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A Logical Journey: From Gödel to Philosophy
By Hao Wang
MIT Press, Cambridge, Mass., 1996, pp. xi+391

This very valuable book is a continuation of the same author's Reflections on Kurt Gödel and From Mathematics to Philosophy. Together they create a remarkable sense of being close to one of the greatest thinkers of the twentieth century. Like From Mathematics to Philosophy, this present book, a decade in preparation, is based on Wang's extensive conversations with Gödel. A mathematician who himself made deep contributions to mathematical logic and to the philosophy of mathematics, Wang was (he died while this book was in preparation) peculiarly well-fitted to be the amanuensis who recorded, interpreted and communicated Gödel's thought, and, of course, who also knew what questions needed to be asked, and where. In this volume, however, philosophy is centre-stage, Wang reporting his attempts, in long discussions with Gödel, to understand and evaluate the latter's quest to do 'for metaphysics just as much as Newton did for physics' (p. 332). Wang discovered that, far from achieving this end, Gödel evaluated his pursuit of it just as he did his work in logic after 1940, as largely unsuccessful. It is all rather a sad story, of increasing frustration caused by the failure to prove the independence of the Continuum Hypothesis, of the turn to philosophy, and of the failure there to produce results of a similar magnitude to the proof of the completeness of first order logic, of the incompleteness theorems, and of the relative-consistency proofs of the Axiom of Choice and the Continuum Hypothesis.

It will probably strike the reader as strange that someone could even have thought in the middle of the twentieth century that results of that sort of definitive character could be achieved in pure philosophy. But Gödel was an obstinate follower of Leibniz, and even more of Plato, and believed their unfashionable doctrine that a priori conceptual analysis could yield not just clarification but also and more importantly truth. Wang devotes a whole chapter of the present book to a discussion of this striking feature of Gödel's philosophical outlook. Other chapters discuss Gödel's views of the mind, of mathematical objectivism, of set theory, of religion, and of other philosophers. Introducing this assorted material are a couple of biographical chapters, one a valuable account of Gödel's intellectual development, and the other including a fascinating and at times touching account of Gödel's close relationship with Einstein at the Institute of Advanced Study at Princeton. In their work both Einstein and Gödel appear as heroic figures united in their desire to achieve fundamental goals, and to an unfortunately great extent united also in a heroic failure to do so. Temperamental opposites, each nevertheless sought out and confided in the other: Einstein remarked once towards the end of his life that he merely came into the Institute to have the privilege of walking home with Gödel (p. 57). Nor were they simply temperamental opposites:
Einstein the scientist had little liking for a priori philosophising. Echoing Kant's famous dictum, he remarked that 'epistemology without contact with science becomes an empty scheme' (p. 59). Gödel, the mathematician, by contrast believed the a priori to be the source of fundamental knowledge, of concepts; he even once bizarrely suggested that Hegel had anticipated the General Theory of Relativity (p. 75).

In the biographical sketch of Gödel Wang reveals again the by-now rather familiar figure of a profound but in many ways dysfunctional thinker. At times severe mental illness disrupted Gödel's life, and, as is well-known, was the cause of his death from inanition. Even when not clinically unwell he experienced difficulties in simply living. If his story had not turned out so tragically it might be a candidate for a stock Hollywood treatment of eccentric genius, with almost comic interludes of troublesome refrigerators, difficulties with officials, idiosyncratic diets, and misplaced high-mindedness (Wang tells us that in hospital he once caused inconvenience to all around him by determinedly refusing a benefit to which he felt he wasn't entitled). His deep and abiding mistrust of the medical profession was a major factor in his chronic ill-health. His mother and his wife didn't get on either. Still, despite these obstacles he managed to keep working, and his published papers together with the notebooks in their Gabelsberger shorthand represent a very substantial output. The content of the published papers is, of course, much more than merely substantial. Most people who know some academic philosophy will be familiar with at least the names of his more celebrated results in logic, like the incompleteness of arithmetic, though some may still be unaware of his remarkable solution, with its closed timelike curves, of Einstein's field equations in General Relativity.

What Wang invites us to consider in this book is less well-known even than his work in theoretical physics, and that is his philosophy. This review is too short to do justice to all the strands, so meticulously identified by Wang, in that philosophy, and I shall merely sketch a few of them, starting—and ending—with Gödel's philosophical credo.

Gödel was a Platonist, certainly in mathematics, and in general in insisting on the reality of concepts, the correct delineation of which he felt was the central task of philosophy. Nowadays it is unfashionable to believe in the correctness of definitions in capturing real concepts, but that is what Gödel maintained. To give one instance reported by Wang, Gödel felt that Turing's definition of a computable function in terms of the simple procedures constituting the operations of a Turing machine was correct, including explicit allowance for their possibly failing to terminate on some given problem. In other words, Gödel felt that the technical notion of a partial—as opposed to a total—recursive function captures accurately and precisely the concept of a computable function, and derivatively of a formal system (p. 203); the technical concept is both 'correct and unique' (ibid.). Such technical definitions, satisfying criteria reminiscent of Descartes's (clarity and distinctness), delineate real concepts according to Gödel, intuited by the mind by a type of extra-sensory perception. In the case of partial recursive function, 'the sharp concept was there all along, only we did not perceive it clearly at first' (p. 205). Since they are capable
of being perceived, concepts like this enjoy objective existence. In a well-known passage of a paper on Russell’s mathematical logic, reproduced by Wang, Gödel wrote that

> it seems to me that the assumption of such entities is quite as legitimate as the assumption of physical objects, and there is quite as much reason to believe in their existence. (Gödel, [1944])

It is, it hardly needs saying, the inference to the real existence of such abstract entities that troubles people of a less Idealistic temperament. The problem however is to account for the objectivist and a priori nature of mathematical experience. It is certainly not trivial to dismiss mathematical and more generally conceptual Platonism, even in this unPlatonic age. Plato’s low evaluation of sensory experience may now be regarded as a mistake, the impressive development of the physical sciences, based apparently on controlled observation, being adduced as the obvious evidence against him. But mathematics seems to be rather obviously resistant to this sort of a posteriori argument: empirical experiment does not decide mathematical results. On the other hand, to empiricists it seems more than a happy coincidence, and one pointing to some different explanation than the Platonists’, that the concepts we allegedly intuit tend to be useful to us, or else we believe that at some point in the future they may be. Mathematics is useful. Is it plausible that if the fundamental constants had been set a little differently and there were no human race, the mathematical theory of finite automata, say, would still be there in the Platonic heaven? It seems incredible.

This observation should strengthen the view that in some sense we shape these concepts, as tools of the understanding. Gödel nevertheless discounted this possibility, and, in his Gibbs Lecture of 1951 gave three arguments, repeated later in conversations with Wang, against the view that we are the arbiters of mathematical truth and falsity. These arguments are, first, that there are mathematical problems that seem very resistant to solution, though we appear to have a clear understanding of the concepts involved; second, that the mathematician seems unable to make the solutions of such problems subject to his control, which would seem problematic were the objects in question his free creation; third, that to prove assertions about integers, for example, sets of integers frequently have to be considered:

> to find out what we have given to certain objects of our imagination, [we] must first create other objects—a very strange situation indeed. (7.2.6, p. 222)

Wang notes that Gödel believed that by these arguments he had decisively refuted the doctrine of mathematical creation, and thereby proved Platonism (p. 221).

Gödel’s conclusion assumes that there is no alternative to Platonism other than creationism of something like the Intuitionistic kind, and this might well be questioned. Indeed, alternatives have actually been proposed. Admittedly, most seem unattractive. One, which goes back to Russell, is the view that mathematics is merely the set of deductive
consequence of various sets of axioms, with every claim of the form ‘A is a mathematical truth’ being understood as the claim merely that if the relevant axioms are true in any given structure then so is A. Truth, in other words, is ‘reduced to’ consequence. This doctrine is nowadays called ‘if-thenism’. It might seem to fit abstract algebra and topology, which do seem to be hypothetical in this way, but these abstract mathematical theories are used to generalise aspects of less abstract mathematical systems, like numbers, function spaces, etc. and, of course, they are themselves embedded in set theory. And if we give up Platonism there is no plausible candidate for a structure that the axioms of arithmetic, let alone those of set theory, ever will be truthfully interpreted in. And anyway, appeals to a deductive consequence relation are hardly non-Platonic, especially when it is considered that the metatheory of logic is set theory itself. Another alternative, argued by Hartry Field ([1980]), is that mathematical ‘entities’ are eliminable via suitable representation theorems; but this solution merely pushes the problem up to the level of the mathematical meta-theory where these theorems are proved and in which—of necessity—numbers, sets etc. exist.

