WITTGENSTEIN'S LOGICAL ATOMISM by James Griffin. Clarendon Press, 1964. 166 pp., including bibliography and index. 25*s*.

This book is mainly concerned with topics arising out of the 1's, 2's and 3's of the *Tractatus*, though it discusses many other relevant passages from Wittgenstein's writings. The introductory chapter shows how Wittgenstein's interest moved from specific questions about logic to general questions about meaning, which led to the theory of atomic propositions, the main subject of Griffin's book. The influence of Frege, on the content, and Hertz, on the form of the *Tractatus* is stressed. The next three chapters deal, not always very clearly, with the pre-*Tractatus* writings, mentioning such problems as: What is the relation between simplicity and indefinability? Can there be an atomic fact involving only one object? Can a subject-predicate proposition be elementary? Why did Wittgenstein regard the doctrine of "showing" as the main point of his work? What are the differences between atomic and molecular propositions

The next six chapters are concerned mainly with remarks in the 1's, 2's and 3's of the *Tractatus*. Chapter V is a fairly straightforward exposition of Wittgenstein's theory of the world in the 1's. A couple of minor difficulties of interpretation are raised, of which Griffin seems to me to make rather heavy weather. Chapter VI tackles the remarks about objects in the 2.01's and 2.02's, starting with a brief discussion of forms (with the odd interpretation of 2.011 as saying that objects cannot not occur in states of affairs—see p. 39), and then a long discussion of the notion of analysis. He brings convincing arguments against the view that Wittgenstein thought of all analysis as being modelled on Russell's theory of descriptions, and offers instead the theory, supported by paragraph 60 of *Philosophical Investigations*, that analysis consists in the breaking down of material things into their physical components, so that a statement about a complex is replaced by a complex of statements about its material components. In this process all words for properties and relations are removed, and their role is taken over by the configurations of the signs in the fully analysed propositions. Here Wittgenstein is supposed to have been influenced by physical theories which explain colours and other properties of objects in terms of their physical structure, and, more specifically, by Hertz' *The Principles of Mechanics*. Though this is probably a correct interpretation of some of the earlier writings, there seems little evidence that Wittgenstein still had such a definite type of analysis in mind at the time of the *Tractatus*. After all, the 5.55's explicitly disclaim any specific knowledge about the end-products of analysis. The chapter goes on with an exposition of Wittgenstein's reasons for saying that there must be objects, and claims, among other things, that objects are supposed to persist in time (p. 69) and that there are supposed to be temporal objects (p. 61), without remarking on the apparent inconsistency here. Further, *Tractatus* substance is said to be quite different from Aristotles's substance.

In chapter VII, on states of affairs, Wittgenstein's distinction between form and structure, in 2.033, is explained: the structure of an atomic fact is simply the configuration of the objects in it, whereas the form is "the amalgam

of the forms of the objects" (p. 76) i.e. what makes possible all the possible configurations of those objects. The second half of the chapter, relying on the recantation in the 1929 article 'Some remarks on logical form', attempts to explain why Wittgenstein thought that atomic propositions were logically independent of one another. I find this one of the more obscure sections of the book.

Chapter VIII expounds the theory of pictures in the 2.1's and 2.2's. Pictorial form is interpreted as a sort of amalgam of the forms of the elements of pictures, and the elements must have forms in common with what they stand for. Griffin unconvincingly contrasts this with the theory that the pictorial form of a picture is got by abstracting from the constant elements in the picture. It is not at all clear that the theories are incompatible: the difference is that his goes one step further in insisting that the forms of the elements determine everything else. (Compare *Notebooks* 1.11.14,f and 3.11.14,b.) After more exposition of details, there is an excursion into the history of the picture theory, which turns out to be a generalisation of Hertz' theory of scientific language.

Chapter IX describes the 3.0's as Wittgenstein's "theory of judgement", which is partly a reaction against the particular theories of Russell and Frege, and partly a further development of the anti-psychologism of Bradley, Moore, and others. There is a useful discussion of the relations between thoughts, propositional signs, pictures, and psychical facts in the *Tractatus*. Griffin connects Wittgenstein's rejection of Frege's distinction between a thought and a judgement with his view that a mere set of names is not a fact and so cannot single out a state of affairs. This discussion lacks an account of how Wittgenstein would draw the distinction between supposing and judging, but this could presumably easily be based on 5.542.

