RELATING ONTOLOGY AND LOGIC

MICHAEL SCANLAN
Philosophy / Oregon State U.
Corvallis, OR 97331, USA
SCANLANM@UCS.ORST.EDU

Bernard Linsky. *Russell's Metaphysical Logic.* Stanford, Calif.: CSLI [Center for the Study of Language and Information] Publications, 1999; distributed by Cambridge U. P., 2000. Pp. viii, 150. Cloth: £37.50 (US$59.95); pb £13.95 (US$22.95).

The thesis of this book is that Russell's work in logic cannot be understood separately from his ontological ideas, here somewhat archaically labeled "metaphysical". The eight chapters are largely independent of each other, four of them having been published previously as journal articles. Some parts of the book make plausible the value of considering Russell's ontic commitments in evaluating his approach to issues of logic. In other places, however, the book's thesis seems to get lost.

The time period examined is Russell's classic period from "On Denoting" (1905) through the logical atomism publications of 1918 and 1924.[1] The central work in this period is clearly *Principia Mathematica.* Previous writers have presented Russell in this period as constantly changing his thinking on such

[1] Linsky dates his own period of central concern in this book as 1908–19.

topics as the nature of propositions and the nature of logic and view *PM* as somewhat cobbled together to show how the logicist project *could* be carried out, while leaving a good many loose ends. Professor Linsky will have none of this. In Chapter 1 he argues for his basic view that the seemingly later logical atomist ontology of particulars and universals which somehow combine to form facts is the Russellian ontology which is compatible with the logical framework of *PM.* This interpretation presents a robustly realistic Russell, and not a nominalist or ontic minimalist, as Russell comes out on some others' interpretations. Linsky correctly argues against reading back, through Quine and later interpretations of "On Denoting", an interest on Russell's part in ontic economy for its own sake.

In Chapter 2, Linsky addresses a crucial point for his project by considering how the ontic concept of universals is related to "propositional functions" in *PM.* One approach in the literature is to treat propositional functions as linguistic devices which represent universals, akin to the open sentences of present-day logic. Linsky takes this interpretation to be incompatible with Russell's realist ontology and his construal of propositions as non-linguistic objects composed of actual entities. On Linskey's interpretation propositional functions are fragments of propositions and the propositions themselves are constructions out of particulars and universals. One problem here is showing how this squares with *PM,* in which propositional functions and not propositions are to be basic. It seems to me that Linsky "gives away the store" with respect to his general interpretative thesis when he says Russell himself did not have any clear idea about how to fit together his ontic views about universals with the logical framework of propositional functions in *PM*:

> When working on metaphysics, Russell would think of universals; when working on logic, his focus was on propositional functions. When combining the two, as in the introduction to *PM,* he did have an idea of how they fit together, but such mixed occasions were rare.... My proposal attributes only marginal consciousness on Russell's part to the distinction between universals and propositional functions.
>
> (P. 22)

This rather tenuous relation between Russell's logical work and his ontic views does not bode well for a unified view of his "metaphysical logic".

Chapter 3 considers a related topic, Russell's propositions, which are somehow composed of particulars and universals and are somehow related to propositional functions. Linsky is clear that up until he adopted the multiple-relation theory of propositions around 1908, Russell took propositions to be certain complexes of non-linguistic, non-referential entities. But with the multiple-relation theory propositions were no longer themselves entities that could occur in relations. Instead, there are certain many-place (multiple) relations contain-

ing a mind and a number of objects (i.e. beliefs). They are true if there is a "fact" that (somehow) corresponds to the belief, false otherwise. The critical thing for Russell is that there is no single *object* of the belief.

But what of the now defunct propositions, which seem to have a role to play in *PM*, e.g. as values of propositional variables, but are objects of elimination by the very theory of multiple relations espoused in the Introduction to *PM*? We don't find out. Instead we get a discussion of whether Russell could be thought to have had ontic qualms which led to treating propositions as "constructions". Linsky takes Russell's desire to eliminate propositions to arise from his commitment to "facts" as the only complex entities in his (logical atomist) ontology. He undertakes to explain how Russell could have thought that apparent references to propositions in *PM* are eliminable on the basis of constructions out of objects and logical relations. Apparently, the idea is to take the simple objects as parts of propositions and to understand the part–whole relation of mereology as a logical relation (contrary to anything suggested by Russell). According to Linsky,

> It is hard to imagine what such an analysis would look like. Still, however, it seems possible to understand how Russell could himself see his multiple relation theory as compatible with the logic of *PM*. It is not necessary to see the theory as a flatly inconsistent interpolation. (P. 52)

There are interesting ideas here, but in the end it never becomes clear whether we are talking about what Russell would have, could have or should have done.