On the creationist side things are scarcely better, for the reasons Gödel gives, and others besides. Take the Intuitionists’ claim that the entities of mathematics are mental constructions. For our constructions cannot be supposed completable where they are infinitistic; and if some infinitary construction is presupposed in a proof or refutation of some proposition A then the use of excluded middle, A ∨ ¬A, is unjustified. And it immediately and rather drastically seems to remove the objective status of mathematics, and leaves us with the apparently insoluble problem of how things in someone’s mind are supposed to correspond to those in another’s, and both to anything in the world outside.

Fortunately there seems to be another middle way. Advanced by the eponymous founder of the celebrated Hilbert Programme, it is a sort of methodological Platonism, which today we should call instrumentalism. Hilbert’s idea (see, for example, Hilbert [1925]) was that it is theoretically and practically useful to assume that mathematical structures exist, for this enables the construction of special calculi for computing results that would hold in any actual structures of the appropriate type. Suppose, for example, we regard the natural numbers simply as representatives of finite well-ordered sequences, conceptually invented and structured for this purpose in some canonical way: as finite von Neumann ordinals, for example. Any physically-given finite sequence obtained by iterating some specified successor operation will then be isomorphic to a natural number so defined (though not every natural number, of course, is isomorphic to such a concrete sequence: there aren’t enough physical systems). The supposition that the set of natural numbers is closed under the successor operation then generates a simple free-standing calculus, known as Peano arithmetic, for performing arithmetical operations on magnitudes of arbitrarily large finite size.

It is quite consistent with the instrumentalistic approach that one need not assume that there actually is a complete set of natural numbers subject
to the rules of Peano arithmetic, but merely that it is a convenient calcula-
tional device to suppose there is. This does mean, however, as Hilbert
pointed out, that we need also to be able to trust the device to be conser-
vative, in the sense that it does not enable us to prove ‘real’ statements of
the calculus, i.e. equations involving only numerals, which are not true.
Unfortunately, no absolute proof that this is the case can be forthcoming
in principle, for were it to be we would thereby have a finitary proof of
consistency which, by Gödel’s Second Incompleteness Theorem, is
impossible if Peano arithmetic is consistent: Gödel’s theorem shows that
without using stronger assumptions than those present in Peano arith-
etic itself, no proof of consistency is forthcoming unless Peano arith-
etic is inconsistent (proofs in stronger systems are available; I shall come
to that shortly). Gödel’s negative result was regarded by Hilbert as a pro-
found setback, but there seems to me—with respect—no reason to share
Hilbert’s depression. For while no unassailable demonstration of consis-
tency may be forthcoming, there is nevertheless a great deal of other evi-
dence for it. For a start, there are the consistency proofs already men-
tioned, there is also the sheer plausibility of Peano’s axioms (many math-
ematicians have attested that it is inconceivable to them that they could be
inconsistent), and finally there is the inductive evidence that no falsehood
has yet been shown to be a consequence. In discussions of Hilbert’s
Programme up to now the best (finitary proof) has unfortunately almost
always been the enemy of the good (a variety of evidence, falling short of
demonstrative).

Gödel’s own undiluted brand of Platonism seems to betray a preference
for theological explanations over practical ones; he himself described his
philosophy as theological. This preference is evident also in his views on
mind. Gödel emerges from Wang’s pages as highly sceptical of materialis-
tic accounts of mind, and repeatedly expressed doubt that it could be the
product of Darwinian evolution. He also believed that thought cannot be
completely simulated by the operations of a computer. While he thought it
probable that the brain itself did function like a computer (p. 205), he
believed that the operations of the brain did not suffice for the explanation
of mental phenomena. In Wang’s terminology, he rejected both com-
putabilism and neuralism (p. 183). Many readers of Wang’s book will scru-
tinise this section in the hope of finding out whether Gödel himself
appealed to his incompleteness theorems in his rejection of computabil-
ism, since ever since the publication of his 1931 paper containing them,
they have been extensively used for that purpose; their most recent
enlistment is in Penrose’s [1990] and [1994] (though the particular form of
Penrose’s argument is anticipated in Lucas [1961]). According to Wang,
Gödel himself was not convinced by the argument from the incompleten-
ness theorems, as witnessed by among other things his ‘continued efforts
to find other ways to achieve the desired refutation’ (p. 185). The nearest
Gödel got to endorsing the argument was a ‘rationalistic optimism’
(Gödel’s own phrase) that there were no number-theoretic questions in
principle undecidable for the human mind (ibid.), though his consistent
verdict seems to have been that the limits on consistent axiomatisation

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expressed in the incompleteness theorems apply to minds equally with machines. For example he writes that

The human mind is incapable of formulating (or mechanizing) all its mathematical intuitions. That is, if it has succeeded in formulating some of them, this very fact yields new intuitive knowledge, for example the consistency of this formalism. This fact may be called the ‘incompleteness’ of mathematics. On the other hand, on the basis of what has been proved so far, it remains possible that there may exist (and even be empirically discoverable) a theorem-proving machine which in fact is equivalent to mathematical intuition, but cannot be proved to yield only correct theorems of finitary number theory. (6.1.1, p. 184. Italics in original.)

Elsewhere he is even more explicit:

The incompleteness results do not rule out the possibility that there is a theorem-proving computer which is in fact equivalent to mathematical intuition. (6.1.7, p. 186)

Who is right?—the people, like Penrose, who maintain that the incompleteness theorems do refute computabilism, or Gödel? I am inclined to believe Gödel. Virtually all the arguments from the incompleteness theorems against computabilism proceed by claiming that, while any system for reasoning algorithmically cannot, by the first incompleteness theorem, recognise at least one statement, the so-called Gödel sentence for that system, is true, we on the other hand can. Penrose (in [1990]) follows this line. Invoking the fact that, via the arithmetical coding, $G(P)$, the Gödel sentence for formalised Peano arithmetic $P$, asserts its own unprovability, he infers from the conditional expressing the first incompleteness theorem, ‘If $P$ is consistent then $G(P)$ is unprovable in $P$’, that $G(P)$ is true. Thus Penrose has proved true a sentence, $G(P)$, unprovable from the Turing machine $T(P)$ which generates all and only the consequences of $P$ (it is a theorem of elementary recursion theory that $T(P)$, an idealised digital computer satisfying this condition, exists), and so Penrose’s mental powers exceed those of $T(P)$. Q.E.D. But Penrose seems to have overlooked the fact in order to detach the consequent ‘$G(P)$ is unprovable in $P$’ he first needs to prove that $P$ is consistent. He is certainly free to suppose it, in the manner of Gödel’s suggestion in the quotation above. But that achieves nothing. As Gödel showed in his original paper, that $P$ is consistent can itself be expressed in the formal language of $P$, by a sentence we shall refer to as $Con(P)$. Adding $Con(P)$ to $P$ generates a new formal system $P'$ and a corresponding $T(P')$, and from $P'$ the conclusion ‘$G$ is unprovable’ readily follows. But since the conditional ‘If $Con(P)$ then $G$’ can be shown to be a consequence of $P$, this reasoning is performable—it is an ordinary modus ponens inference—by $T(P')$ itself, and so does nothing to indicate Penrose’s mental superiority to a machine. To establish that he must prove $Con(P)$.

Now $Con(P)$ is certainly not unprovable. Gödel himself gave a proof, as did Gentzen. But, as is well known, both these proofs employ stronger assumptions than those available in $P$; Gödel’s used assumptions about
functions of higher type, and Gentzen’s a principle of induction up to an ordinal not representable in $P$ by any arithmetically definable well-ordering of the natural numbers. And Gödel’s second incompleteness theorem tells us that their use of stronger methods than those available in $P$ is not an accidental feature of these proofs. On the contrary: an equivalent statement of that theorem is that any proof of $\text{Con}(P)$ which uses methods no stronger than those of $P$ reveals only that $P$ is inconsistent! Furthermore, the theorem itself is provable by $T(P)$. Now either Penrose has proved $\text{Con}(P)$ by methods stronger than those of $P$, in which case he has done nothing $T(P')$ cannot also do, or else he has proved $P$ by methods no stronger than those of $P$, in which case both he and $T(P)$ can infer that $P$ is inconsistent. In neither case has he done anything to discriminate between his and $T(P)$’s reasoning powers. The most that one can say is that assuming, as one does, that it is true that all the axioms of $P$ are true ‘in the standard model’ commits one to the truth not only of of $G(P)$, but to the truth of an infinite sequence $G(P')$, $G(P'')$, $G(P''')$, etc, not provable in their respective $P'$, $P''$, $P'''$, etc.

