Book review

George Nakhnikian (ed.), *Bertrand Russell's Philosophy*. London: Duckworth, 1974. £8.50. New York: Barnes & Noble, 1974. $19.50. Pp. x, 278. Bibliography I: Works by Russell [referred to in the text]. Bibliography II: Other Works. Index.

The 14 papers (listed in Russell 14, *p. 2) were given at a symposium to commemorate Russell's centenary, held at Indiana University on March 9-11, 1972. The following review confines itself to certain of the logical and philosophical papers. We hope to publish a review of the four political papers in a future issue.*

This volume is a fitting tribute to Russell. It demonstrates that his thought has permeated modern logico-analytical philosophy. Yet even among those contributors who may be said to be Russellians (e.g., Maxwell), the response is not discipleship but open debate. The contributors bring current philosophical practice to bear on Russell's philosophy in several areas, including logic, theory of perception, and scientific method. I will comment first on the logical articles, then on Chisholm's contribution, and finally on Maxwell's and Salmon's pieces on philosophy of science.

Frederic Fitch's paper illustrates the considerable progress which mathematical logic has undergone since *Principia Mathematica* (*PM*). Fitch challenges the current orthodoxy by attempting a consistency proof for *PM*. Russell himself believed on philosophical grounds that such a proof would not be forthcoming. He did not see how one could survey consequences of the system to guarantee that no contradictions would turn up in the future. Gödel showed that there can be no consistency proof of *PM* except from a "stronger" system. But Gödel's result is based on a recasting of the idea of logical system in a way that Russell did not anticipate. Fitch's attempt is made "partly in the hope that Gödel's and Rosser's results are in some way not as final as they appear" (p. 1). Fitch by no means returns to Russell's original conception of logic. His technique of constructing a series of logical systems in his proof goes against Russell's view that we can never "step outside" of the correct logic (*PM*) in performing proofs.

John Myhill demonstrates that a particular Russell "proof" (in Appendix B of *PM*, 2nd edition, Vol. I) cannot be carried through. One strategy to avoid the set-theoretic antinomies was to restrict oneself

to sets which can be "built up" (predicatively definable) rather than those whose definitions refer to totalities already involving the object to be defined (impredicate definitions). The first edition of *PM* is predicative, but in the second edition Russell added the axiom of reducibility, which defeats the predicativity. In Appendix B, he wants to rescue a basic property of natural numbers, mathematical induction, from the axiom of reducibility. Myhill shows this to be impossible. "The property of being a natural number (in Russell's sense) is not predicatively definable from ϵ, or even from ϵ and = taken as primitive" (p. 27).

Myhill remarks that if one starts from the viewpoint of classical mathematics, one might conclude that impredicativity is already present at the level of the natural numbers. A constructivist, opposed to impredicativity, might conclude that we need additional primitives besides ϵ and =, perhaps the notion of "natural number". The predicative *PM* takes neither of these directions, and Myhill asserts that it "apparently does not correspond to any coherent philosophy of mathematics" (p. 27). In order to clarify and expand Myhill's closing remarks, Cocchiarella sets out a number of "formal ontologies" associated with different logical systems. He maintains that Russell's *PM* systems do not correspond to realist ontologies. The predicative approach in the first edition of *PM* corresponds to a conceptualist ontology. He explains how the addition of the axiom of reducibility then yields "a philosophically incoherent formal ontology", in agreement with Myhill.

Russell's "On the Nature of Acquaintance" (1914) and associated writings constituted the application of the logic of relations to epistemology. He was carrying out his project of rewriting philosophy in the light of his logical discoveries. I will argue that against this background, Chisholm's objections, in his paper on the nature of acquaintance, are misplaced. I will fasten on one point that is indicative of the distance between Chisholm and Russell, viz., awareness of the self.

True to the British Empiricist tradition, Russell says it is "hard to discover any state of mind in which I am aware of myself alone." Further, Russell asks "whether our theory of acquaintance in any way implies a direct consciousness of the bare subject." Chisholm argues from an account of perceiving which implies the following principle:

> One cannot be directly aware of an individual thing without thereby being directly aware of that thing being in some *state* or other; and one cannot be directly aware of any *state* without thereby being directly aware of some *individual thing*.

On this theory, we do not have a direct awareness of the bare subject. One is acquainted with oneself, however, as being in a certain state, e.g., the state of desiring to eat. In that sense one is directly aware of oneself. Russell admits that we can be directly aware of propositional attitudes such as desires. If Russell also granted Chisholm's principle then he would conclude with Chisholm that we are directly aware of ourselves.

While Russell is playing the role of Hume, Chisholm takes a Cartesian position. His principle is equivalent to Descartes' axiom employed to prove the *Cogito:* "no qualities or properties pertain to nothing; and that where some are perceived there must necessarily be some thing or substance on which they depend." But that axiom is a fundamental principle of substance-attribute metaphysics, which, according to Russell, corresponds to subject-predicate logic. And it is one of Russell's cardinal points that relational logic must supplant subject-predicate logic. Chisholm's solution is simply not one which Russell could accept.

Wesley Salmon discusses Russell's doctrine of scientific inference in *Human Knowledge*. He points out that "the only logic is, for Russell, deductive; non-demonstrative inferences are merely valid deductions with suppressed premisses" (p. 195). Further, Salmon refers to "Russell's repeated insistence that one fact can be evidence for another only if certain factual relations obtain in the world." This position leads Russell to inquire after the postulates which would suffice for non-demonstrative inferences, including some form of induction. Grover Maxwell, in his paper on epistemology and method in the later Russell, denies that Russell "ever used these postulates [of scientific inference] significantly" (p. 180). Maxwell holds that Russell's method in philosophy and (by implication) the method he would advocate for science is in fact "hypothetico-deductive".

I believe that Maxwell is correct, and I would like to add some comments to illuminate this inconsistency in Russell. In *Human Knowledge*, Russell begins by accepting the picture of the world which we receive from modern science. *Within this picture*, Russell explains how it could be the case that "there are valid processes of inference from events to other events" (p. xii). The postulates are concerned with this sort of inference; they are not concerned with the establishment of the scientific framework assumed at the start of the book, nor with the establishment of Russell's epistemology. By means of the postulates, Russell has reconstructed the inductive-inference processes of British Empiricism

in the context of modern physics. The method Russell does employ in composing this book is to inform himself of the various alternative views in epistemology and to apply philosophical arguments and background knowledge from science in order to select the best view. That is the sense in which Russell's philosophy is scientific.

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