LECTURE ON A MASTER MIND

BERTRAND RUSSELL AS A PHILOSOPHER

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I

Russell's Approach to Philosophy

THE popular conception of a philosopher as one who combines universal learning with the direction of human conduct was more nearly satisfied by Bertrand Russell than by any other philosopher of our time. Other philosophers, though not many in this country, have taken an active part in public life, but none of these matches Russell in the width of his interest in the natural and social sciences or in the range of the contributions which he made to philosophy itself. He himself, no doubt with good reason, attached the greatest value to the work which he did on mathematical logic, both in its philosophical and technical aspects, but the interest which he also paid to the theory of knowledge, to the philosophy of mind, to the philosophy of science, and to metaphysics in the form of ontology was comparably rewarding. In all these domains, Russell's work has had a very great influence upon his contemporaries, from the beginning of the century up to the present day. In the English-speaking world at least, there is no one, with the possible exception of his pupil Ludwig Wittgenstein, who has done so much in this century, not only to advance the discussion of particular philosophical problems, but to fashion the way in which philosophy is practised.

As he relates in his autobiography, Russell was led to take an interest in philosophy by his desire to find some good reason for believing in the truth of mathematics. Already at the age of eleven, when he had been introduced by his brother to Euclidean geometry, he had objected to having to take the axioms on trust. He eventually agreed to accept them, only because his brother assured him that they could not make any progress otherwise, but he did not give up his belief that the propositions of geometry, and indeed those of any other branch of mathematics,

needed some ulterior justification. For a time, he was attracted to John Stuart Mill's view that mathematical propositions are empirical generalizations, which are inductively justified by the number and variety of the observations that conform to them, but this conflicted with the belief, which he was unwilling to relinquish, that mathematical propositions are necessarily true. Taking the necessity of the propositions of formal logic to be relatively unproblematic, he chose rather to try to justify mathematics by showing it to be derivable from logic. This enterprise, in which he had been anticipated by Gottlob Frege, required, first, the discovery of a method of defining the fundamental concepts of mathematics in purely logical terms, and secondly, the elaboration of a system of logic which would be sufficiently rich for the propositions of mathematics to be deducible from it. The first of these tasks was carried out, among other things, in *The Principles of Mathematics*, which Russell published in 1903, when he was just over thirty years of age, and the second, in which he had the assistance of Alfred North Whitehead, in the three monumental volumes of *Principia Mathematica*, which appeared between 1910 and 1913.

How far Russell and Whitehead succeeded in their attempt to reduce mathematics to logic is a question into which I shall not enter here. That there has been a junction of mathematics with logic is not disputable, but whether this is to be regarded as an annexation of mathematics by logic or of logic by mathematics depends very largely on the status which one assigns to set-theory. The point which I wish to make here is that both Russell's belief that the propositions of mathematics stand in need of justification and his method of justifying them, by reducing them to propositions which apparently belong to another domain, are distinctive of his whole approach to philosophy. He was a consistent sceptic, in the sense of holding that all our accepted beliefs are open to question; he conceived it to be the business of philosophy to try to set these doubts at rest, and for reasons which I shall presently give, he thought that the best way of setting them at rest was to reduce the propositions on which they bore to propositions which themselves were not doubtful to the same degree.

In most cases, the reason why Russell thought that the truth of a given class of propositions was open to doubt was that they referred to a type of entity of whose existence one could not be certain. He came to believe that the acceptance of any proposition, which was not simply a minuting of one's own current

experience, was the outcome of some form of inference, but thought it important to distinguish between inferences which remained at the same level, in the sense that the entities which were referred to in the conclusion were of the same sort as those which already figured in the premisses, and inferences in which there was a transition to a different level. Inferences of the second type were more hazardous, just because of the possibility that the additional entities which were introduced in their conclusions did not in fact exist. Russell himself made this point very clearly in relation to his attempt to reduce numbers to classes.

> Two equally numerous collections [he said] appear to have something in common: this something is supposed to be their cardinal number. But so long as the cardinal number is inferred from the collections, not constructed in terms of them, its existence must remain in doubt, unless in view of a metaphysical postulate *ad hoc*. By defining the cardinal number of a given collection as the class of all equally numerous collections, we avoid the necessity of the metaphysical postulate, and thereby remove a needless doubt from the philosophy of arithmetic.[1]

Russell referred to this as an application of what he called 'the supreme maxim in scientific philosophizing': 'Wherever possible, logical constructions are to be substituted for inferred entities.'[2] An object was said by him to be a logical construction or, as he sometimes preferred to put it, a logical fiction, when the propositions in which it figures can be analysed in such a way that in the propositions which result from the analysis the object no longer appears as a subject of reference. Thus, classes were treated by Russell as logical fictions on the ground that the propositions in which we refer to classes can be satisfactorily replaced by propositions in which we refer not to classes but to propositional functions. Points and instants are logical fictions because the demands which we make of them are equally well satisfied by suitably ordered sets of volumes or events. The self is a logical fiction in the sense that it is nothing apart from the events which constitute its biography. In this case, the effect of adopting Russell's maxim is that we discover the principle according to which different states are to be assigned to the same self, not in fastening upon some further entity, a spiritual substance, to which they bear a common relation, but rather in drawing attention to some special relations which they bear to one another.

[1] *Mysticism and Logic*, p. 156. [2] Ibid., p. 155.

This last example shows that when Russell spoke of an object as a logical fiction, he did not mean to imply that it was imaginary or non-existent. To say that Plato and Socrates are logical fictions is not to class them with fictitious entities, like Theseus or Hercules. Similarly, in the period during which Russell held that physical objects were logical constructions, he did not wish to suggest that they were unreal in the way that gorgons are unreal. What he meant rather was that they are not resistant to analysis; when they are subjected to it, they dissolve into something else. Logical fictions do indeed exist, but only in virtue of the existence of the elements out of which they are constructed. As Russell put it, they are not part of the ultimate furniture of the world.