The incompleteness theorems, as Gödel acknowledged, do not decide the computabilism issue. On the other hand, he did not believe that they were completely irrelevant to it. On the contrary: further remarks, numbered 6.1.12 in Wang, attest to a belief that once we have a clearer idea than we do at present of the concept of a proof, we will then necessarily also possess a proof of the mind’s own consistency, and hence, by the second incompleteness theorem, a proof that the mental exceeds the computable. Because it introduces us directly into one of the most interesting as well as one of the most puzzling areas of Gödel’s thought, namely his belief that vicious self-reference, the intensional paradoxes, and the concepts of proof and concept are all intimately linked, it is worth reproducing 6.1.12 in its entirety:

> If one could clear up the intensional paradoxes somehow, one would get a clear proof that mind is not [a] machine. The situation of the general concept of proof is similar to that of the general concept of concept. Both belong to the field of bankruptcy, because we have not cleared up the contradictions surrounding these general concepts. Otherwise a proof: [sic] once we understand the general concept of proof, we have also a proof by the mind of its own consistency. As it is, we can actually derive contradictions from the general concept of proof, including the self-application of proof. On the basis of our defective understanding of the general concept of proof, we can potentially arrive at the conclusion that evidence is simply inconsistent. This shows that something is wrong with our logical ideas, which should be completely evident (pp. 187–88).

Gödel is here not of course talking about what the logician calls a proof from premises, which is merely a relation between a sequence of formulas and the particular premises, but about what he goes on to call Absolute Proof, which he thinks may be mutually definable with the concept concept (6.1.13, p. 188). These comments are tantalising because they represent a programme of logical and philosophical research which remained almost
entirely unfulfilled at the time of Gödel’s death. Perhaps because of this he felt that he had failed. Whether anybody else will ever succeed in clarifying these only very partially limned ideas, and indeed, whether they can at all be consistently clarified in any useful way, only time will tell.

Gödel seems to have produced few other arguments specifically directed against computabilism—though the comments above are admittedly more conjectural than demonstrative in nature. But as I have pointed out, he believed that the brain probably resembled a digital computer, and to that extent his arguments against neuralism might also be regarded as for him equally as arguments against computabilism. These arguments mostly focus on a presumed inadequacy of the biological structure of the organism, e.g. of its number of nerve cells, or of the specificity of its enzymes, to be able to reproduce the whole of our mental experience, a presumption which he believes will eventually be demonstrated empirically (6.2.2, p. 190). Most of the discussion of these topics is programmatic and conjectural, with Gödel framing a variety of hypotheses about both mental and physical structure which will, if ever established as true, refute the identity of minds and brains and equally of minds and machines in general. Much of what he said was far from clear, as Wang admits, lamenting that as he often failed to understand what Gödel was saying, he often could not formulate the appropriate questions to obtain the desired clarification (p. 206). We should be grateful that he succeeded as well as he did.

The fact that Gödel assigned the intensional paradoxes such fundamental importance, regarding their resolution as the key to the understanding of the all-important concepts of concept and proof calls for comment. Firstly, it should be emphasized that by ‘intensional paradoxes’ Gödel does not mean ‘semantical paradoxes’, the best-known of which is the Liar paradox. The latter class he regarded as being on the same footing as the set-theoretical paradoxes like Russell’s, i.e. as soluble, and indeed solved. The set-theoretical paradoxes were solved by developing a formal set theory on the basis of the iterative conception of a set, and the Liar paradox he believed solved with the demonstration that truth as a predicate of sentences of a language is not definable in that language (attributed to Tarski, and indeed called Tarski’s T-theorem, this result was independently obtained by Gödel himself before the publication of Tarski’s celebrated paper [1935] containing it; Wang tells us that Gödel avoided controversy wherever possible and for this reason the usual view of the theorem as Tarski’s prevails). The tendency to confuse the semantical and the intensional paradoxes arises, according to Gödel, ‘because without Platonism concepts appear more like language’ (8.5.9, p. 271).

So what are the intensional paradoxes? They involve concepts, and relations between and properties of concepts. Given that these properties and relations are also themselves conceptual, the possibility of paradox is evident, and it arises in its simplest instance in the concept of ‘concept not applying to itself’: clearly, a concept falls under this concept if and only if it does not. This particular paradox seems formally rather similar to Russell’s paradox of the set of sets not belonging to themselves, and a solution of the intensional paradoxes along the same lines as the solution of the
set-theoretical paradoxes might therefore seem possible, by constructing a concept-theory along the same lines as that of axiomatic set-theory. Gödel acknowledges the many formal similarities between sets and concepts but rules this strategy out, on the ground that sets are ‘quasi-physical’, with no possibility of applying to themselves (the universal class, i.e. the class of all sets, is demonstrably not a set), whereas it is of the essence of concepts that they have such a reflexive feature: ‘Clearly, the concept of concept is a concept’ (8.6.23, p. 278). Thus

‘A transfinite theory of concepts is an example of trying to eliminate the paradoxes in an arbitrary way: by treating concepts as if they were sets’ (8.6.21, ibid.).

So that won’t do. What, if anything, will, remains to be seen, though whether others will assign the intensional paradoxes the fundamental significance which Gödel did is uncertain.

Probably of more general interest to philosophers of mathematics are Gödel’s views on problems in contemporary set theory, and specifically that of deciding, if it can be decided, the truth or falsity of the so-called Continuum Hypothesis (‘$\aleph_1$ is the cardinality of the set of real numbers’). Gödel renewed his work in set theory after Cohen had proved the independence of the Continuum Hypothesis from the standard axiomatisation of set-theory called ZFC, short for ‘Zermelo-Fraenkel plus (the Axiom of) Choice’, and he considered ways of generating extensions of ZFC which would settle its truth. One such extension Gödel had discovered in the thirties, namely the Axiom of Constructibility asserting that all sets are constructible, in the sense that they are all members of a cumulative hierarchy of sets based on the ordinals, in which sets of a given ordinal level $\alpha$ are, roughly, the extensions of formulas of the language of set theory composed of sets below $\alpha$. In this extension the Continuum Hypothesis was proved by Gödel, in another of his seminal results ([1939]), to be true. However, the Axiom of Constructibility was and is felt by most set-theorists, including Gödel himself, to be far too restrictive, and the search has continued to find more plausible candidates. Gödel regarded as at least a necessary condition for acceptability that any such extension should embody what he called a structural property, and Wang does his best in Chapter 8.7 to elicit exactly what, for Gödel, being a structural property amounted to. A principle which Gödel felt did embody such a property, and to which he was attracted, is that the universe of sets should be undefinable. Wang tells us that Gödel regarded this principle as implicit in an axiomatisation of set theory due to Ackermann, supplemented by an additional axiom stating that all subclasses of $V$ (a term denoting the universe of sets) are definable without reference to $V$. Within this theory a certain type of large cardinal, a so-called measurable cardinal, can be proved to exist. While the existence of these cardinals does refute the Axiom of Constructibility, it does not settle the Continuum Hypothesis. Nor as yet does any other additional set-theoretical principle regarded as being independently acceptable (there are mathematicians who believe the Continuum Hypothesis actually to be true and use it in proofs).
Wang’s final chapter, entitled ‘Gödel’s Approach to Philosophy’, is also one of the most interesting of them all. Here Wang asks Gödel to state the basic tenets of his philosophical position, and Gödel does so in a way that indicates a very great debt to Leibniz, in both specific aspects and in overall temperament, for want of a better word. Like Leibniz’s, Gödel’s philosophy is, in his own words, ‘rationalistic, idealistic, optimistic and theological’ (9.1.3, p. 290), and, like Leibniz’s, explicitly a ‘monadology, with a central monad’ (9.1.2). Moreover, ‘Monads only act into space; they are not in space. They have an inner life and consciousness’, and ‘Matter will be spiritualised when the true theory of physics is found’ (9.1.9, p. 292). Sometimes the remarks verge on the delphic: ‘Observation especially self-observation—[is] the universal basis’ (ibid.), and

The fundamental philosophical concept is cause. It involves: will, force, enjoyment, God, time, space. Will and enjoyment: hence life and affirmation and negation. Time and space: being near is equivalent to the possibility of influence (9.1.18, p. 294).

One might almost be back in the seventeenth century. Indeed, this chapter reveals the anachronism that Gödel undoubtedly was. It is certainly remarkable that this individual, who proved one of the most fundamental theorems of logic that is ever likely to be proved, should elect to express his fundamental philosophy in the rationalistic language of over three centuries ago.

