works, though substantial, have been somewhat ignored. The general belief seems to be that Russell, having set much of the philosophical agenda up to 1920, was overtaken by events as philosophy moved on, leaving him in isolation to produce unpopular theories, such as his neutral monism, which were thought to have little connection with his earlier work. I have argued in detail that, on the contrary, all of Russell's work in philosophy displays striking continuity (Hager 1994). In this section, the 1948 *Human Knowledge* will be examined in some detail as an example of Russellian philosophical analysis. Other substantial later works such as *Analysis of Mind* (1921), *Analysis of Matter* (1927), and *An Inquiry into Meaning and Truth* (1940) could equally well have been considered.

In some ways *Human Knowledge* is a followup to *Analysis of Matter*, a book which set out a philosophical analysis of physics focused on ontology. It sought to answer the following questions:

What are the ultimate existents in terms of which physics is true (assuming that there are such)? And what is their general structure? And what are the relations of space-time, causality, and qualitative series respectively? (*AMa*, p. 9)

The outcome of this analysis was that an ontology of events and universals would suffice for physics (Hager 1994, pp. 59–60). However, in 1943, Russell noted that the

... canons of scientific inference have never yet been formulated; if I have leisure, I hope to try to formulate them myself. (RTC, p. 718)

<sup>5</sup> See Hager (1994) for detailed discussion and further examples.



This work became the 1948 *Human Knowledge* the “central purpose” of which “is to examine the relation between individual experience and the general body of scientific knowledge” (*HK*, p. 9). Russell assumes scientific knowledge to be broadly and most likely true, and he seeks to investigate what principles need to supplement our empirical experience if that assumption is valid. Hence, “one of the main purposes of this book” is to “discover the minimum principles required to justify scientific inferences” (*HK*, p. 11). Thus, Russell’s prime target for philosophical analysis is the nature of scientific inference. I will describe Russell’s procedure in *Human Knowledge* as an instance of his two-directional method of philosophical analysis.

As we have seen, Russellian philosophical analysis begins with the ‘results’ or ‘data’ which are ‘vague’, ‘common knowledge’, ‘inexact and approximate’, ‘indubitable’, and ‘puzzling’. The ‘result’ to be analysed in *Human Knowledge* is the ‘vague’ claim that ‘scientific knowledge is developed from observational data via inductive or probabilistic inference’. It is because of the vagueness and inexactness of the various terms in this claim that Russell spends a lot of space in *Human Knowledge* clarifying the ‘results’ or ‘data’ for the analysis. Thus, Part I (in a six part book) outlines the general body of scientific knowledge that he takes to be generally and most likely true. So Part I covers “what do we know?” (*HK*, p. 66). Part II, “still concerned with preliminaries” (*HK*, p. 11), clarifies meanings of central fundamental terms like ‘fact’ and ‘truth’ and examines the relation of sensible experience to empirical concepts. In brief, Part II deals with “how do we know it?” At last, in Part III, “we begin our main inquiry” but “are not yet concerned to justify inferences, or to investigate the principles according to which they are made” (*HK*, pp. 11–12). The main focus of Part III is ‘how does what we know relate to our empirical data?’ This is still part of the clarification of vague and inexact ‘results’. After a detailed consideration of what can be counted as empirical data, Russell finds “that inferences (as opposed to logical constructions out of data) are necessary to science” (*HK*, p. 12). The conclusion to Part III is that

while mental events and their qualities can be known without inference, physical events are known only as regards their space-time structure. The qualities that compose such events are unknown – so completely unknown

that we cannot say either that they are, or that they are not, different from the qualities that we know as belonging to mental events. (*HK*, p. 247)