Chapter X explains the difference between 'Satz', 'Satzzeichen' and 'sinnvoller Satz'. It is suggested that 'Satz' should be translated as 'sentence', 'sinnvoller Satz' as 'sentence plus its sense', and that none of the above terms is strictly equivalent to 'proposition'. After more detailed exposition, Griffin goes on to criticise the view that Wittgenstein's picture theory is concerned with the conditions which must be satisfied by an *ideal* language. Although there is some criticism of ordinary language in the *Tractatus* it does seem fairly clear that Wittgenstein's main pre-occupation is not with ideal languages, but with the conditions which must be satisfied by *any* language capable of describing the world. Griffin attempts to illustrate the sort of thing Wittgenstein meant by an ideal language which would eliminate the possibility of philosophical confusion, but I think that it could be illustrated better by referring to the way in which type-restrictions geometrically built into Frege's notation eliminate the need for explicit rules indicating which sorts of signs may be combined with which. This may be one aspect of Frege's influence on the *Tractatus* which Griffin has not stressed enough. (Another aspect is perhaps the relation between Frege's theory of function-signs and Wittgenstein's remarks about variables in the 3.31's.)

Chapter XI, the final chapter, marshalls the evidence against the sense-datum interpretation of the *Tractatus*. One argument seems to be that according to the 5.55's nothing can be known *a priori* about objects and

elementary sentences, except that they exist. Further evidence comes from the historical connection between the *Tractatus* and Hertz' theories, from remarks about facts, objects and the world in the *Tractatus* itself, and in *Philosophical Investigations,* and from the nature of Wittgenstein's reasons for believing that there are simples: they arise out of "problems of reference, not problems of knowledge." (p. 152) Wittgenstein's belief in simple objects is criticised as being based on the assumption that every proposition must be expressible in a sentence that can communicate a definite sense without possibility of misunderstanding, and without any help from anything outside the sentence, such as the context of utterance. Griffin's conclusion is that "we do not, nor can we, nor—evidently—need we picture the world in this sense" and Wittgenstein's failure to realise this accounts for the principal *non sequiter* of the *Tractatus.*

Though there are many points in this book which need clarification, and some which seem to be wrong, or based on insufficient evidence, it will certainly be very useful to students of Wittgenstein's earlier work, for it is full of clear and detailed expositions of obscure passages, such as 2.0201, 2.033, 3.24, and many others. When so many implausible assumptions are uncovered in this way, the effect on at least one reader is to make him wonder how much of Wittgenstein's influence is due to his personality, i.e. his ability to combine a compelling style with baffling obscurity, rather than to the philosophical merit of his theories and arguments.

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PHILOSOPHICAL PROBLEMS OF SPACE AND TIME by Adolf Grünbaum. Routledge & Kegan Paul, 1964. xi+448 pp. 70s.

The major features of Professor Grünbaum's views on these topics are well known from numerous articles, and it is useful to have them now presented complete and as a whole. The treatment is divided into three parts, in which are discussed matters connected with the metric properties of space and time, matters connected with their topological properties, and special issues in the Theory of Relativity—though each Part ranges fairly widely. This distinction between metrical and topological is valuable in a philosophical work, though it would have been more valuable if the distinction had been brought out more clearly. Briefly, the distinction is that topology requires only that the "nearness" of a pair of points be defined, while metric geometry requires that "magnitude" be defined for their separation.

Grünbaum presents his own views, in the majority of cases, in the course of discussion of the views of others. Thus the basic question of Part I "is there any ground for supposing there to be an *intrinsic* or *absolute* metric for space and time?" is introduced by reference to Newton, Riemann, Poincaré, Eddington, Bridgeman, Russell and Whitehead. Using Riemann and Poincaré as his texts, Grünbaum establishes the important point that the metric of a continuous "space" is imposed as a convention. With this con-