Wang died between the time of the submission of the manuscript of this book and its going to press. His own work is far from negligible, but in this and his other volumes on Gödel he leaves us an incomparable testimony to one of the strangest of this century’s great thinkers.

Colin Howson

Mind, Meaning and Mental Disorder
By D. Bolton and J. Hill
Oxford Medical Publications, 1996, pp. 386, £45

Scientific psychiatry and psychology have been plagued by an enduring problem in the twentieth century: the intentional language of the mind is (seemingly) not compatible with the scientific causal account of the physical world. If the language of causes is construed realistically (rather than as a metaphor disguising our ignorance), and if we accept that minds stand in a close relation to brains, then the explanatory problem concerns the way in which minds operate in conjunction with apparently corresponding events in the physical world.

At issue is the compatibility of intentional explanations of thought and behaviour with causal explanations of the physical processes which occur in the brain and body. Bolton and Hill take the unusual approach of attempting to show that reason-based accounts of action can be subsumed within an account which takes intentionality to be a special kind of cause.

1 Cf. D. Davidson, ‘Actions, Reasons and Causes’, in Essays on Actions and Events (Oxford University Press, 1980), pp. 149–62.
Their account raises important issues concerning the role of the philosophy of language in informing the philosophy of mind and philosophical psychopathology. Their main concerns, however, are with philosophical psychopathology and the philosophy of mind. The authors are committed to preserve the informativeness of folk-psychological descriptions of mental states. The notion of giving an account of oneself assumes some importance, because failure here is a common feature of mental pathology: ‘Psychological disorder can result from acquisition of a false or inadequate theory of mind’ (p. 49). Given the terms in which Bolton and Hill set up the problem, its resolution must rest on an account of the relationship between meaningful mental states and their role in guiding purposive, goal-directed action.

Bolton and Hill take cognitive states to have informational content: ‘information is picked up from the environment, by the sense-receptors, processed (transformed, encoded) in certain ways, including into representations of the environment, which then serve in the organization and regulation of (purposive, plastic, rule-guided) behaviour’ (p. 11; parentheses in original). The notion of intentionality is taken from Brentano, and is characterized by Bolton and Hill in terms of the ‘aboutness’ or ‘directedness’ of mental states which are ‘about something’ (p. 18), and they state that this ‘characterizes the “information” invoked in cognitive psychological models, and … in the information-processing models that permeate biology’ (p. 19; ‘scare quotes’ in original). Further, ‘one way of characterizing the argument to be developed … is to say that it extends Brentano’s thesis downwards, the proposal being that intentionality characterizes not only states of mind, but, more generally, the information-carrying states in functional, biological systems’ (p. 19).

The philosophical argument starts from the authors’ interpretation of Wittgenstein’s ‘meaning-as-use’ doctrine as ‘the meaning of a sign is given by its use in human activity’; and informs their aim to ‘capture the normative distinctions essential to meaning’, which they propose to cash out in terms of ‘Action as the creation of order’ (p. 22). This is to be achieved in the context of a biological model of the human organism: ‘The notions of goals, and success and failure in achieving them, belong primarily to biological systems, for which success as opposed to failure matters’ (p. 13, italics original). Citing Wittgenstein and Ryle, Bolton and Hill state that ‘mental concepts do not refer to some private process running parallel to behaviour, but are intimately (logically) linked to behaviour itself’ (p. 41, parenthesis in original). The implication they draw from this, citing Stitch, Fodor, and Whiten, is that our conventional folk-psychological language of mental states is in fact ‘an explicit formulation of a “theory of mind”’ (p. 41; ‘scare quotes’ in original).

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2 L. Wittgenstein, *Philosophical Investigations* (Oxford: Blackwell, 1953).
3 G. Ryle, *The Concept of Mind* (London: Hutchinson, 1949).
4 J. Fodor, *Psychosemantics* (Cambridge, Mass: MIT Press, 1987); S. Stitch, *From Folk Psychology to Cognitive Science* (Cambridge, Mass: MIT Press, 1983); A. Whiten, (ed.), *Natural Theories of Mind: Evolution, Development and Simulation of Everyday Mindreading* (Oxford: Blackwell, 1991).
What theory of mind an individual actually possesses depends on social influences, including education, and will contain convictions about 'essential practices and beliefs'; 'in so far as there are such convictions, they maintain psychological order: what lies beyond them is breakdown' (p. 50). Citing Wittgenstein's views on the intimate connection between thought and action, the authors argue that 'the foundations of knowledge coincide with the foundations of thought and meaning. We have to know, or at least be certain, of judgment itself', and to maintain this certainty our conception of reason 'comes to include core assumptions within systems of belief which serve as rules for the interpretation of experience, as opposed to beliefs which might be overthrown by experience'; further, 'if core propositions, or rules, within the system of belief were to be questioned, then the entire system would be under threat' (p. 51).

These core propositions need to be held with certainty, because 'they are those presuppositions that we need in order to act and think'; further, 'doubt or error concerning fundamental rules raises the issue of breakdown of psychological function', for although 'it is possible for a person to be in doubt about, or in error about, even fundamental things. But in such cases, doubt arises as to the person's soundness of mind' (p. 53; here citing Wittgenstein). They continue: 'Certain false judgments cast doubt on the speaker's state of mind. The inference would be that there is something wrong with the person's capacity to make judgments'.

Bolton and Hill argue that certain beliefs constitute a core theory of action, which may find expression merely as implicit expectations 'that the self is competent (enough) to act, that the world is predictable (enough), and that the world provides (enough) satisfaction of needs. Such expectations have to be preserved if activity is to continue. If they were to be abandoned, action would appear to be either impossible or pointless: there would be ... no reason to act', further, citing Seligman's work on learned helplessness, they state: 'in the learned helplessness experimental paradigm animals apparently give up the expectation that what they do makes a difference, and consequently they do nothing' (p. 55, parentheses in original).

Armed with a (possibly only implicit) theory of action (equated with folk psychology by the authors) we can 'anticipate actions and reactions, by all means fallibly, but generally with remarkable accuracy' (p. 56). So, although 'mental states and their meaning' present an explanatory problem for science, the fact that folk psychology 'generates powerful predictions', means it has 'one fundamental feature in common with scientific theory, namely predictive function. This function is critical to the scientific endeavour, and to the extent that it belongs to our understanding of mind and meaning, the dichotomy between these two forms of discourse deconstructs' (p. 57).

5 In his On Certainty (Oxford: Blackwell, 1967), sections 94–8, 319, 411, 494.
6 On Certainty, sections 71 and 155.
7 M. Seligman, Helplessness: on Depression, Development and Death (San Francisco: Freeman, 1983).
Their conclusion is that, just as science aims to provide an account of the physical world in terms of causes, inference to which is licensed by its predictive power, so the model of action offered by folk psychology can legitimately aim to provide an account of the mind in terms of causes, licensed by its predictive power. The obvious candidate for this causal account of mind, claim the authors, is one in which ‘mental events are in some sense brain events and (therefore can be) in some sense causes of behaviour’ (p. 58; italics and parenthesis in original).

Having rejected Type-Type identity theories on the grounds of multiple realizability, the authors opt for a Token-Token identity thesis: ‘each mental event (token) is realized by (and in this sense only “is identical with”) some (token) brain event’ (p. 77; ‘scare quotes’ and parentheses in original). Their proposal ‘presupposes that brain states have semantic properties, or ... that intentional states are realized in brain states’, so that ‘neural states “encode” information (or meaning)’ (p. 77; ‘scare quotes’ and parentheses in original). They eschew a reductionist strategy by arguing that the structure of a physical process which demonstrates intentionality can encode both syntax and semantics—meaning, they argue, is thus preserved in brain states.

But where does the semantics come from? This issue seems crucial to their argument, because they have worked towards two (methodologically conflicting) epistemological aims: (i) to make possible an account of the behaviour of biological organisms which will explain the way in which intentionality is causal; and, (ii) to show how the language of folk-psychology constitutes a theory of mind compatible with scientific psychology and neurobiology. To achieve both demands an account of the utmost generality—i.e., it will apply right across the board. Yet this seems as far away as ever.