Having clarified considerably in the first half of *Human Knowledge* the 'vague' claim that 'scientific knowledge is developed from observational data via inductive or probabilistic inference', Russell is ready in Part IV to conduct the backwards step in analysis to identify some premisses of scientific inference. Recall that as against the 'results', the 'premisses' are 'precise', 'logically independent', 'less obvious', 'definite', and 'dubitable'. In this case the premisses that he reaches in Part IV include fundamental concepts like 'causal line' (defined on p. 477), 'space-time structure' (defined on pp. 344ff), 'event' (defined on pp. 97–8), and other basic notions such as 'similarity' and 'series'. The first two of these are particularly central to the analysis:

Throughout [Part IV] the two concepts of space-time structure and causal chains (causal lines) assume a gradually increasing importance. (*HK*, p. 12)

Russell continues the backwards search for premisses in Part V. Because "scientific inferences, as a rule, only confer probability on their conclusions" (*HK*, p. 12), it is crucial to clarify the different types of probability and their roles in scientific inference. Russell distinguishes the mathematical theory of probability from the different notion of probability that he calls "degree of credibility". The latter is derived from Keynes' work on probability and refers to propositions that have a finite degree of probability, but not one that can be quantified. Finally, in Part VI, Russell is ready for the forwards (or synthesis) step in the analysis. From the concepts and principles arrived at in the previous two sections, he proceeds to deduce "five postulates" which are "required to validate scientific method" (*HK*, p. 506). These 'reconstructed results', which replace the earlier vague notion of 'inductive or probabilistic inference' are:

- I) The postulate of quasi-permanence
- II) The postulate of separable causal lines
- III) The postulate of spatio-temporal continuity in causal lines
- IV) The postulate of the common causal origin of similar structures ranged about a centre, or, more simply, the structural postulate
- V) The postulate of analogy

None of these postulates is certain, but each has some significant degree of probability. As Russell sees it:

Given a number of propositions, each having a fairly high degree of intrinsic credibility, and given a system of inferences by virtue of which these various propositions increase each other's credibility, . . . . [we] arrive at a body of interconnected propositions having, as a whole, a very high degree of credibility. (HK, p. 413)

As usual, Russell recognises the non-finality of his analysis. Pointing out that it is "highly probable" that the number of postulates "can be further reduced", he adds that "I have not myself succeeded in doing so" (HK, p. 506). This characteristic recognition of the tentative findings of his philosophical analysis is reflected in a concluding comment:

Induction, we have seen, is not quite the universal proposition that we need to justify scientific inference. But we most certainly do need *some* universal proposition or propositions, whether the five canons . . . . or something different. (HK, p. 524)

#### LATER WRITINGS ON ANALYSIS

When Russell published *Human Knowledge*, he was feeling increasingly isolated in the British philosophical world as the influence of the later Wittgenstein grew stronger. This led him to provide searching reviews and responses to the writings of a number of emerging philosophical opponents.<sup>6</sup> In this section I will discuss Russell's review of Urmson's book *Philosophical Analysis* (reprinted in *MPD*, it originally appeared in the *Hibbert Journal* in 1956), an article by McKinney in reply to Russell's review (which appeared in the succeeding volume of the *Hibbert Journal*), and a letter from Russell to McKinney commenting on his article in reply.<sup>7</sup> The reason for considering these three documents here is that, not only do they serve to show Russell's continuing commitment to the method of philosophical analysis outlined earlier in this chapter, but they also clarify a number of aspects of that method that have not been discussed so far.

<sup>6</sup> Four of these reviews/responses were later reprinted as Chapter 18 of *My Philosophical Development*.

<sup>7</sup> I am grateful to Nicholas Griffin for bringing this letter to my attention.

