

On Russell's "brief but notorious flirtation with phenomenalism"

In his recent book entitled *Russell*, A.J. Ayer claims that Russell in 1914 abandoned the causal theory of perception for a version of phenomenalism.¹ Ayer says that Russell made no attempt to develop this theory after 1914, and that he tacitly reverted to the causal theory in his later works. It is true that Russell significantly revised his views on perception in 1914, but I hope to show that Russell's revisions did not involve rejection of a causal theory. Russell, by his own admission, changed his views many times during his rich and lengthy philosophical career. Many commentators have made capital of these changes in accusing Russell of incoherence, whereas attentive reading of the works from *The Problems of Philosophy* (1912) to *Human Knowledge* (1948) discloses a unity in the questions handled, along with growth and development in the answers provided.

Since Russell did change his theory of perception radically in 1914, one might ask whether my disagreement with Ayer is merely a verbal dispute about what one calls a causal theory. I do not believe this is the case. In the first place, although the causal theory accepted in 1914 is different from his earlier theory, it is a genuine causal theory in the sense that, like the earlier one, it locates perceptions at the end of causal chains which begin with physical objects. Russell continually emphasized this as a crucial feature of any correct theory of perception. Secondly, there is Ayer's claim that Russell lapses to the earlier theory in his later works. This, I believe, is a mistake. The mistake arises, quite naturally, from the difficulty in understanding how an event (in the early works, a sense-datum or sensible; and in the later works, sensations or percepts) can be caused by a physical object, when at the same time that event is one of the events out of which the physical object is constructed. When Russell's solution to this problem is grasped it is no longer feasible to attribute a reversion to the pre-1914 theory to him. Accordingly, one of the aims of this paper is to adumbrate Russell's solution.

¹A.J. Ayer, *Russell* (London: Fontana, 1972), pp. 72-102.

Russell's 1914 works, notably "The Relation between Physics and Sense-Data" and *Our Knowledge of the External World*,² contain suggestions which greatly influenced later versions of phenomenalism such as Carnap's *Aufbau*. Russell himself admits that in "The Relation between Physics and Sense-Data" he was strongly attracted by the possibility of interpreting physical objects as structures composed of elements actually experienced. However, *in the same paper*, he says that he became convinced that this was an impossible programme, and so "gave up the attempt to construct 'matter' out of experienced data alone, and contented [himself] with a picture of the world which fitted physics and perception into a single whole."³ Grover Maxwell refers to this passage when he speaks of Russell's "brief but notorious flirtation with phenomenalism in 1914."⁴ However, as Russell well knew, a flirtation does not constitute an espousal. The 1914 works have been the chief source of those who attribute phenomenalism to Russell in that period. The works are well known, but the passages in which Russell explicitly accepts a causal theory of perception have been surprisingly overlooked.

Prior to 1914 Russell accepted a version of the causal theory in which sense-data with which we are acquainted provide the basis for inferences to physical objects. The physical objects, such as tables and chairs, are things which we can know only indirectly, but they are the causes of sense-data. Ayer calls this inference to things a type different from the type of things directly known a "vertical inference", and he characterizes causal theories by their appeal to vertical inference.

Only two years after the publication of *The Problems of Philosophy* Russell realized something which called for a drastic revision in his theory of perception. At this time Russell was inspired by Whitehead's theory of matter, and was bolstered by the success they had had together in replacing inferred entities by logical constructions in *Principia Mathematica*. Russell regarded the use of this technique: "Whenever possible replace inferred entities by logical constructions", as the supreme maxim of scientific philosophizing. He sought to use this method

²*Our Knowledge of the External World as a Field for Scientific Method in Philosophy* (London: Allen and Unwin, 1926). This was first published in 1914. My references are to the 1926 edition. "The Relation between Physics and Sense-Data" was first published in 1914, and was reprinted in *Mysticism and Logic* (London: Longmans, Green, 1918; New York: Norton, 1929). All page numbers refer to the latter edition.