Note that ‘the concept of information ... has to be a semantic one, linked to meaning, intentionality, representation, etc.’ (p. 76); and also that ‘the proposed solution makes no commitment to causation by meaningful states in addition to causation by neural states’ (p. 78, italics in original). So whatever it is about meaning and mental states that is causal rests in the causal properties of neural states—but the informational content of such states must be cashed out in terms of semantics. The authors’ response to this problem is to offer a notion of ‘functional semantics’, in which the meaning is defined in terms of systematic function (p. 191). The problem here is that this meaning is now defined in a form which is unrecognizable from the vantage-point of folk-psychology. So some explanation is needed to bridge the gap, and this can only be an account of how an individual can operate as a semantic engine, i.e., how meaning is arrived at.

But Bolton and Hill’s argument exploits at least seven senses of ‘meaning’: meaning-as-representation, information (p. 15); meaning-as-use (pp. 21-3, 97); meaning-as-understanding (pp. 30, 90); meaning-as-representation, thought (p. 78); meaning-as-patterns-of-activity-in-the-head (p. 90); meaning-as-proximate-neural-states (p. 94); and meaning-as-systematic-function. At the same time, they want to privilege the ‘predictive’ aspect of folk-psychological theory over “hermeneutic” vindications of the
discourse of mind and meaning' (p. 57). If, however, mental states are 'posits in a theory of behaviour', and if their meaning is ascertainable only from their context in behaviour—which will include consideration of factors like goals (p. 13), rules (p. 129), purposes (p. 225), etc. then the meaning of any mental state must be assessed against the possibility of multiple interpretations, ambiguity, vagueness, error, and so on.

In other words, the real issue concerns the preconditions for semantic awareness—the individual must be a semantic engine, and must have the capacity to deal effectively with factors which confuse, confound and contradict. For example, if I feel anxious, I consider the possible causes. Once I identify a possible cause (I am standing very near the edge of a high cliff), I can conduct an experiment to reduce my anxiety. If this doesn’t work, I may remember that I have an important interview this afternoon. In effect, I am identifying what my anxiety might mean, and testing each hypothesis in turn.

When Bolton and Hill transmute 'reasons' into 'intentional causes' (p. 220), claiming that their 'operation ... can be specified generally, with reference to any biochemical or physiological processes' they risk missing the point. The crucial point is that we (semantic engines) must provide the content which we use to characterize ourselves, parts of ourselves, other people and their parts, non-human animals, computers, robots, and so on.

This is just what semantically-competent human beings can do, but there is no evidence that computers, robots, non-human animals, or physical subsystems of human beings can do it. And even we have trouble with concepts like 'normativity' and 'mental disorder'! Whilst Bolton and Hill have done much to further the debate, there is still a long way to go.

Paul Sturdee

Rush Rhees on Religion and Philosophy
D. Z. Phillips (ed.)
Cambridge University Press, 1997, pp. xii + 389, £50 (US $69.95) Hb

Those who appreciate Wittgenstein’s stature are, or should be, alive to the value of work by his associates also. Rush Rhees was one of Wittgenstein’s executors. He wrote a great deal but published relatively little. However, two collections of his writings were brought out some time ago—Without Answers, a selection put together by D. Z. Phillips, and Discussions of Wittgenstein (London : Routledge & Kegan Paul, 1969 and 1970 respectively). Rhees’s editorial work was important to him and his publications tended to be connected with that. There is a bibliography in Essays in Honour of Rush Rhees, D. Z. Phillips and Peter Winch (eds.) (London : Macmillan, 1989). Rhees died in 1989.

Phillips has now performed the service of editing and arranging some occasional writings by Rhees on matters to do with religion. The result is a substantial book containing some sixty items, of which only one was written with a view to publication—the splendid essay called Wittgenstein on
Language and Ritual, which came out first in a Festschrift for von Wright and later in Wittgenstein and His Times, B. McGuinness (ed.). Three pieces from Without Answers are also included. The rest appear for the first time. Two thirds of them are letters or parts of letters, mostly written between 1954 and 1971. Some of the most interesting come from a correspondence with M. O'C. Drury, author of The Danger of Words (London: Routledge & Kegan Paul, 1973) and of two accounts of conversations published in Ludwig Wittgenstein, Personal Recollections, Rush Rhees (ed.) (Oxford: Blackwell, 1981).

In the latest group of letters, dated 1984, Rhees deals patiently with a lecturer to the Schwellter Society who had said that ‘the rigorous search for truth which characterises science results in an account of the world which casts doubt on the Christian account’. Rhees underlines the big misunderstanding. Scientism was his black beast. Opposition to it ran like an arterial highway through his thinking and, together with an uncompromising distinction between commitment and factuality, shaped his approach to questions about the nature of religious discourse.

You cannot compare God with the belief in God, in order to measure the belief or see whether the belief is adequate to God. It is not even externally much like a belief in a particular thing, although some people talk as though it were like a belief in the existence of a particular human being. In this way it is more like a belief in the reality of physical objects (notice that this is the natural way of speaking here: not ‘in the existence of physical objects’); and it would not make sense to talk about testing that belief (pp. 20–1).

We may say that children acquire a sort of primitive theology in the stories of the Creation and the Garden of Eden and other stories... This theology may be altered as the children grow older... In all this—from the beginning and on through the later changes—they have learned a certain way of using the expression ‘God’, a way of using the expression ‘Creator’, a way of using the expressions ‘God’s will’, ‘sin against God’, ‘serving God’, ‘love of God’ and others (pp. 43–4).

Just learning the sorts of things it is correct to say—is that theology? Well, I do not see how theology can be anything else (p. 44).

The question whether we are still talking about God now, or whether we are really worshipping God now, cannot be settled by referring to any object... Nor does it change anything if you say ‘being’ instead of ‘object’ (p. 48).

The physical object language may refer to something. The physical object language may not refer to anything either—if someone has made a mistake, for instance, or if the language is confused. And you might think that this is what I meant if I said that the language about God does not refer to anything... Or you might think that I meant that the language about God was just a sort of beautiful pretence; or perhaps that it was just part of the formality of a ceremony, like after-dinner speeches. I do not mean anything of the sort, of course, and if I wanted to avoid that I might say that the language about God certainly does refer to
something. But then I should want to say something about what it is to ‘talk about God’, and how different this is from talking about the moon ... or talking about the Queen. How different the ‘talking about’ is, I mean. That is a difference of grammar (p. 49).

The question of what God is; how does one answer the question of what things are? That turns out to be a grammatical question. The sense of ‘reality’ that we are concerned with here is also what comes in when one talks about the relation of logic and reality. Or at any rate there is something very akin to it. And again, we should want to say, of course, that there is some reality corresponding to logic and mathematics, but not in the sense in which reality corresponds to physics. The reality corresponding to mathematics is the way we live (p. 26).

And similarly, Rhees was suggesting, the reality corresponding to the word ‘God’ is the religious life—an altogether different idea from the straightforward one that the word belongs indispensably to the religious life. Rhees’s mathematical analogy comes into play, together with his denial that the grammar of ‘God’ is of the kind Wittgenstein called ‘object and name’, when the conditions of sense for the word are already satisfied (it is being used according to the scriptures and preachings of, say, the Christian religion). ‘Yes, but what sense?’ Rhees’s grammatical remarks are an answer to that question. However, the response might be that there is no room for the question, since the religious grammar—the only kind that is relevant—has already been (within appropriate limits) determined. The traditional teachings and forms of service have given the word ‘God’ the meaning that the practice of worship requires and in so doing have provided the worshipper with central synonyms such as ‘Our Father’, ‘Lord’, ‘Almighty’ and ‘Creator of heaven and earth’. Now if the grammar of these expressions of worship were to be categorised in terms acceptable to a religious person who could digest the technicalities, what sort of classification might be appropriate? Not ‘object and name’, because God is not regarded as an object and would never be said in religion to be one; but in the case of ‘Our Father’, ‘addressive expression’ would be a sensible choice. For ‘Creator of the World’ I would suggest ‘analogically predicative expression used in acknowledgement of the believer’s creaturely dependence’. The term ‘God’ should also, I think, be classified as a predicative term, the subject being the unknowable and supernatural one assigned by faith, not pseudo-scientific speculation. I would classify ‘God’ as a predicative expression also, because it does not name a god in the sense that Zeus and Apollo were names of gods in Greek mythology. Unlike polytheists, who have to give each god a name, monotheists need no name for their deity, but they give the word ‘God’ a capital letter so that it can work like a name—God is addressed as though by name. That, it seems to me, is how things go in the grammar of worship. And I take the philosophical task to be a descriptive one in which we have to see what the grammar of that discourse is for religious people, what their conception of it is, how they take their words. Of course those words are in vain if spoken faithlessly, without aspiration, unlovingly—that is to say, irreligiously; but I was talking about their grammar when used religiously.
In the group of passages I quoted earlier from Rhees there is an inexplicable double employment of the concept of grammar. Only one of the employments is signalled by that name (in the last two quotations), but if you look at the quotation from p. 44 and the one immediately preceding, you find that Rhees is speaking of grammar there too, grammar being a matter of what it is correct to say. In the latter case it is the grammar of scriptural theology, and he says that 'without this theology religious devotion and religious exaltation would have no sense at all' (p. 44). This juxtaposition of two sorts of grammar is to my mind confusing unless the one for which Rhees reserved the name is a way of rejecting the religious grammar, but it was not put forward as that. It was philosophical comment from an independent position. However, the externality of its relation to religion means that it came 'from the side of unbelief' to use Kierkegaard's expression; and when, in giving an account of the grammar of worship from the outside, you have gone on to provide (or gestured towards, which is all that generally happens) a description of the ways in which worship can make a difference to people's lives, then that is the end of the matter. The buck stops there, at the religious life, the bedrock of reality that corresponds to the word 'God'. You may of course elaborate on what you find wonderful in the panoply of worship—great music, inspired painting on the walls and ceilings of older churches—and you may use the words 'deep' and 'profound'.