In his review Russell finds that some of Urmson's comments on philosophical analysis are due to misunderstandings and some to philosophical disagreements. In an attempt to clear away the former, Russell undertakes to "try to state as concisely as I can the purposes and methods which have guided my work in philosophy" (*MPD*, p. 161). To that end, Russell characterises his method of philosophical analysis (*MPD*, p. 162). Within the subsequent discussion, clear reference can be found to each of the three important features of analysis outlined earlier in this chapter:

(i) ANALYSIS IS UNLIKELY TO BE FINAL

Earlier, two senses in which analysis is never final were noted. Regarding the first of these, Russell responds to Urmson's criticism that "however far you may carry your analysis you will never reach simples" (*MPD*, p. 164). Russell replies that even when he and Wittgenstein spoke of 'atomic facts' as the final residue of analysis, it was "never an essential part of the analytic philosophy which Mr. Urmson is criticising to suppose that such facts were attainable" (*MPD*, p. 164). Russell's standard position has been that he can see no reason either to assert or deny that simples can be reached by analysis. He repeats verbatim some discussion from the 1918 lectures 'The Philosophy of Logical Atomism' to show his long commitment to this position, adding that since then he has become even more convinced that there is no reason to expect analysis to reach simples. Russell then uses the example of the human skeleton to illustrate the point that no error will flow from taking complex objects to be simple at one level of analysis, as long as it is not assumed that such objects are incapable of further analysis. The skeleton is composed of bones, cells, molecules, atoms, electrons, etc.

Bones, molecules, atoms, and electrons may each be treated, for certain purposes, as if they were unanalysable units devoid of structure, but at no stage is there any positive reason to suppose that this is in fact the case. The ultimate units so far reached may at any moment turn out to be capable of analysis. Whether there must be units incapable of analysis because they are destitute of parts, is a question which there seems no way of deciding. Nor is it important, since there is nothing erroneous in an account of structure which starts from units that are afterwards found to be themselves complex. (*MPD*, p. 165).

Regarding the second point, that alternative sets of premisses are always a possibility, Russell spells out reasons why it is important for philosophy to devise alternative sets of premisses.

Any reduction in the number of undefined terms and unproved premisses is an improvement since it diminishes the range of possible error and provides a smaller assemblage of hostages for the truth of the whole system. (*MPD*, p. 162)

The successive historical stages in the analysis of mathematics are then outlined by Russell to illustrate this point.

ii) Analysis enlarges the domains of particular subjects.

As discussed earlier, the current science or mathematics on which analysis is practised changes as the subject itself evolves. Formerly tentative premisses for science or mathematics later become a part of those disciplines. This aspect of analysis is raised indirectly in Urmson's objection to analysis that "the collection of statements that you reach by analysing is not equivalent to the original unanalysed statement" (*MPD*, p. 164) and in Russell's reply to this objection. Perhaps confusing Russell with a logical positivist, Urmson takes it as obvious that for analysis to be any good, the premisses reached by analysis must be logically equivalent to the results from which the analysis started. Thus, his criticism of analysis is that when a complex statement like "England declared war in 1939" is analysed into a series of simpler statements, the two will not be equivalent. Now the problem here is that Russell never maintained logical equivalence between results and premisses, only that what was well founded in the results can be deduced from the premisses; i.e., the synthesis step in philosophical analysis leads to a reconstructed version of the results. Thus, for example, replacing the desk of common sense by a complex structure of sense-data involves not only some continuity but also some novelty. No wonder, then, that Russell was unsure of what was Urmson's exact point here.

As noted earlier, for Russell this creation of new premisses that imply a reconstruction of the results is precisely the way that knowledge advances. Russell charges that had Urmson's approach to philosophy, rooted in ordinary language, flourished in the Greek world, science might still be at the stage of earth, air, fire, and water as the four 'elements' (*MPD*, p. 169).

- iii) Analysis leads to premisses that are decreasingly self-evident.

In explaining his method of philosophical analysis in the Urmson review, Russell refers to the minimum of undefined terms and unproved premisses that is achieved by the analysis step. But he goes on to point out that "such a minimum, when arrived at, does not give the reasons for which we believe the system to be true" (*MPD*, p. 163). Generally, then, the premisses are less self-evident than the results. This point is connected by Russell with the "intolerable prolixity" of a perfect logical language (*MPD*, p. 166). Such languages, with their characteristics of simplicity and abstractness are useful in moving in the backwards direction of analysis. However, when moving the other way to synthesis, more everyday language is better suited to the task. Given Russell's account of the historical movement of analysis through successive generations of thinkers, it seems that he would need to argue that one generation's technical language will become a later generation's everyday language.