This raises the question how we are to determine what ultimately exists. Russell employed two criteria which he handled in such a way that they led somewhat circuitously to the same result. The first criterion, as I have already indicated, is epistemological. The basic entities are those of whose existence we can be the most certain. We shall see later on that Russell interpreted this criterion in a liberal fashion, allowing it to cover not just the hardest of data, which were, in his view, the feelings, images, and sense-impressions that one is currently having, but also data of this class which one remembers having had, data which are or have been presented to others, and even merely possible sense-impressions to which he gave the name of sensibilia. His reason for this liberality was that it is the least that is consistent with the possibility of constructing anything worth having: his apology for it was that the entities which he postulated were not of a different order from those which are primitively given. Even so, we shall also see that he ended by finding this basis too narrow. In the picture of the world at which he eventually arrived the main elements are not even of the order of hard data, at least in any straightforward sense, but events not directly accessible to observation, in which our belief is founded on a hazardous process of inference.

The second criterion is logical. It requires that the basic entities be simple, both in the sense of being individuals, as opposed to classes, and in the sense that they be capable of being denoted by what Russell called logically proper names. To explain how this second condition operates it will be necessary to say something about Russell's theory of descriptions.

II

The Theory of Descriptions and The Theory of Types

The problems which led Russell to formulate his theory of descriptions were connected with his assumption that the meaning of a name is to be identified with the object which the name denotes. The question whether a sign is a name is thereby linked with the question whether there is an object for which it stands. In what may be called his Platonic period, which covers the publication of *The Principles of Mathematics*, Russell was extremely liberal in his provision of objects. Anything that could be mentioned was said by him to be a term; any term could be the logical subject of a proposition; and anything that could be the logical subject of a proposition could be named. It followed that the range of objects which it was possible to name was not limited to things which actually existed at particular places and times: it extended also to abstract entities of all sorts, to non-existent things like Pegasus or the present King of France, even to logically impossible objects like the round square or the greatest prime number. Such things might not exist in space and time; but the mere fact that they could be significantly referred to was taken to imply that they had some form of being.

Russell did not long remain satisfied with this position. Not only did it exhibit what he called 'a failure of that feeling for reality which ought to be preserved even in the most abstract studies,'[1] but it raised difficulties which it had not the resources to meet. For example, if denoting phrases like 'the author of *Waverley*' function as names, and if the meaning of a name is identical with the object which it denotes, it will follow that what is meant by saying that Scott was the author of *Waverley* is simply that Scott was Scott. But, as Russell pointed out, it is clear that when George IV wanted to know whether Scott was the author of *Waverley*, he was not expressing an interest in the law of identity. Again, if the phrase 'the present King of France' denotes a term, and if the law of excluded middle holds, one or other of the two propositions 'The present King of France is bald' and 'The present King of France is not bald' must be true. Yet if one were to enumerate all the things that are bald and all the things that are not bald, one would not find the present King of France on either list. Russell remarked characteristically that 'Hegelians, who love a synthesis, will probably

[1] *Introduction to Mathematical Philosophy*, p. 165.

conclude that he wears a wig'.[1] On this view, there is a difficulty even in saying that there is no such person as the present King of France, since it would appear that the term must have some form of being for the denial of its existence to be intelligible. The problem, in Russell's words, is 'How can a non-entity be the subject of a proposition?'[1]

These difficulties are inter-connected. They all arise from the combination of two assumptions: first, that denoting phrases like 'the present King of France' and 'the author of *Waverley*' function as names, and, secondly, that a name has no meaning unless there is some object which it denotes. In order to meet them, therefore, Russell had to abandon at least one of these assumptions, and he chose to abandon the first. His theory of descriptions is designed to show that expressions which are classifiable as definite or indefinite descriptions are not used as names, in that it is not necessary for them to denote anything, in order to have a meaning. Or rather, since Russell came to the conclusion that expressions of this kind have no meaning in isolation, his point is better put by saying that it is not necessary for them to denote anything in order to contribute what they do to the meaning of the sentences into which they enter. Russell characterized these expressions as 'incomplete symbols', by which he meant not only that they were not required to denote anything, but also that they were not resistant to analysis. The theory of descriptions was intended to show that descriptive phrases satisfied these two conditions.

The method by which this is achieved is very simple. It depends on the assumption that in all cases in which a predicate is attributed to a subject, or two or more subjects are said to stand in some relation, that is to say, in all cases except those in which the existence of a subject is simply asserted or denied, the use of a description carries the covert assertion that there exists an object which answers to it. The procedure is then simply to make this covert assertion explicit. The elimination of descriptive phrases, their representation as incomplete symbols, is achieved by expanding them into existential statements and construing these existential statements as asserting that something, or in the case of definite descriptive phrases, just one thing, has the property which is contained in the description. So in the simplest version of the theory, which is set out in *Principia Mathematica*, a sentence like 'Scott is the author of *Waverley*' is

[1] 'On Denoting', *Logic and Knowledge*, p. 48.

expanded into 'There is an x, such that x wrote *Waverley*, such that for all y, if y wrote *Waverley*, y is identical with x, and such that x is identical with Scott'. Similarly, 'The present King of France is bald' becomes 'There is an x, such that x now reigns over France, such that for all y, if y now reigns over France, y is identical with x, and such that x is bald'. The question how a non-entity can be the subject of a proposition is circumvented by changing the subject. The denoting phrase is transformed into an existential statement which in this case happens to be false.