I should emphasize that the passages by Rhees that I have so far quoted were all from the first fifty pages of the book. Things go differently later in ways that I cannot here try to communicate. His responses to the difficulties he saw on his voyage round religion evolved rapidly, and while attacks on the 'God as an object' idea and on natural theology more generally (which he regarded as a form of scientism) continued, he ceased to use the idea of grammar in the way he had done before. In a letter where he wonders about the role played by miracles in religion he mentions those traditionally ascribed to Pythagoras, 'Also a body that was not an ordinary human body: "a golden thigh",' and adds, 'I do not know the grammar of this, I do not know how it was taken, what it was, for those who said it' (p. 324). In a remarkable letter on the problem presented by the mystical and eschatological passages in the Gospels there is this (p. 357):

For example, we are likely to say that the Gospel language is 'figurative' in both when it seems to speak as though 'eternal life', 'life in the presence of God', 'the judgment of God' (I should like to speak about this last one, but I doubt if I can) were somehow present in our lives, or at any rate in the lives of saints; and also when the Gospels seem to speak so emphatically and ominously in the future tenses. I am sure that to call this language 'figurative' shows a deep misunderstanding; but I do not know how to avoid it.

The misunderstanding is obnoxious and evil when it suggests that the 'figurative' language is a kind of 'second best' and that it ought to be reducible to some language which is not figurative.

The material in this collection is of absorbing interest. Written in a highly individual style, it grows in strength as it goes on. I cannot imagine anyone reading it without being glad they had done so. Some bits of Latin and
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Greek need attention when a re-printing makes this possible: on p. 100 two mistakes occur in a line of Lucretius; on p. 135 the word cognitio is foolzed; on p. 234 abhæxertia is wrongly rendered as ‘incompatibility’; sanctificetur is mis-spelt on p. 236. On p. 66 a line is missing from the paper entitled ‘Wittgenstein on Language and Ritual’, after line 2 where the following should be inserted: ‘to be more fundamental than words, since we rely on gestures’.

R. F. Holland

Self and World
By Quassim Cassam
Clarendon Press: Oxford, 1997, pp. viii + 208

The thesis that the thinking, experiencing self is not an object among others in the world has made quite a noise in philosophy since Kant, and its resonance is still audible. Cassam calls it the Exclusion Thesis. In Kant himself and some of those who followed him (Schopenhauer, for example, and perhaps the early Wittgenstein), the Exclusion Thesis seems closely linked with transcendental idealism, but there also appear to be reasons for holding it which are in principle separable from transcendental idealism and therefore might seem to have some force for neo-K antians who reject transcendental idealism (such as Strawson). The most powerful such reason which Cassam identifies is presented in what he calls the Self-Consciousness Argument. This claims that the thinking self cannot be presented to itself as an object in the world, and consequently cannot be an object in the world. Cassam accepts the routine objection that this argument makes an unacceptable transition from an epistemological premise to a metaphysical conclusion, but is principally concerned not with the transition but with the epistemological premise itself. He is concerned not just to show that it is false, but to support the strong contrary thesis that ‘we can and must be presented to ourselves, qua subjects, as objects among others in the world’ (p. 6). Specifically, Cassam holds that we must think of ourselves as physical objects—that is, objects which are shaped, located, and solid (p. 3).

The bulk of the book is devoted to considering three arguments for this claim. The first is called the Objectivity Argument. This assumes that a self-conscious subject is one who is in a position to think of her experience as including perceptions of objects in the ‘weighty’ sense (the notion is Strawson’s: objects in the ‘weighty’ sense are objects which are capable of existing unperceived). And it then argues that in order to meet this condition one must be aware of oneself, qua subject of experience, as a physical object in the sense defined. With characteristic caution Cassam distinguishes between a ‘concept version’ of the argument (in order to be able to think of one’s experience as including perceptions of objects in the ‘weighty’ sense one must conceive of oneself as a physical object) and an ‘intuition version’ (in order to be able to think of one’s experience as including perceptions of objects in the ‘weighty’ sense one must be intuitively...
aware of oneself as a physical object). Each version is examined with scrupulous care, with objections weighed and counter-arguments assessed. Cassam concludes that some sense can be made of denying the conclusion of each argument while accepting its premise, but that there are fundamental connections between our conception of our experience as including perceptions of objects in the ‘weighty’ sense and our conception and intuitive awareness of ourselves as physical objects.

The next argument Cassam considers he calls the Unity Argument. Ostensibly, this argument is an attempt to support the unargued premise of the Objectivity Argument, that a self-conscious subject is one who is in a position to think of her experience as including perceptions of objects in the ‘weighty’ sense. The Unity Argument aims to show that the experience of a self-conscious subject must have this objectivity, because this is required if a range of diverse experiences is to be united in a single consciousness. Two versions of this argument, both due ultimately to Strawson, are considered. First is a ‘transcendental self-consciousness’ version. This claims that a self-conscious subject must be capable of thinking of himself as having experiences; that this requires the general notion of experience as such; and this in turn requires a conception of a distinction between how things are experienced as being and how things actually are, which seems to be something like the premise of the Objectivity Argument. Cassam considers with painstaking care a range of objections and counter-objections concerned with the two main planks of this argument: that to be a self-conscious subject of experience one must have the concept of experience; and that, whatever one takes the objects of one’s experience to be, to be capable of thinking of objects of experience at all requires that one should at least be able to make sense of the idea that one might have experience of objects in the ‘weighty’ sense. Cassam concludes that one cannot secure even this weak reading of the premise of the Objectivity Argument in this direct, abstract way; instead, one needs to argue that in order to have the general ability to think about experiences one must recognise that experiences are dependent (‘adjectivally’) upon objective (physical) subjects of experience, and that for such a subject to have self-conscious experience she must be capable of thinking that the objects of her experience might be capable of existing unperceived. And this is, in effect, the other version of the Unity Argument, the ‘personal self-consciousness’ version. Cassam is ultimately sceptical about the final stages of this argument (linking the objectivity of the subject of experience with the objectivity she must be capable of thinking the objects of her experience might possess), but observes that this does not matter for his purposes, since the failure of this part of the argument does not affect the connection between being a self-conscious subject of experience and being a physical object: and it was to demonstrate this, by way of the Objectivity Argument, that we were led to consider the Unity Argument in the first place. That is, the Unity Argument was pursued initially to provide support for the premise of the Objectivity Argument, but has ended up by suggesting an independent argument for its conclusion.

This independent argument Cassam calls the Identity Argument, and he
turns to it next. It aims to show that consciousness of self-identity requires awareness of oneself as a physical object; and once again Cassam distinguishes between ‘concept’ and ‘intuition’ versions of the argument. In fact, there are two ‘concept’ versions. The first is due to Strawson: a self-conscious subject must be capable of self-ascribing her experiences; such self-ascription requires empirically applicable criteria of subject-identity, which is to say that there must be empirical means of distinguishing oneself as an object among others; and this means that one must be a physical object among physical objects. This version relies upon a traditional verificationist ‘principle of significance’, and is rejected on that score. The second ‘concept’ version of the Identity Argument replaces this reliance on verificationism with an appeal to what Evans has called Russell’s principle: in order to be able to understand a judgment about a particular thing, one must know which thing the judgment is about. Consequently, in order to be able to self-ascribe one’s experiences one must know which thing one is; and knowing which thing one is requires that one be right about certain fundamental things about one’s identity, including the fact that one is a physical object. The requirement that one be right about certain fundamental things about the identity of a thing one can think about is both too strong in general, and ignores the special features of thinking of oneself as a subject. Consequently, Cassam moves on to an ‘intuition’ version of the Identity Argument, which rests on the thought that one can be perceptually aware of a particular thing while being seriously ignorant about what kind of thing it is, but only if one is aware of it as a physical thing which occupies a certain spatial location; and this even seems to go some way towards rehabilitating the second ‘concept’ version of the argument, Cassam concludes with an endorsement of the Identity Argument as a whole, as something which ‘provides an insight into the incoherence of the Exclusion Thesis’ (p. 153), though he seems not to believe that this incoherence has been decisively demonstrated.