The material that is most important for the ontology of Russell is in Chapter 7 on "Logical Constructions". This addresses the essential question of what are Russell's "logical constructions" and what good are they? Linsky is at some pains to make the point that these constructions (including such things as the theory of descriptions) are not about any sort of nominalist elimination of abstract objects or of universals. But then the question is what was the motivation for these "constructions"?

Linsky considers a number of apparently different Russellian projects as all fitting under a general approach to "logical construction". These include his theory of definite descriptions, his multiple-relation theory of propositions, his no-class theory, and his account of material objects as constructed from sense-data. Linsky takes the unifying theme of constructions to be based on the idea of showing how, instead of attributing properties to certain sorts of things (order to numbers, inpenetrability to matter), the same effect can be produced by a system of other things and their relations. He seems to attribute a certain ontic agnosticism to Russell: "[T]here is nothing in the project of construction that commits it to claims about the unique ontology of the world" (p. 136). On Linsky's account a construction might be used for various purposes, but in

itself, as long as it reproduces certain features of the constructed objects within the given theoretical framework, it is legitimate. But the common purpose for all of these constructions never quite becomes clear.

Chapters 4, 5, and 6 are devoted to discussion of the ramified theory of types in the logic of *PM*. Linsky sees the logic of *PM* as more than a concoction of a logic adequate for the construction of classes and hence mathematics, with type theory thrown in as a technical device to block paradoxes. Instead he sees *PM* as developing a full intensional logic, i.e. a logic which registers a distinction between the predicates "x is a rational animal" and "x is a featherless biped", despite the fact that they apply to exactly the same things. In this situation, ramified type theory makes sense because in such a theory not only does a function have a type based on the number and possible values of its arguments, but also descriptive structure distinguishes propositional functions by order within each type. These orders reflect the different totalities that are the range of bound ("apparent") variables in the description of a propositional function. Thus, using Russell's example, the propositional functions "x is a general" and "x has all the properties of a great general" will be of the same type, taking individuals as values of x, but of different orders, since in one there is a quantified expression that "presupposes" the totality of first-order monadic functions of individuals. This provides the basis for the distinction between "predicative" and "impredicative" propositional functions. Predicative functions in each type take individuals as arguments and contain no quantifiers which range over functions instead of individuals.

Chapter 6 about the justification of the axiom of reducibility most clearly shows Linsky's own thinking about the role of type theory in the intensional logic of *PM*. This axiom asserts that for every propositional function there is an extensionally equivalent predicative function. There is a catalogue of worries about the axiom of reducibility, many of them voiced by Russell himself, including the notion that it is not a properly logical axiom, that it is *ad hoc*, and that it undoes the ramification of the theory of types and so makes that a pointless project in *PM*. Linsky addresses these worries but more importantly finds a positive role for the axiom of reducibility as providing a modified version of Leibniz's Identity of Indiscernibles.

Instead of Leibniz's treatment of monadic properties as the "real" universals out of which others are constructed, Linsky attributes to Russell the view that the "real" universals are the ones associated with predicative propositional functions. In so far as the axiom of reducibility asserts that every propositional function has a predicative propositional function which is extensionally equivalent, it can be taken to assert that differences in the predicative propositional functions applying to them are what differentiate any two individuals.

The book as a whole is full of fascinating ideas like this about central topics

in Russell's philosophy, but I cannot say that in the end it presents a convincing case for the unity of Russell's thought. This is disappointing to me because I think that the literature as a whole does not give enough attention to Russell's platonic realist ontological beliefs as shaping his approaches to logic and other areas of philosophy. The book does succeed in a number of places in making the case against the empiricist, nominalist, or eliminativist pictures of Russell. But when it comes to a positive account of what Russell's project was in the period around *PM*, I can not see that a case is really made for the suggested connections. A big part of the problem is that the style of presentation makes it very difficult for the reader to discern how the parts of the discussion are supposed to fit together and how they are intended to support some overall conclusion, in each chapter and in the book as a whole. There is much here that will be of interest and value to the specialist researcher in relevant areas of Russell's thought, but as written it cannot be recommended to a reader with simply a general philosophical background and an interest in Russell.