It is clear, then, that in his 1956 review of the Urmson book, Russell provided a detailed account of his method of philosophical analysis that in all key details was the same as the method he was developing and expounding in the first decade of the twentieth century. Russell's Urmson review stimulated a response from McKinney (1957) that sought to explicate further the nature of analysis. Its chief interest today is in its conflation of Russell's method of analysis with scientific method, an error that Russell focused on in his subsequent letter to McKinney (Russell 1958).

The McKinney article shows an awareness of the two-directional nature of Russellian analysis. But McKinney equates the first stage (analysis) with scientific hypothesis formation. He thinks of the second stage (synthesis) as akin to deduction from scientific laws and theories. Russell's 1958 letter bluntly rejects this interpretation by distinguishing sharply between "analysis" (logical analysis) and inference to things not perceived, i.e., scientific hypothesis, or non-deductive or nondemonstrative inference. He adds that this contrast between the methods of philosophy and of science should be clear from *Human Knowledge*. Russell expands on the difference in the letter by arguing that while in philosophical analysis the "whole is given", in scientific hypothesising the "whole is not given". Russell's aim in making this contrast is to emphasise that the data or results that are the starting point for philosophical analysis are very

different from the data that play a central part in scientific method. By the "whole being given" in philosophical analysis, Russell means that there is no question of the data being expanded indefinitely, as happens in science, as further observations are made or experiments conducted. Since philosophical analysis is a conceptual activity, all that is needed is an understanding of the present state of the field being investigated. This special feature of the data for philosophical analysis, that it is already freely available, is reflected in some of the kinds of characteristics of 'results' or 'data' noted earlier in this chapter, i.e., 'relatively concrete', 'common knowledge', 'more obvious', 'undeniable', 'indubitable' and 'self-evident', while also 'inexact and approximate', 'confused' and 'ambiguous'. In contrast, Russell views scientific hypothesising as essentially dependent on testing by observational data, data that by its nature is always incomplete. In scientific hypothesising, the "whole is not given" because inference to unobserved instances is an unavoidable part of the enterprise.

Russell provides some illustrative examples of what he sees as the perennial incompleteness in the data in scientific hypothesising. An example discussed in both *Human Knowledge* and in the letter to McKinney is the inference to Kepler's laws from data consisting of a finite set of planetary positions. Clearly, the data here is less than the whole in that it consists of particular positions for particular planets at particular times, a subset of all of the positions of all of the planets at all times. In this case, there is the further complication that while two of the three positional coordinates come from measurements, the third coordinate is a guess chosen to yield simple laws of planetary motion. Russell points out that it follows from scientific hypothesising being based on less than the whole data, that scientific hypotheses can never be *proved* true:

The hypothesis embodied in Kepler's laws is not *proved* by observation; what observation proves is that the facts are *compatible* with this hypothesis. (HK, p. 499)

Another example that Russell discussed in *Human Knowledge* is the law of falling bodies (p. 497). Based on a small number of rough measurements, Galileo hypothesised that the acceleration of vertically falling bodies is approximately constant. Further support for the hypothesis was added when the invention of the air pump enabled measurements in the absence of air resistance. However,

later observations and theoretical developments suggested slight variations in acceleration with both latitude and altitude. Thus, Galileo's simple hypothesis was displaced successively by increasingly more complicated Newtonian and then Einsteinian laws.