³*My Philosophical Development* (New York: Simon and Schuster, 1959), p. 105.

⁴*Bertrand Russell*, ed. D.F. Pears (New York: Anchor, 1972), p. 110.

to solve problems which arose from the apparent incompatibility between the knowledge we have of physical objects from our perceptions and the knowledge we have of the same objects through a study of modern physics. Common-sense views of perception tell us that these objects have certain features which they cannot possibly possess if physics is correct. For example, common sense tells us that the surfaces of these objects possess continuity with regard to color and tangibility, whereas physics tells us that the surfaces are outer layers of gappy systems of colorless particles.

While trying to present a coherent picture of the world from the viewpoints of both physics and perception, Russell made a remarkable discovery:

There were several novelties in the theory as to our knowledge of the external world which burst upon me on New Year's Day 1914. The most important of these was the theory that space has six dimensions and not only three.⁵

What we ordinarily think of as three-dimensional physical space is made up of points. Each of these points, however, may be considered as a perspective, or point of view, of a perceiver. At each perspective, then, there is a three-dimensional perceptual space which is private to the observer. This three-dimensional space at each point in a three-dimensional space yields a space with six dimensions.

The importance of this discovery, which to many must seem eccentric, baroque, or even unintelligible, cannot be overemphasized. Russell had always regarded sense-data as physical entities in as much as they were suitable objects of study for physics. They were, however, private to each perceiver, and their physical location was held to be in the region of the brain of a perceiver. With the recognition of the six-dimensional character of space, the greatest difficulty in considering sense-data as parts of external physical objects was overcome, and the way was made clear for *constructing* physical objects from sense-data, rather than inferring the existence of those objects which we could never experience. Prior to Russell's realization that a sense-datum could be located in two places, that is, in the private space of an observer, and in the public perspective space, it seemed a mystery that data which are essentially private could provide any reliable information about the world of physics.

From this point on Russell was aware of, and repeatedly pointed out in his later works, the two requirements of a satisfactory theory of perception: (1) Ontologically, perceptions are events. Perception is

⁵*My Philosophical Development*, p. 105.

what happens when one becomes aware of something through his senses.⁶ In order to locate these events in space-time and to explain their causal connections with other events, a physical theory is required. (2) From the viewpoint of epistemology, perception is the process of getting to know certain kinds of facts without inference. These facts are the basis of all other empirical knowledge. As Russell says,

In considering the reasons for believing in any empirical statement, we cannot escape from perception. ... individual percepts are the basis of all our knowledge, and no method exists by which we can begin with data which are public to many observers.⁷

But the epistemological and ontological aspects of perception are not unrelated. Russell ultimately accepts a causal theory of perception because he believes that, even if the account of the world given by physics were ontologically correct, "Epistemologically, physics might be expected to collapse if perceptions have no external causes."⁸ The great virtue of Russell's theory is its ability to provide a unified treatment of both types of problems. Nevertheless, Russell's practice of examining these related questions independently of one another has misled Ayer and others.

In "The Relation between Physics and Sense-Data" Russell is concerned with the epistemological aspect of the problem. He is *not* attempting to argue the truth of the *physical account* of sense-data which locates them as the effects of physical causes; rather, he *assumes* the approximate truth of this account. However, he insists that in so far as physics is verifiable, it must be capable of interpretation in terms of sense-data alone, since verification consists always in the occurrence of an expected sense-datum. Moreover, if sense-data are to constitute a verification of physics, then it must be possible to give an account of physics which is consistent with the information physics gives us, but which exhibits space, time and matter as functions of sense-data.

Russell quickly realized that no convincing interpretation of physics could be given merely on the basis of sense-data which were actually experienced. Physics, and even our common-sense notion of "thing", demand more continuity and stability than the fragmentary actual sense-data provide.

Adhering to his principle of never introducing inferred entities

⁶*Human Knowledge: Its Scope and Limits* (New York: Simon and Schuster, 1948), p. 203.