Once this procedure is understood, it can be seen to be applicable not only to phrases which are explicitly of the form 'a so-and-so' or 'the so-and-so' but to any nominative sign which carries some connotation. The connotation of the sign is taken away from it and turned into a propositional function: when an object is found which satisfies the function, the same treatment is applied so that the original function is augmented by another predicate, and so the process continues until we get to the point where the subject of all these predicates is either referred to indefinitely by means of the existential quantifier or named by a sign which has no connotation at all. It follows that the only function which is left for a name to fulfil is that of being purely demonstrative. In his more popular expositions of his theory, Russell did sometimes write as if he took ordinary proper names like 'Scott' really to be names, but since he held, in my view rightly, that such proper names do have some connotation, his more consistent view was that they are implicit descriptions. Like ordinary descriptions, they can be used significantly even though the objects to which they purport to refer do not exist. On the other hand, it is a necessary condition for anything to be what Russell called a logically proper name that its significant use guarantees the existence of the object which it is intended to denote. Since the only signs which satisfied this condition, in Russell's view, were those that refer to present sensory or introspective data, it is here that he achieved the fusion of his two criteria, the logical and the epistemological, for determining what there ultimately is.

The theory of descriptions, which was at first received very favourably, has more recently met with the objection that it does not give an accurate account of the way in which definite descriptive phrases are actually used. Thus, it has been suggested that such phrases are normally understood not as covertly asserting but rather as pre-supposing the existence of the object

to which they are intended to refer, with the result that in the cases where the reference fails, the propositions which the descriptive phrases help to express should be said not to be false but to be lacking in truth value. It has also been remarked that very often the sentences in which we intend to pick out some object by the use of a descriptive phrase are not amenable to Russell's treatment, as they stand. When we say 'The baby is crying' or 'The kettle is boiling' we do not mean to imply that there is only one baby or one kettle in the universe. The pinpointing of the object to which we are referring is supposed to be effected by the context. But if we have to insert into a sentence of this sort some predicate which the object in question uniquely satisfies, the mere fact that there may be several different predicates which serve this purpose makes it at least very doubtful whether the proposition at which we arrive as the result of the analysis can be logically equivalent to that which was expressed by the sentence with which we began.

These objections would be serious if the theory of descriptions were intended to provide exact translations of the sentence on which it operates. But in fact, though Russell himself may not have been wholly clear about this, what the theory supplies is not a rule of translation but a technique of paraphrase. Its method is to make explicit the information which is implicitly contained in the use of proper names or left to be picked up from the context. It is true that the assumption from which the theory started, that the meaning of a name is to be identified with the object which the name denotes, is itself mistaken. But curiously this mistake, so far from invalidating the theory, turns to its advantage. For as a result of laying upon names a condition which the signs that are ordinarily counted as names do not satisfy, Russell arrived at what may well be the correct conclusion that names in their ordinary employment are dispensable. The thesis that all the work that is done by singular terms can equally well be done by purely general predicates is indeed contestable, but it is in any case important to distinguish between the two functions that names commonly perform, that of indicating objects, and that of holding predicates together. In the theory of descriptions, these two functions are dissociated, the work of reference being performed by purely demonstrative signs, and the work of holding predicates together by quantified variables. Since purely demonstrative signs, if they are needed at all, can be embedded in predicates, only the use of quantified variables remains to mark the subject-predicate distinction. So

if, as has been suggested,[1] variables themselves can be replaced by combinatorial operators, the old distinction between subjects and predicates disappears. All that may possibly have to remain in its place is the distinction between demonstrative and descriptive signs.

Since the distinction between subject and predicate corresponds, in one of its aspects, to that between substance and attribute, it was quite in accordance with his theory of descriptions that Russell eventually came to the conclusion that substances could be represented as groups of compresent qualities. This theory was developed by him in two of his later works, *An Inquiry into Meaning and Truth*, which was published in 1940, and *Human Knowledge: Its Scope and Limits*, which appeared in 1948, when Russell was seventy-six years of age. An interesting feature of it is that it again marks a point at which his philosophy of logic is connected with his theory of knowledge. The elimination of substance, though consonant with the theory of descriptions, is not demanded by it. Russell might have been content to allow his quantified variables to refer indefinitely to what he called bare particulars, these being in effect the Lockean substances to which his analysis had pared objects down. If he took the further step of reducing these particulars to their qualities, it was because he shared Berkeley's distaste for the admission of what Locke could only describe as 'A something. I know not what'. Once again he sought to dispense with an unnecessary entity, not just from a liking for economy, but rather to avoid the danger of postulating what did not exist.

An important historical effect of the theory of descriptions was to bring into currency the distinction between the grammatical form of a sentence and what Russell called its logical form. This distinction is not an altogether clear one, since the notion of logical form is itself not wholly clear. There was a tendency on Russell's part to believe that facts had a logical form which sentences could copy: the logical form which underlay the grammatical form of an indicative sentence was then identified with the logical form of the actual or possible fact which would verify what the sentence expressed. This would seem, however, to be putting the cart before the horse, since it is difficult to see what means there could be of determining the logical forms of facts other than through the grammatical forms of the sentences which are used to state them. It is a matter of deciding on other grounds which forms of sentences convey

[1] Cf. W. V. Quine, 'Variables Explained Away', *Selected Logical Papers*.

their information most perspicuously. Nevertheless, the distinction between grammatical and logical form has proved fruitful in drawing attention to the dangers of our being misled by grammatical appearances. We are not to assume, because the word 'exists' is a grammatical predicate, that existence is a property of what is denoted by the grammatical subject. The fact that 'to know' is an active verb should not deceive us into thinking that knowing is a mental act. The general point which emerges is that sentences which superficially happen to have the same structure may be transformable in very different ways.