The final chapter is a criticism of reductionist accounts of facts about persons, such as that suggested by Parfit’s work. The book as a whole has something of the air of a one-man festschrift for Strawson. The general position which Cassam seems to want to uphold—a kind of Kantianism without the transcendental idealism—is most commonly identified with Strawson. And the individual chapters are attempts to preserve and display insights which seem to have guided Strawson, and to develop with rigour and care arguments which Strawson has presented. This is not to suggest any limitation in Cassam’s scholarship; on the contrary, an impressive range and variety of styles of position and philosophy are adverted to. But the general shape is Strawsonian. This perhaps accounts for the slightly curious agenda which the book sets itself: it does not attempt to show that the subject of experience must be an object among others, merely (if that is the right word) that it must somehow take itself to be an object among others. It is surely surprising to find the latter project undertaken without the former in a book called, Self and World, except that it is the latter project which is most distinctively pursued in the transcendental arguments which Strawson reconstructed after Kant.
One casualty of this emphasis is a sensitive understanding of the Self-Consciousness Argument for the Exclusion thesis, even though it is this argument which ostensibly provokes the whole book. Traditionally, and as Cassam presents it, the argument says that since the thinking self cannot be presented to itself as an object in the world, it cannot be an object in the world. The core of the concern here might be put like this: since the way in which one is aware of oneself as oneself is utterly different from the way in which one is aware of other things (in perception, for example), it is utterly mysterious how one can be the kind of thing which could be the object of those other kinds of awareness (perception, for example). If this really is the fundamental issue here, then the stock objection to the traditional argument, that one cannot move from an epistemic premise to a metaphysical conclusion, is scarcely an adequate treatment of the problem. What one seems to need instead is an explanatory diagnosis (perhaps that there is only a mystery if we think of self-awareness as very like perception), and a positive counter-claim (perhaps that it is only if the thinking self can be an object of something like perceptual awareness that it can be aware of itself in that distinctive non-perceptual way).

On this way of looking at the issue, the notion of an object, as it figures in the Self-Consciousness Argument, is an essentially epistemic notion: it means something of which certain kinds of awareness (perceptual, for example) are possible. Cassam does indeed consider a related notion of an object when, following a sensitive treatment of self-awareness, he concedes that ‘The claim that awareness of something “as an object” has to do with the ability to keep track of it is not implausible’ (p. 70); but he seems to regard this as just a different notion of an object from the one which is his main concern. If this is right, then his concern is not really with the Self-Consciousness Argument. One pity about this is that a certain non-Strawsonian argument for the conclusion Cassam is interested in—that the thinking subject thinks of itself as shaped, solid, and occupying space—is missed: for it is not at all obvious, pace Schopenhauer, that in thinking of oneself as oneself one does not think of oneself as an object—for another.

I also suspect that Cassam finds it harder than he might to establish that one must be aware of oneself as a shaped, solid, space-occupier, because he follows Strawson in insisting on absolutely general, abstract, transcendental arguments. Transcendental arguments of a kind which do not presuppose verificationism seem inevitably to be ad hominem arguments; and then the question is who the homines are. Strawson seems to want to catch all homines, all at once, with each single argument. But one might imagine a more piecemeal approach. Once again, this goes back to Strawson’s treatment of Kant. Strawson finds in Kant the idea that a concept (or intuition) of space is necessary for experience in general. An alternative would be to see Kant as insisting just that a concept (or intuition) of space is necessary for spatial experience. This has an air of tautology about it (as does Kant’s own discussion at this point), but need not be empty for all that: it might be seen as an ad hominem argument against anyone who wishes to describe experience as presenting things outside her, or alongside one another, while thinking either that there is a difficulty about the idea of space, or that the
idea is derived from experience. I suspect that some of the strength of the feeling that we must be aware of ourselves as shaped, solid, space-occupiers comes from a sense that when we try to describe the kinds of experience we actually have, we find ourselves committed to presupposing our own corporeality. If this is right, philosophers in the phenomenological tradition (whom Cassam does actually consider, even if briefly) might have been a better source than Strawson for considerations in support of the intuition Cassam finds himself with. Consideration of these philosophers might also have made more obviously apparent the most significant lacuna in the book, taking it on its own terms: there is no very serious attempt to characterise the kind of awareness of oneself which is involved when one's own body, experienced as one's own body, is part of the field of one's experience (which is the case for an enormous amount of our experience). This kind of self-awareness seems to fit neatly neither into the traditional 'subject' conception nor into the traditional 'object' conception, and therefore raises a difficulty for the very terms of the Self-Consciousness Argument.

My misgivings have been about what the book does not present. One cannot but admire the patience, tenacity, balance, and integrity with which Cassam pursues the arguments and counter-arguments that concern him. If anything, he strikes me as too reticent about his own views, and too tolerant of bizarre alternative positions; and the obsessive labelling of arguments and theses which accompanies the unobtrusive objectivity of his treatment of them actually makes the structure of the book harder to follow. One might complain about this argument or that; but in general Cassam's conclusions are presented with no more confidence than the arguments which lead to them warrant. If the book has faults, they are faults of excessive honesty and scrupulousness, which are not such bad faults to have.

Michael Morris

The God of Spinoza: A Philosophical Study
By Richard Mason
Cambridge University Press, 1997, pp. xiv + 272

Some philosophers are patient under-labourers, some grand theorists. Spinoza often appears as the theorist par excellence, presenting us with a complex and highly abstract metaphysics of substance and attribute, a meticulous methodology involving deduction from definitions and axioms, and a rigorously necessitarian theory of truth; here, if ever, one might have thought, we encounter a philosopher whose trademark is theorizing, in its purest and loftiest form. For Richard Mason this is all wrong: what distinguishes Spinoza is above all his unwillingness to theorize. So far from presenting a grand schematic account of ontology, of knowledge, of necessity, he in fact offers us a 'no-theory theory' (p. 251). He resolutely refuses to engage in critical epistemology; his views on substance and attribute are 'radically non-theoretical' (p. 250); his account of mind and body is 'a non-
theory, or a refusal to formulate a theory’ (p. 50). As for the necessitarianism for which Spinoza is so famous, it is more of a bald assertion than a complex, theoretically supported position: ‘for [Spinoza], the necessity,—the caused-ness—of nature was basic, self-evident and in need of no defence’ (p. 65).

According to Mason, the elaborate apparatus of Spinozan metaphysics is something of an illusion, for he is in truth a ‘conceptual minimalist’. Thus being caused, having a reason, being bound by a law, having a certain nature, essence or definition, and being necessary—all these ‘crowd into the same territory’, expressing an ‘extremely radical view’ about the necessity or casuality of things (p. 65). But what exactly is this ‘extremely radical’ view? For Hume, things just happen in the world: kettles boil when heated, and this is (roughly) all there is to it—a series of brute regularities whose ‘ultimate basis’, if such there be, we are not in a position to say anything about. But Spinoza, as normally understood, is committed to the kind of ‘mustness’ that Hume rejects: in the Spinozan world kettles have to boil, are necessitated to boil, and indeed the very idea of a brute fact or a mere conjunction is rejected out of hand: properly understood, nothing is contingent. These contrasts are stark enough, but for Mason it is misleading to interpret them in terms of Spinoza’s having a ‘view’ about modality, or a ‘theory’ of necessity. Spinoza is just not interested in the modal status of propositions; rather, his approach is ‘concrete, non-propositional, non-linguistic’ (p. 72). Necessity ‘has to be understood not in terms of propositions which must be true, but in terms of things which have causes’ (p. 74). Thus we can say that it is necessary that the stove causes the kettle to boil, but only if we mean just that the stove makes the kettle boil, not that the corresponding proposition is necessarily true. Necessity consists just in there being a cause for each thing (p. 75).