⁷*Ibid.*, p. 8

⁸*The Analysis of Matter* (London: Routledge, Kegan Paul, 1927), p. 197.

whenever it is possible to do without them, Russell found that the only entities whose existence he must assume in order to connect the world of physics with the world of sense-perception, are entities which are metaphysically similar to sense-data, except that they exist unperceived. Both actual sense-data and those which would be data if observed are called "sensibilia". Unsensed sensibilia differ from Mill's permanent possibilities of sensation, because, whereas unsensed sensibilia are only possible *data*, they have real, not merely possible, existence.

Russell used a principle of analogy to infer that sensibilia exist at perspectives where no perceiver is present. Ayer classifies this inference to unsensed sensibilia as a "horizontal inference", i.e. an inference which invokes only entities which are of the same type as the entities available to experience.

Ayer distinguishes Russell's two theories of perception on the basis of the distinction between horizontal and vertical inferences to the existence of the external world. This distinction characterizes the change in Russell's theory nicely. However, I believe it is a mistake to identify, as Ayer does, the vertical theory with the causal theory and the horizontal theory with phenomenalism. An examination of the 1914 works will enable us to see that Russell rejected phenomenalism, but accepted a horizontal theory of perception which was at the same time a causal theory.

In "The Relation between Physics and Sense-Data" the only inferred entities which are required are unsensed sensibilia. All other entities are constructed from sensibilia. Ayer is aware that, as Russell actually presents the construction, he does use vertical inference to other minds when he accepts the testimony of others regarding their own sense-data. This, however, could be eliminated, since the existence of the required sensibilia can be secured on the basis of analogy with experienced data.

There is no need to present the details of the construction here. Briefly, what Russell does is to collect data from various perceivers, to fill in gaps with unsensed sensibilia, to use principles of resemblance and continuity, and to adopt the usual assumptions about the velocities of light and sound. From all this he is able to exhibit common-sense "things" as well as physical space and time as functions of our perceptions. The "thing", for example, is the class of all its appearances (sensibilia). In this construction the six-dimensional character of space is important because it allows the assignment of each sensible to two places: the place which is the point of view of which the sensible is a member, i.e. the place *from which* the sensible appears; and the place where the

"thing" of which the sensible is a member is located, or the place *at which* it appears. The place *from which* the sensible appears is in the region of the brain of a perceiver. But sensibilia are, after all, the appearances of a "thing", and it is reasonable to say that the "thing" is located at the perspective where the various appearances converge. This perspective need not be a place where a perceiver is present. The ordinary three-dimensional space of physics is constructed by correlating the perceptual and perspective spaces.

Nothing in Russell's construction indicates rejection of a causal theory of perception. Russell is concerned here with interpretation and verification of physics on the basis of sense-data, not in the causal origins of these data. His chief interest was to assimilate the physical world to the world of perceptions rather than to explain perceptions in terms of physics. As he points out in *The Analysis of Matter*, such an interpretation of physics will tend toward idealism.⁹ Thus many passages in *Human Knowledge* and *The Analysis of Matter*, later works in which Russell explicitly adopts a causal theory, have the same phenomenistic flavor as the 1914 works.

Evidence that Russell continued to accept a causal theory in "The Relation between Physics and Sense-Data" is found in the following passage, in which he is discussing illusions:

... it would appear that abnormal sense-data, of the kind we regard as deceptive, have intrinsically just the same status as any others, but differ as regards their correlations or causal connections with other "sensibilia" and with "things."¹⁰

Furthermore, even though Russell does not deal with causal connections in this account, recognition of their importance is one of his motives in constructing physical matter in addition to the things recognized by common sense. It is matter, rather than things, which concerns the physicist. I shall quote these passages at length because they reveal so clearly Russell's assumptions about causal connections between things and their appearances. Yet they occur in the very same source which Ayer uses to support his claim that Russell abandoned the causal theory.