A similar influence has been exerted by Russell's theory of types. This theory was devised to deal with an antinomy in the theory of classes, which for a long time impeded the progress of *Principia Mathematica*. The antinomy arises when one predicates of a class that it is or is not a member of itself. At first sight, this may seem legitimate: for example, it seems reasonable to say, on the one hand, that the class of things which can be counted is itself something that can be counted, and, on the other, that the class of men is not itself a man. In this way we appear to obtain two classes of classes: the class of classes which are members of themselves and the class of classes which are not members of themselves. But now if we ask with respect to this second class of classes whether or not it is a member of itself, we get the contradictory answer that if it is, it is not and if it is not, it is.

Russell's solution of this paradox depends on the principle that the meaning of a propositional function is not specified until one specifies the range of objects which are candidates for satisfying it. From this it follows that these candidates cannot meaningfully include anything which is defined in terms of the function itself. The result is that propositional functions, and correspondingly propositions, are arranged in a hierarchy. At the lowest level we have functions which range only over individuals, then come functions which range over functions of the first order, then functions which range over functions of the second order, and so forth. The system has ramifications into which I shall not here enter but the main idea is simple. Objects which are candidates for satisfying functions of the same order are said to constitute a type, and the rule is that what can be said, truly or falsely, about objects of one type cannot meaningfully be said about objects of a different type. Consequently, to say of the class of classes which are not members of themselves that it either is, or is not, a member of itself is neither true nor false, but meaningless.

Russell applies the same principle to the solution of other logical antinomies and also to that of semantic antinomies like the paradox of the liar in which a proposition is made to say of itself that it is false, with the result that if it is true, it is false and if it is false, it is true. The theory of types eliminates the paradox by ruling that a proposition of which truth or falsehood is predicated must be of a lower order than the proposition by which the predication is made. Consequently, a proposition cannot meaningfully predicate truth or falsehood of itself.

But while the theory of types achieves its purpose, it is arguable that it is too stringent. One difficulty which troubled Russell is that it is sometimes necessary in mathematics to express propositions about all the classes that are composed of objects of any one logical type. But then the obstacle arises that, in the ramified theory, the functions which a given object is capable of satisfying may not themselves be all of the same type, and while there is no objection to our asserting severally of a set of functions of different types that they are satisfied by the same object, we violate the theory when we try to attribute to the object the property of satisfying the totality of these functions: for according to the theory, no such totality can meaningfully be said to exist. Russell met this difficulty by assuming the so-called Axiom of Reducibility. He said that two functions were formally equivalent when they were satisfied by the same objects; and he called a function predicative when it did not involve reference to any collection of functions. Then the Axiom of Reducibility is that with regard to any function F which can take a given object A as argument, there is some predicative function, also having A among its arguments, which is formally equivalent to F. This does, indeed, meet the difficulty but it remains open to question whether the Axiom of Reducibility is a logical truth.

A simpler reason for thinking that the theory of types may be too stringent is that very often we do seem able to speak in the same way significantly about objects of different types. For instance, we can count objects at different levels, yet we do not think that numerical expressions have a different meaning according as they are applied to classes which differ in the type of their membership. Russell's answer was that in such a case the expressions do have a different meaning. Expressions which seem to be applicable to objects of different types were said by him to be systematically ambiguous. It was because the ambiguity is systematic that it escaped our notice. The fact is, however,

that were it not for the theory of types, we should have no reason for saying in these cases that there was any ambiguity.

In the face of such difficulties, many logicians have preferred to dispense with the theory of types and try to find some other way of dealing with the paradoxes which it was designed to meet. For instance, there are those who hold that the class-paradox can be avoided by depriving it of its subject: they maintain that there just is no class of classes which are not members of themselves. But, whatever its status within logic, the theory has, as I said, had a very strong secondary influence. By lending support to the view that sentences to which there is no obvious objection on the score of grammar or vocabulary may even so be meaningless, it encouraged the Logical Positivists in their attack on metaphysics, and it also helped to make philosophers alive to the possibility of what Professor Ryle has called category mistakes, which consist in ascribing to objects, or events or processes, or whatever it may be, properties which are not appropriate to their type, as when dispositions are confused with occurrences, tasks with achievements, or classes with their members. My own view is that there has been a tendency to exaggerate the extent to which philosophical puzzles arise out of category mistakes, but this is not to deny the fruitfulness of the concept in the cases where it does apply.

III

Russell's Theories of Knowledge

I said earlier that one of the criteria which Russell used for determining what there ultimately is was that of accessibility to knowledge. He took as basic the entities of whose existence and properties we could be the most nearly certain, and these, following the classical tradition of British empiricism, he identified with the immediate data of inner and outer sense. In his book *The Problems of Philosophy*, which was published in 1912, he used the term 'sense-data' to designate 'the things that are immediately known in sensation',[1] and made a point of distinguishing sense-data both from physical objects on the one hand and from sensations on the other, a sensation being, in his view, a mental act which had a sense-datum for its object. Since he saw no reason why the objects of mental acts should themselves be in the mind, he concluded that it was not logically impossible that sense-data should exist independently of being

[1] *The Problems of Philosophy*, p. 12.

sensed. If he nevertheless believed that they did not so exist, it was because he took them to be causally dependent on the bodily state of the percipient. It was also on empirical grounds that he took sense-data to be private entities. This would seem in any case to follow from the assumption that they are causally dependent upon the bodily state of the percipient, but, in regard at least to visual data, Russell used the further argument that the differences in perspective, which he supposed to arise from the fact that no two observers could simultaneously occupy the same spatial position, made it very improbable that the sense-data which they respectively sensed would ever be qualitatively identical.