Russell's view of the roles of observation and hypothesis in science, as illustrated in these examples, is well captured in the following quotation in which he offers a "model of the scientific method":

Hypothesis and observation alternate; each new hypothesis calls for new observations, and, if it is to be accepted, must fit the facts better than any previous hypothesis. But it always remains possible, if not probable, that some further hypothesis may be called for to explain further observations. New hypotheses do not show old ones to have been false, but only to have been approximations. . . . (Russell 1974, pp. 21–2)

Readers will have noticed that Russell's characterisation of scientific method in the preceding paragraphs bears a strong resemblance to Popper's fallibilism.<sup>8</sup>

By now Russell's sharp contrast between his distinctive method of philosophical analysis and his view of the scientific method, with its alternations of hypothesising and observation, should be clear. However, it is unsurprising that McKinney and others might confuse the two for a number of reasons. Firstly, it was not unknown for Russell to refer to his method of philosophical analysis as a 'scientific method in philosophy' or as a 'method of scientific philosophising' (see, e.g., *OKEW*). Secondly, as was shown earlier in this chapter, Russell saw the frontiers between science and philosophy as somewhat blurred. This might have been taken to suggest that he viewed their methods as blurred as well, had not the discussion of the last few pages shown any such inference to be erroneous.

A third reason why Russell's method of philosophical analysis might be confused with scientific method is his frequent use of certain examples as illustrations of particular points about analysis. For instance, whenever he is discussing the non-finality of analysis, Russell often uses examples like water (e.g., *MPD*, pp. 169–70). His point is that when you learn that water is two parts hydrogen and one part oxygen, you do not cease thereby to know anything that you previously knew about water. While this type of example may be useful for making particular points about analysis, it should

<sup>8</sup> Russell's fallibilist understanding of science has not received much attention. For more on Russell's philosophy of science, see Hager (2000).



not be inferred that the analysis of water into hydrogen and oxygen was inspired by Russell's method of philosophical analysis. Rather, that feat was achieved by quite other means. Interestingly, while strongly influenced by G.E. Moore in the early years of his revolt against idealism, Russell had regarded analysis of propositions as akin to chemical decomposition. This line of thought can be found in W.E. Johnson, Husserl, Meinong, and other writers of that era. However, in Russell's case, rapid advances in his philosophical position, such as the theory of descriptions, quickly disposed of any lingering tendency to entertain a naive realist view of propositions.

McKinney based his paper on Russell's Urmson review and on *Human Knowledge*. It should be clear from the previous section of this chapter that *Human Knowledge* used Russellian philosophical analysis to propose tentatively five postulates of scientific method. That is, the premisses of scientific method were the object of the analysis, but the analysis itself was very clearly not an instance of scientific method.

In the letter to McKinney, Russell also denied that his "construction of the external world" was an exercise in philosophical analysis. This might seem puzzling until we realise that in wanting to remove confusions between scientific and philosophical analysis, Russell would avoid a description that made it sound like philosophy alone did all of the work. Certainly that is the impression that "Russell's construction of the external world" conveys. In fact, Russell took science to be broadly correct in its account of the world and sought to reconcile the philosophy and psychology of perception with this. So his construction was a philosophical analysis heavily supplemented by the contributions of scientific method. Rather than developing a grand system of the world, his philosophical construction was somewhat more modest. A more accurate title would be something like "Russell's construction of a way of reconciling what we know of human perception with the external world portrayed by science".

#### THE ROLE OF LANGUAGE IN RUSSELLIAN ANALYSIS

Despite Russell's method of analysis, as set out above, being fairly explicit in his writings, it is still not well understood. Major critical works that have sought to engage significantly with Russell's philosophy (e.g., Jager 1972, Pears 1967, Eames 1969), have been limited

by insufficient treatment of his refined philosophical method. This trend is continued in the first volume (1996a) of Monk's long-awaited biography of Russell. Though he covers the years up to 1921 Monk provides only cursory mentions of analysis, viewing it as an isolated philosophical conundrum about parts and wholes that engaged Russell in the early years of his revolt against idealism. Without more attention to the details of Russell's method of analysis and its central role in his work, no biography could hope to delve very deeply into his philosophy.