Russell wants "to be able to express the fact that the appearance of a thing in a given perspective is causally affected by the matter between the thing and the perspective." He tentatively defines "matter" as "the limit of [the thing's] appearances as their distance from the thing diminishes." He admits that our empirical knowledge of matter is

somewhat restricted, because we can infer the limit of these appearances only approximately by means of the appearances we can observe. However, once we have accomplished this, Russell claims,

We are now in a position to understand in outline the reverse journey from matter to sense-data which is performed by physics. The appearance of a thing in a given perspective is a function of the matter composing the thing and of the intervening matter.... The nearer we approach to the thing, the less its appearance *is affected by* the intervening matter. As we travel further and further from the thing, its appearances diverge more and more from their initial character; and the *causal laws* of the divergence are to be stated in terms of the matter which lies between them and the thing.... *The whole causal efficacy of a thing resides in its matter.*¹¹

The crucial change in Russell's view between 1912 and 1914 does not involve rejection of a causal theory of perception, but rather a very different analysis of what physical objects are (i.e. classes of appearances), an analysis made possible by the six-dimensional character of space. Prior to 1914, Russell required a vertical inference to establish the existence of physical objects. After 1914 he did not.

In addition to a different analysis of physical objects, a more sophisticated understanding of causal connections is required in order to harmonize a causal theory of perception with the acceptance of horizontally inferred physical objects. Causality was no longer regarded by Russell as a relation which holds between an unknown physical object and an experienced sensible, or sense-datum. Rather, causal laws describe connections and patterns of change which hold between earlier or more distant parts of *processes* and later or nearer parts of the same processes. Russell hints at this in his 1914 account of "matter", but spells it out more explicitly in *The Analysis of Mind*, after he has rejected the vertical inference to *minds*, and so has given up sense-data in favour of non-relational *sensations* from which both minds and matter are constructed.¹²

This same understanding of causality as well as the commitment to horizontal inference is evident in Russell's later works. Whenever he is primarily concerned with epistemological questions, he assumes that the percept is at the end of a causal chain whose source was a physical object. Percepts are understood as *events* whose components are sensations and other elements. Percepts, which are stages in physical processes, are the epistemologically important parts of the processes. Causal laws allow us to infer earlier stages in the same processes. In the set of postulates in *Human Knowledge* which Russell proposed as a sufficient set

⁹*Ibid.*, p. 7.

¹⁰"The Relation between Physics and Sense-Data," p. 179.

¹¹*Ibid.*, pp. 165-6. (All italics mine.)

¹²*The Analysis of Mind* (London: Allen and Unwin, 1921), pp. 302-3.

for the validation of scientific method, the postulate of separable causal lines is the one which permits the sort of inference required.

Russell's works of 1914 present, according to his own account, tentative constructions. In later works, as a result of developments in the theory of general relativity, quantum mechanics, and behavioural psychology - all of which pushed him toward neutral monism and the adoption of an event ontology - the construction is developed and revised. In the later works Russell's concern shifts to a law-like scientific account of the world instead of the construction of common-sense "things". But such a concern is already foreshadowed in the earlier account of "matter". Perhaps the lack of concern with common-sense "things" in later works also explains why he no longer emphasized the six-dimensional character of space, though he never repudiated the importance of this discovery. When a new edition of *Our Knowledge of the External World* was issued after Russell became a neutral monist, he only pointed out that he no longer accepted sense-data, and that the construction would go through if "sensations" was substituted for "sense-data".¹³ There was no need to disclaim a phenomenalistic theory of perception and to explain that he had since embraced a causal theory: the causal theory was already an intrinsic part of the 1914 works.

In spite of all the changes, Russell continued to regard the work of 1914 as a tentative step toward the more complete theory of the later works. He hoped to find an account in which "the percept [does] not appear mysteriously at the end of a causal chain composed of events of a totally different nature", thereby improving "the metaphysical status of physics."¹⁴ He believed that he had achieved just such a theory and was dismayed that philosophers did not make more serious efforts to understand it.

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¹³*Our Knowledge of the External World*, p. 83.

¹⁴*The Analysis of Matter*, p. 275.