In *The Analysis of Mind*, which was published in 1921, Russell gave up his belief in the existence of mental acts. This was partly because he had come to believe that the self which was supposed to perform these acts was a logical fiction, and partly because he had decided that no such things were empirically detectable. Since he no longer believed that there were sensations, as he had previously conceived of them, the idea of there being objects of sensations also had to go, and to this extent he also gave up his belief in the existence of sense-data. But although, in his book *My Philosophical Development*, which appeared in 1959, he spoke of himself as having 'emphatically abandoned'[1] sense-data at this time, the change in his view is much less radical than this would suggest. He did stop using the term 'sense-datum' but he continued to speak of percepts, to which he attributed the same properties as he had attributed to sense-data except that of being correlative to sensory acts.

In any case, the question which chiefly interested him was not how sense-data, or percepts, are related to the persons who experience them but how they are related to the physical objects which we think that we perceive; and on this question he consistently took the view that physical objects are not directly perceived. Here again he follows the classical empiricist tradition in relying on what is known as the argument from illusion. In *The Problems of Philosophy*, he concentrated mainly on the fact that the appearances of physical objects vary under different conditions, which he interpreted as showing that none of them can be identified with the real properties of the objects in question: but in his later writings he attached greater importance to the causal dependence of these appearances upon the environment and upon the character of our nervous systems.

[1] *My Philosophical Development*, p. 245.

Thus, he was used to remarking that the fact that light takes time to travel shows that when we look at an object like the sun we do not see it in the state in which it currently is but only, at best, in the state in which it was several minutes ago. But his main argument went deeper. He maintained that since the perceptible properties, such as size and shape and colour, which we attribute to physical objects, appear to us as they do partly because of the states of our nervous systems, we have no good reason to believe that the objects possess these properties in the literal way in which they are thought to by common sense. If the attitude of common sense is represented by naïve realism, the theory that we directly perceive physical objects much as they really are, then Russell's opinion of common sense was that it conflicted with science: and in such a contest he thought that science ought to be held victorious. As he put it in *An Inquiry into Meaning and Truth* in a formulation which greatly impressed Einstein: 'Naïve realism leads to physics, and physics, if true, shows that naïve realism is false. Therefore, naïve realism, if true, is false: therefore it is false.'[1]

Whether such arguments do prove that we directly perceive sense-data, or percepts, as opposed to physical objects, is open to doubt. The fact that a curtain may appear a different colour to different observers or to the same observer under different conditions does indeed show that our selection of one particular colour as the real colour of the curtain is to some extent arbitrary, but it hardly seems to warrant the conclusion that what one sees is not the curtain but something else. The fact that light from a distant star may take years to reach us does refute the naïve assumption that we see the star as a contemporary physical object but again does not seem sufficient to prove that we see some contemporary object which is not the star. The causal argument is indeed more powerful. If we make it a necessary condition for a property to be intrinsic to an object that it can be adequately defined without reference to the effects of the object upon an observer, then I think that a good case can be made for saying that physical objects are not intrinsically coloured, though whether this entitles us to say that they are not 'really' coloured will still be debatable. Even so, it does not obviously follow that the colour which we attribute to a physical object is a property of something else, a sense-datum or a percept. If we are going to draw any such conclusion from

[1] *An Inquiry into Meaning and Truth*, p. 126.

Russell's arguments we shall have to make two further assumptions: first, that when we perceive a physical object otherwise than as it really is, there is something we can be said to perceive directly, which really has the properties that the physical object only appears to us to have; and secondly, that what we directly perceive, in this sense, is the same, whether the perception of the physical object is veridical or delusive. Russell took these assumptions for granted, but they are not generally thought to be self-evident; indeed, most contemporary philosophers reject them.

My own view, for which I have argued elsewhere,[1] is that something like Russell's position can be reached more satisfactorily by another method. The first step is to remark that there is a sense in which our ordinary judgements of perception go beyond the evidence on which they are based: for instance, when I identify the object in front of me as a table, I am attributing to it many properties which are not vouchsafed by anything in the content of my present visual experience. The second step is to assume the possibility of formulating propositions which simply monitor the evidence without going beyond it. I call such propositions experiential propositions and claim that they are perceptually basic, in the sense that no ordinary judgement of perception can be true unless some experiential proposition is true. In accordance with Russell's later views, I conceive of the objects which figure in the propositions as complexes of qualities rather than particulars in which the qualities inhere. An important further point is that they are not private entities. At this primitive level, where neither physical objects or persons have yet been introduced, the question whether these sensory elements are public or private, physical or mental, does not significantly arise.

If we grant Russell this much of his starting point, then the next question which we have to consider is whether our primitive data are, as he put it, 'signs of the existence of something else, which we can call the physical object'.[2] The answer which he gave in *The Problems of Philosophy* was that we have a good if not conclusive reason for thinking that they are. The reason is that the postulation of physical objects as external causes of sense-data accounts for the character of the data in a way that is not matched by any other hypothesis. Russell did not then think

[1] See *The Origins of Pragmatism*, pp. 303–21, and 'Has Austin Refuted the Sense-datum Theory?' in *Metaphysics and Common Sense*.

[2] *The Problems of Philosophy*, p. 20.

that we could discover anything about the intrinsic properties of physical objects, but did think it reasonable to infer that they are spatio-temporally ordered in a way that corresponds to the ordering of sense-data.