The main reason why Russell's philosophical method is absent from Monk's account is that he misunderstands the important role of language in Russell's work. As Russell's preferred terminology for describing analysis (such as 'premisses', 'conclusions' (or 'results') that are 'deducible' from the premisses, and so on) makes clear, propositions and their associated linguistic forms are important in analysis. However, this central role of language in Russellian analysis does not mean that philosophy ends at analysis of language. Thus, although analysis is primarily analysis of propositions (language), it is carried out for purposes other than the analysis of propositions.

This means that Russellian analysis is primarily analysis of propositions and only *indirectly* is it analysis of objects. So, in his famous analysis of the desk (PLA, p. 236ff), it is not the desk that is analysed, but rather propositions *about* the desk. This analysis of common sense propositions about the desk leads to a set of basic premisses from which is synthesised a set of propositions which captures the truths embodied in the initial common sense propositions, yet avoids their shortcomings such as vagueness, ambiguity, etc. These analysed results are substituted for the initial unanalysed results about the desk. This completes the primary part of the Russellian analysis of the desk, i.e., the analysis of propositions.

The sense in which the desk as an *ontological object* is analysed is quite different. Russell's view is emphatically *not* one that has the physical desk of the metaphysics of common sense analysed into smaller parts and then resynthesised (say) as a swarm of sub-atomic particles (PLA, p. 161). (Though, of course, Russell claims all along that his theories are compatible with those of physics as realistically understood.) Instead ontological analysis is an *indirect* outcome of the analysis of propositions. The desk of the metaphysics of common sense is inferred uncritically from the initial set of common

sense propositions. Since, as we have seen, a set of analysed results is substituted for the common sense propositions, and since, in addition, the desk of common sense cannot be logically inferred from the refined, substitute set of propositions, it follows that the existence of the supposed desk of common sense cannot be established. Instead, the analysed results invite inference to a somewhat different ontological object – a complex structure of *sensa* or events.

Monk's work misses the centrality of analysis in Russell's philosophy because he misunderstands the important role of language in this philosophy. As Monk sees it, through

all the various transformations of Russell's philosophical doctrines, one thing remained quite constant, and that was the conviction that, whatever it is the philosopher is concerned with, it is precisely *not* language. (Monk 1996b, p. 4)<sup>9</sup>

As we have just seen, in an important sense, for Russell, philosophy *is* concerned with language. However, as we have also seen, this in no way signals that Russell thought that language was the prime object of study for philosophy. Rather, it recognises his important position that language is inescapably the medium through which philosophical analysis engages with matters that are nonlinguistic.<sup>10</sup>

A major contributing factor to Monk's overlooking these fundamental points about Russell's work is his fondness for stark opposites when characterising differences between philosophical positions. In critiquing Dummett's claim that what distinguishes analytical philosophy is its claim that "philosophy of language" is "the foundation

<sup>9</sup> If Russell's philosophical concern really was "precisely *not* language", it would be surprising that "language" features so prominently in his works, e.g. Part II of *Human Knowledge* is titled "Language", key chapters in Part IV are "Minimum Vocabularies" and "Structure and Minimum Vocabularies". Similar examples can be found in other major works, such as *An Inquiry into Meaning and Truth*.