The postulation of physical objects as unobserved causes was at variance with Russell's maxim that wherever possible logical constructions are to be substituted for inferred entities, and in his book *Our Knowledge of the External World as a Field for Scientific Method in Philosophy*, which was published in 1914, and in two essays, written in 1914 and 1915, which were reprinted in the collection entitled *Mysticism and Logic*, he sought to exhibit physical objects as logical constructions. It was for this purpose that he introduced the concept of a 'sensibile' with the explanation that sensibilia are objects of 'the same metaphysical and physical status as sense-data'.[1] Having, as I think mistakenly, assumed that sense-data had to be located in private spaces, on the ground that there could be no spatial relations between the data which were experienced by different observers, Russell took the same to be true of sensibilia. He then gave a technical meaning to the word 'perspective' which was such that two particulars, whether sense-data or sensibilia, were said to belong to the same perspective if and only if they occurred simultaneously in the same private space.

The theory which Russell developed with these materials has some affinity with Leibniz's monodology. He treated each perspective as a point in what he called 'perspective-space', which, being a three-dimensional arrangement of three-dimensional perspectives, was itself a space of six dimensions. The physical objects which had their location in perspective-space were identified with the classes of their actual and possible appearances. To illustrate how appearances were sorted, Russell used the example of a penny which figures in a number of different perspectives. All the perspectives in which the appearances of the penny are of exactly the same shape are to be collected and put on a straight line in the order of their size. In this way we obtain a number of different series in each of which a limit will be reached at the point 'where (as we say) the penny is so near the eye that if it were any nearer it could not be seen'.[2] If we now imagine all these series to be prolonged, so as to form lines of perspectives continuing

[1] *Mysticism and Logic*, p. 148. [2] Ibid., p. 162.

'beyond' the penny, the perspective in which all the lines meet can be defined as 'the place where the penny is'.[1]

Russell then drew a distinction between the place *at* which and the place *from* which a sense-datum or a sensibile appears. The place at which it appears is the place where the thing is of which it is an element. The place from which it appears is the perspective to which it belongs. This enabled him to define 'here' as 'the place in perspective-space which is occupied by our private world', a place which in perspective-space 'may be part of the place where our head is'[2] and it also afforded him a means of discriminating the various distances from which a thing may be perceived, and of distinguishing changes in the objects from changes in the environment or in the state of the observer.

This theory is highly ingenious, but seems to me to fail on the count of circularity. The difficulty is that if the physical object is to be constructed out of its appearances, it cannot itself be used to collect them. The different appearances of the penny, in Russell's example, have first to be associated purely on the basis of their qualities. But since different pennies may look very much alike, and since they may also be perceived against very similar backgrounds, the only way in which we can make sure of associating just those sensibilia that belong to the same penny is by situating them in wider contexts. We have to take account of perspectives which are adjacent to those in which they occur. But then we are faced with the difficulty that perspectives which contain only sensibilia as opposed to sense-data are not actually perceived; and there seems to be no way of determining when two unperceived perspectives are adjacent without already assuming the perspective-space which we are trying to construct.

Another serious difficulty is that the method by which Russell ordered the elements of his converging series is not adequate for the purpose. He relied on the assumption that the apparent size of an object varies continuously with the distance and its apparent shape with the angle from which the object is viewed. But, in view of the principle of constancy, this is psychologically false. The assumption might be upheld, if apparent shapes and sizes were determined physiologically, but to do this would again be to bring in physical objects before we had constructed them.

[1] *Mysticism and Logic*, p. 162.
[2] *Our Knowledge of the External World*, p. 92.

The main source of these difficulties, in my view, is Russell's mistaken assumption that his sensory elements are located in private spaces. But for this assumption, there would be no need for the complicated ordering of so many perspectives. As I have argued elsewhere,[1] we can obtain the equivalent of Russell's sensibilia merely by projecting spatial and temporal relations beyond the sense-fields in which they are originally given. Because of the fact that similar percepts are usually obtainable at the meeting point of similar sensory routes, we are able to postulate the existence at these points of what I call standardized percepts. We can then proceed inductively to locate such percepts in positions which we have not actually traversed. In this way we obtain a skeleton of the physical world of common sense which we can further articulate by various processes of correlation. It is true that this method will not enable us to achieve Russell's goal of exhibiting physical objects as logical constructions out of sensibilia. We shall not be able to translate propositions which refer to physical objects into propositions which refer only to percepts. We shall, however, be able to show how our belief in the physical world of common sense is constituted as a theory with respect to a primary system of percepts, and how this system in its turn is theoretically based on the data which figure in our experiential propositions, all without the introduction of any higher-level entities. And this I believe to be the most that is feasible.

Russell carried his reductionism to its furthest point in his book *The Analysis of Mind*, which was published in 1921. Largely following William James, he there maintained that both mind and matter were logical constructions out of primitive elements which were themselves neither mental or physical. Mind and matter were differentiated by the fact that certain elements such as images and feelings entered only into the constitution of minds, and also by the operation of different causal laws. Thus the same percepts when correlated according to the laws of physics constituted physical objects and when correlated according to the laws of psychology helped to constitute minds. In their mental aspect, these elements engaged, among other things, in what Russell called 'mnemic causation', a kind of action at a distance by which experienced data produced subsequent memory images. On the view which he there took, but later became dissatisfied with, that causation is just

[1] See *The Origins of Pragmatism*, pp. 239–41 and 322–3, and *Russell and Moore*, p. 65.

invariable sequence, there is no theoretical objection to such action at a distance, but Russell ceased to believe in it on the ground of its being inconsistent with the principle, which he adopted in *Human Knowledge*, that events which enter into causal chains are spatio-temporally continuous. He remained faithful to the view that minds are logical constructions, without, however, anywhere giving a precise account of the relations which have to hold between different elements for them to be constituents of the same mind, and he continued to hold, as he put it in the collection of essays entitled *Portraits from Memory*, which he published in 1958, that 'An event is not rendered either mental or material by any intrinsic quality but only by its causal relations'.[1] It is, however, to be noted, first, that this is inconsistent with his earlier view that images and feelings are intrinsically mental and, secondly, that his final reason for the assimilation of mental and physical events is not that they are both constructed out of the same elements but rather that what are called mental events are identical with physical states of the brain.