<sup>10</sup> For a perceptive account of this point see Kung (1967). Monk mistakenly concludes from Russell's characterisation of *some* instances of the 'linguistic' as 'trivial' that he thereby regards all 'linguistic' items as "trivial and beneath consideration" (1996b, p. 6). In fact the instances that Monk mentions are ones where the terms which initially interested Russell, such as numbers, turned out to be fully definable via other terms. Thus, he came to view propositions about numbers as mere verbal conveniences of no interest to philosophical analysis. However, Russell's philosophical analyses typically centre on more robust terms that appear not to be definable in this way. For Russell, such linguistic items are far from trivial. An example is the term 'similar' (see Hager 1994, pp. 116–7).

of all other philosophy", Monk rightly objects against Dummett that this excludes Russell. However, in seeking to rescue Russell's credentials as an analytical philosopher, Monk portrays him as taking a "precisely opposite" tack of excluding language from the philosophical agenda. Monk suggests that what really distinguishes analytical philosophy is analysis itself:

It is this notion of a complex – and the concomitant notion that to understand a complex is to analyse it, to break it down into the simples that compose it – that lies at the heart of analytical philosophy. (Monk 1996b, p. 12)

He has Russell committed to a non-linguistic interpretation of analysis in which it is applied to complex objects.<sup>11</sup> Thus, having rejected two earlier attempts to characterise 'analytical philosophy' in terms of its supposed opposite, 'analytical vs continental' and 'analytical vs phenomenological' (Dummett's position), Monk proposes that the correct opposition is 'analytical vs Wittgensteinian'. Monk then quotes with approval, and at length, Wittgenstein's attack on this conception of analysis with which Russell has been saddled by Monk. According to Monk, Wittgenstein's rejection of analysis centres on the claim that it would be odd to substitute "Bring me the broomstick and the brush which is fitted on to it" for "Bring me the broom". We can all agree with Wittgenstein's point here. But this has as little to do with Russell's conception of analysis as did Urmson's argument, discussed above, about "England declared war in 1939" not being equivalent to a series of simpler statements. Quite simply, Urmson's 1956 misunderstandings of Russellian analysis are repeated in 1996 by Monk.

On Monk's misunderstanding of Russellian analysis, Russell analyses the desk, for example, into legs, top, sides, etc. Rather, as already demonstrated, Russellian analysis is analysis of propositions about the desk and only indirectly is it analysis of the desk. The result is that, as shown above, rather than analysing the common sense physical desk into its parts, what Russellian analysis does is to suggest its replacement by a quite different ontological object. This is true of

<sup>11</sup> Perhaps Monk has fallen into the trap, discussed in the previous section, of taking too literally Russell's use of examples like the analysis of water into hydrogen and oxygen as examples of analysis. Such examples may be useful for making particular points about analysis, but should not be taken as examples of *philosophical* analysis.

all of the paradigmatic examples of Russellian analysis – the definition of number, definite descriptions, the analysis of classes, the analysis of cardinal numbers, etc. I am unaware of any instance of Russellian analysis that squares with Monk's account. No wonder that Monk is dimly aware that his position might face some difficulties:

... Russell is sometimes regarded as having forgotten – or perhaps misunderstood – the nature of his own philosophical achievements. For isn't his theory of descriptions, for example, a 'paradigm of philosophy' precisely because it demonstrates the value of linguistic analysis in philosophy, of demonstrating that philosophical clarity can be achieved through the analysis of sentences? It is true, of course, that this is how this theory – and much else in Russell's work – has been absorbed in 'the literature', but we should, I think, not lose sight of the fact that this is not, and never was, how Russell himself understood the matter. (Monk 1996b, pp. 4–5)

On the contrary, I take it that enough has been said in this chapter to show that, *prima facie*, any misunderstandings on these matters are entirely Monk's.

#### CONCLUSION

This chapter has sought to provide a brief account of Russell's crucial but little appreciated method of analysis. Major characteristics of the method of philosophical analysis have been described. It has been argued that this method underpins Russell's best known contributions to philosophy. Then, because his later work has been rather neglected, some of this work was discussed in detail to show that it exemplified the same overall philosophical method. This procedure has had the effect of emphasising the unity and continuity of Russell's philosophy, as well as clearing up a number of common misconceptions, in particular the relationship of philosophical analysis to scientific method. However, as the discussion of Monk's erroneous interpretation has shown, there is a long way to go before Russell's distinctive contribution to philosophy will be properly appreciated.

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