This is in line with Russell's abandonment, in his later works, of the view that physical objects are logical constructions, in favour of his earlier view that they are inferred entities. In his book, the *Analysis of Matter*, which was published in 1927, there are passages which suggest that he still wanted to identify physical objects with groups of percepts, but more often he took it to follow from the causal theory of perception, which he held to be scientifically established, that we have no knowledge of the intrinsic properties of physical objects or any direct acquaintance with physical space, though he held that we could legitimately infer that it had some structural correspondence with perceptual space. Another conclusion which he drew from the causal theory of perception was that everything that we perceive is inside our own heads. This does indeed sound very paradoxical, but a case can be made for it if one accepts Russell's distinction between perceptual and physical space. For what it then comes to is the reasonable enough decision to identify the physical location of percepts with that of their immediate physical cause. The difficulty is rather that the underlying distinction is hard to accept. Neither is it clear what reasons Russell thought he had for taking the further step of identifying percepts with the events in the brain which are ordinarily thought to cause them.

[1] *Portraits from Memory*, p. 152.

The view that physical objects are known to us only by inference, as the external causes of our percepts, with the corollary that we can know something of their intrinsic properties, was fairly consistently maintained by Russell in *Human Knowledge* and other later works. One obvious difficulty with any theory of this kind is to see how we can be justified in inferring that any such external objects exist at all. We may, indeed, be entitled to postulate unobservable entities, so long as the hypotheses into which they enter have consequences which can be empirically tested, but it seems to me that a more serious problem is created when these unobservable objects are held to be located in an unobservable space. Not only is it not clear to me what justification there could be for believing in the existence of an unobservable space, but I am not even sure that I find the concept of such a thing intelligible.

A further objection is that the causal theory of perception on which Russell relied itself seems to require that physical objects be located in perceptual space. When my seeing the table in front of me is explained in terms of the passage of light-rays from the table to my eye, the assumption is surely that the table is there when I see it. It is true that we sometimes distinguish between the place where a physical object really is and the place where it appears to be, but the calculations which enable us to make such distinctions are themselves based on the assumption that other objects are where they appear to be. It is only because we start by equating the physical position of things around us with the observed positions of standardized percepts that our more sophisticated methods of locating more distant objects can lead to verifiable results.

This does not mean that we are driven back to naïve realism. Even if we do not accept Russell's distinction between physical and perceptual space, it still remains open to us to regard physical objects as really possessing only those structural properties that physicists ascribe to them. We are not even deterred from regarding percepts as being private to the percipient. Having developed the common-sense conception of the physical world as a theoretical system with respect to sensory qualities, we can interpret into the system the elements on which it is founded. The physical object is set against the percepts from which it was abstracted and made causally responsible for them. The relatively constant perceptual qualities which are attributed to it come to be contrasted with the fluctuating impressions which different observers have of it, and the impres-

sions assigned to the observers. At a still more sophisticated level, we can replace the common-sense physical object by the scientific skeleton on which the causal processes of perception are taken to depend. In this way I believe that a fusion of Russell's theories may lead us to the truth.

IV

Morals and Politics

Of the seventy-one books and pamphlets that Russell published in the course of his life, only about twenty could properly be classified as works of academic philosophy. The rest of them cover a very wide range, including as they do autobiographical writings, biographical writings, books of travel, books on education, books on religion, works of history, popularizations of science, and even two volumes of short stories; but the largest single class consists of works on social questions and on politics. From these works it is apparent, as it clearly was to anyone who knew him, that Russell held very strong moral convictions, but he was not very greatly concerned with ethical theory. Apart from an early essay on 'The Elements of Ethics', which was written about 1910 and included in his *Philosophical Essays*, his main contribution to the subject is to be found in his book on *Human Society in Ethics and Politics*, of which the ethical part was mainly written in 1945–6, although the book was not published until 1954.

The position which Russell took in the earlier essay owed almost everything to his friend G. E. Moore whose *Principia Ethica* had appeared in 1903. Like Moore he held that good is an indefinable non-natural quality, the presence of which is discoverable by intuition, that the objectively right action is the one, out of all the actions open to the agent, that will have the best consequences, in the sense that it will lead to the greatest favourable, or least unfavourable, ratio of good to evil, and that the action which one ought to do is that which appears most likely to have the best consequences. The only point on which he differed from Moore was in holding that the exercise of free-will, which is implied by attributions of moral responsibility, is not only not at variance with determinism but positively requires it. It is, he argued, only because volitions have causes that moral considerations can be brought to bear upon people's conduct. Russell's view of free-will was similar to Locke's in that it disregarded the question whether and in what sense it is

possible for us to will anything other than we do. Like Locke, he took it to be enough that our actions should be causally dependent on our choices, no matter how these might be caused.

In *Human Society in Ethics and Politics* Russell took the same view of free-will and he continued to hold that one ought to do the action which will probably have the best consequences, but for the rest he forsook Moore for Hume. He still found no logical flaw in the doctrine that we can know by intuition what is right or good, but objected to it that since people's intuitions conflict it reduced ethical controversy to a mere 'clash of rival dogmas'.[1] Moreover, the fact that the things to which we are inclined to attach intrinsic value are all things which are desired or enjoyed suggested to him that good might after all be definable 'in terms of desire or pleasure or both'.[2]

The definition which he proposed along these lines was that 'An occurrence is "good" when it satisfies desire'.[3] In another passage, however, he suggested that 'Effects which lead to approval are defined as "good" and those leading to disapproval as "bad"'.[4] These definitions can perhaps be reconciled by making the assumption that the effects which lead to approval are those which are thought likely to satisfy desire. This leaves it uncertain whether in calling something good I am to be understood as saying just that I approve of it, or that it is an object of general approval, and if it is just a question of my own approval, whether this is on the grounds of its satisfying my own desire or of its giving general satisfaction. Russell did not explicitly distinguish between these possibilities, but in the main he seems to have held that in calling something good I am stating, or perhaps just expressing, my own approval of it, on the ground that its existence is or would be found generally satisfying. Right actions then will be those that, on the available evidence, are likely to have better effects in this sense than any other actions which are possible in the circumstances.

This comes close to utilitarianism, the main difference being that Russell did not fall into the error of assuming that all desire is for pleasure. He was therefore able to admit that 'some pleasures seem to be inherently preferable to others',[5] without giving up his principle that all forms of satisfaction are equally valuable in themselves. At this point, however, there was some discrepancy between his theory and his application of it. In practice, he tended to look upon cruelty as inherently evil,

[1] *Human Society in Ethics and Politics*, p. 131. [2] Ibid., p. 113.
[3] Ibid., p. 55. [4] Ibid., p. 116. [5] Ibid., p. 117.

independently of the satisfaction or dissatisfaction that it might cause, and he also attached an independent value to justice, freedom, and the pursuit of truth.

The value which Russell attached to freedom comes out clearly in his political writings. His concern with politics became increasingly practical, but he took a strong interest in political theory. Himself an aristocrat, he thought that a good case could be made for an aristocratic form of government in societies where the material conditions were such that the enjoyment of wealth and leisure was possible only for a small minority. In societies in which it was economically possible for nearly everyone to enjoy a reasonably high standard of living he thought that the principle of justice favoured democracy. He said that although democracy did not ensure good government, it did prevent certain evils, the chief of these being the possession by an incompetent or unjust government of a permanent tenure of power. Russell was consistently in favour of the devolution of power and disliked and distrusted the aggrandizement of the modern state. This was one of the reasons for his hostility to Soviet Communism, as expressed in his book *The Theory and Practice of Bolshevism*, the outcome of a visit which he paid to Russia as early as 1919. If he seemed to become a little more sympathetic to the Soviet Union towards the end of his life, it was only because he had then become convinced that the policies of the American government represented the greater threat to peace.

Russell's desire to diminish rather than increase the power of the state set him apart from the ordinary run of socialists. He was, however, at one with them in wishing to limit the possession and use of private property, in seeing no justification for inherited wealth, and in being opposed to the private ownership of big businesses or of land. In his books, *Principles of Social Reconstruction* and *Roads to Freedom*, which were published in 1916 and 1918 respectively, he displayed a certain sympathy for anarchism, but declared himself more in favour of Guild Socialism, a system which provided for workers' control of industry and for the establishment of two Parliaments, one a federation of trades unions and the other a Parliament of consumers, elected on a constituency basis, with a joint committee of the two acting as the sovereign body. Russell himself added the original proposals that 'a certain small income, sufficient for necessaries, should be secured to all, whether they work or not',[1] that the expense of

[1] *Roads to Freedom*, p. 119.

children should be borne wholly by the community, provided that their parents, whether married or not, were known to be 'physically and mentally sound in all ways likely to affect the children'[1] and that 'a woman who abandons wage-earning for motherhood ought to receive from the state as nearly as possible what she would have received if she had not had children'.[2] He did not discuss how these measures could be afforded.

In his later political writings, though he continued to seek means of curbing the power of the state, Russell was more concerned with the relations between states than with questions of internal organization. Regarding nationalism as 'the most dangerous vice of our time'[3] he thought it likely to lead to a third world war which the use of atomic weapons would render far more terrible than any suffering that the human race had previously known. The only assurance that he could find against the continuing threat of such a disaster was the institution of a world government which would have the monopoly of armed force. While it was obviously better that such a government be constituted by international agreement, Russell thought it more likely to come about 'through the superior power of some one nation or group of nations'.[4] It was for this reason, since it was essential to his argument that the change be peaceful, that he advocated unilateral disarmament. The difficulty was that it was no more probable that a world government would come about peacefully in this fashion than through international agreement. One cannot but admire the passion which Russell brought to the discussion of this question, and the concern for humanity which inspired him; but in his treatment of it he seems both to have over-estimated the likelihood of global nuclear war and correspondingly under-estimated the merits of the traditional policy of maintaining a balance of power.

Russell's writings on political and social questions do not have the depth of his contributions to the theory of knowledge or the philosophy of logic, but they express the moral outlook of a humane and enlightened man and they add to the lucidity which was characteristic of all his work a special touch of elegance and wit. His style contains echoes of Voltaire, to whom he was pleased to be compared, and of Hume with whom he had the greatest philosophical affinity. Like Hume, he could be

[1] *Principles of Social Reconstruction*, p. 185. [2] Ibid., p. 184.
[3] *Education and the Social Order*, p. 138.
[4] *New Hope for a Changing World*, p. 77.

careless in matters of detail, especially in his later work. After the years of labour which he expended on *Principia Mathematica*, he became impatient with minutiae. The hostility which he displayed to the linguistic philosophy which became fashionable in England in the nineteen-fifties was partly directed against the minuteness of its approach, partly also against its assumption that philosophy could afford to be indifferent to the natural sciences. In an age when philosophical criticism increasingly fettered speculation, his strength lay in the sweep and fertility of his ideas. He was very much a hare and not a tortoise: but it is not the most probable of fables in which the hare does not win the race.