I confess to finding this baffling, and indeed Mason himself disarmingly admits that ‘to stress that Spinoza’s thinking was [not about propositions but] about things and their existence may rescue it from anachronism, but is still some way from clarifying it completely’ (pp. 74–5). One possible clarification might be to invoke some form of the de dicto/de re distinction, but Mason bluntly refuses this life-raft: this ‘conventional’ logician’s distinction is beside the point. Spinozan necessity is not de re as opposed to de dicto, rather it is simply ‘how things are and how they act’; this is what it is to take immanence ‘seriously and literally’ (p. 75). In so far as this seems to imply there can be no further explanation beyond ‘how things are’, it appears to take us full circle back (or forward) to Humean brute facts. That cannot, presumably, be Mason’s meaning (though he does at one point say that Spinozan necessities are ‘brute facts in the sense that they are ultimately self-explanatory in a strangely literal way’, (p. 66), but what he does mean is left opaque in the extreme.

Much of the second half of the book is taken up with Spinoza’s views on history and religion. What Mason criticises as the ‘reductive’ view of Spinoza sees him as eliminating all teleology, purposiveness and providentiality from the course of historical events. Mason is unhappy about this, mainly, it seems, because of the passages where Spinoza appears to sub-
scribe to such notions as God’s election of the Jewish people, or the unique mission of Christ. God, in Mason’s reading of Spinoza, does have a role in history, and a role, moreover, that is not to be reduced either to purely naturalistic or to metaphorical terms. But (as with the earlier account of necessity) the reader looks in vain for a convincing answer as to what this might be. ‘God’s choosing to do something is the same as something’s happening in accordance with law, which is the same as something just happening (p. 179)’. Eliminativist? No, says Mason, because ‘the same as’ is not the same as ‘nothing but’. When Spinoza wrote about God, or divine action, he was not ‘really’ writing about nature. A temptation to ‘co-opt him as a theological demythologiser’ has to be resisted (p. 170). What this comes down to in the case of Christ is that the historical emergence of Jesus at a time and place should not be construed as ‘nothing but’ a natural event: that is not what Spinoza said, observes Mason, since ‘for [Spinoza] natural events were divine events’ (p. 214). Well perhaps, but since, in the Spinozan scheme of things, every occurrence, however insignificant, is a modification of the totality that is God or nature, the sense, if any, in which the life of Christ was a special manifestation of the divine remains very unclear.

In so far as a general picture emerges from all this it is of Spinoza as a thinker who wanted to have his cake and eat it, without bothering about the tiresome logical implications of such a process. As expressed by Mason, in rather less denigrating terms, what Spinoza’s approach amounts to is best described in terms of a ‘careful balance’ in his thought: ‘Spinoza-as-rationalist is the philosopher who wanted to reduce God to nature, religious history to sociology, revelation to fantasy and to submit the will to the power of the intellect. Spinoza the God-intoxicated man—the “holy, rejected Spinoza … full of religion, full of the Holy Spirit” [Schelermacher] would have wanted to make nature divine, see God’s work in history, and play up the importance of intuitive knowledge, the intellectual love of God, and our experience of the mind’s eternity. [But in reality, Spinoza] did not want to take either or both of these courses, or some tepid compromise between them. The minimalist compression in the central metaphysics of his system … allowed him to hold together polarities that might be expected to fly apart: substance and attribute, substance and mode, infinite and finite, law and nature. This opened the possibility of non-reductive accounts of religious history and revelation, and for an account of the ‘natural’ which did not beg questions of contrast with the divine’ (pp. 255–6).

Certainly Mason succeeds in pointing up the paradoxes in Spinoza’s thought, but one is not in the end convinced that the bald deploying of the various seemingly incommensurable elements opens up the possibility of an account, if by an account is meant something which dispels the sense of paradox. Spinoza’s system clearly poses hard problems of philosophical analysis, and indeed of philosophical historiography, and it is to Mason’s credit that he rejects the easy answers of the reductionist; but when the elements of Spinoza’s thought have been marshalled, the responsible philosophical critic’s job is to examine why they are worth studying, and what
sense can be made of the whole—and it is not clear to me how this job can be performed without at least some commitment to theoretical structures of explanation. It should not be forgotten that Spinoza was not just an anti-reductionist; God and nature, like the mental and the physical, were not just polarities that must be ‘held together’, they were one and the same thing, conceived under different attributes. Mason’s study ultimately does little to explain why Spinoza’s thought is, or is entitled to be, couched in such uncompromisingly holistic and monistic terms. The book ends with the observation that the ‘balance’ between the divine and the natural in Spinoza’s thought has yet to be ‘digested’ by twentieth-century commentators. That may be so, but to facilitate that digestive process most of us will need a little more food-processing than Mason, in the end, is prepared to provide.

John Cottingham

Wittgenstein—Mind and Will, An analytical commentary on the Philosophical Investigations
By P. M. S. Hacker
Vol. 4, Oxford (Blackwell) 1996, pp. 737, £90

This fourth volume completes the exegetical part of Hacker’s analytical commentary on the Philosophical Investigations (PI), the former parts being Meaning and Understanding (1980; Vol. 1), Rules, Grammar and Necessity (1985; Vol. 2) and Meaning and Mind (1990; Vol. 3). It covers §§428–693 of PI Part I. Hacker thinks that ‘Part II is not part of the same book’ but observes that PI seems ‘to end … in mid-flight’; therefore, Wittgenstein should have wanted ‘to round it off with some concluding remarks.’ Since these are lacking, Hacker decided to finish his commentary with ‘a synoptic essay on Wittgenstein’s achievement.’ (p. xvii) This essay has grown into a separate book, Wittgenstein’s Place in Twentieth-Century Analytic Philosophy, which was also published by Blackwell in 1996.

Hacker divides the text into seven Chapters: 1. Intentionality (§§ 428–65), 2. Justification by Experience (§§ 466–90), 3 Immanence of Meaning and the bounds of sense (§§ 491–570), 4. Mental states and processes (§§ 571–610), 5. The will (§§ 611–28), 6. Intention and recollecting one’s intention (§§ 629–60) and 7. Meaning something (§§ 661–93). The format of the commentary has remained the same: each chapter opens with an introduction surveying the text which is followed by an essay which locates Wittgenstein’s remarks in the context of related treatments in other texts from the Nachlass as well as of those philosophical theories and theses to which Wittgenstein’s remarks is understood as responding. Following the introductions to the chapters, the main essays deal with ‘Intentionality’ (pp. 12–58), ‘Inductive Reasoning’ (pp. 151–69), ‘The arbitrariness of grammar and the bounds of sense’ (p. 214–45), ‘M ean tality in philosophical psychology’ (pp. 401–45), ‘W illing and the nature of voluntary action’ (pp. 539–86), ‘Intending’ (p. 619–39) and ‘The mythology of meaning something’ (pp. 679–702). Ch. 3 (‘A note on negation’), pp.
With Volume 4 Hacker has completed an impressive scholarly undertaking which will remain a starting point for discussions about Wittgenstein’s posthumous masterpiece. The detailed exegesis of all the sections is very illuminating, often deciding many a controversy about the intended meaning of the remarks by relating them to their contexts in the manuscripts of the Nachlaß. The essays successfully place Wittgenstein’s descriptive achievements in the context of many debates in the philosophy of mind, especially so in the discussion of the large topics of intentionality, the will, and intending and meaning something. Wittgenstein’s own distinctive overall perspective in the philosophy of language and of mind, the autonomy of grammar, is masterfully expounded. There cannot be any doubt that Hacker’s interpretations are mandatory reading for every scholar and student seriously interested in Wittgenstein’s second philosophy and the intended meaning of specific and — when considered out of context — often very opaque remarks in the text of PI.

The detailed exegesis of the text takes little more than half of the total 731 pages of Volume 4. Since it would require more space than is provided for this review to challenge specific interpretations of Wittgenstein’s views, I propose to question some of the structuring decisions of Hacker’s interpretation instead.

One of the central aims of Wittgensteinian philosophy is to attain a Übersicht (overview) of grammar (§ 122) in order to be able to dissolve philosophical problems, misunderstandings, by establishing one of many possible orders in our knowledge of the use of language (§ 132). But the text of PI itself is not readily surveyable, and one should expect an exegetical interpretation to compensate for this, as it seems to be a fault of the text to be remedied in view of the declared intention of attaining an Übersicht. Hacker therefore provides in his essays skilful descriptive overviews of languages-uses concerning problematical words and idioms time and again. By the end of the exercises, however, one naturally asks oneself why Wittgenstein, in view of his aiming at an Übersicht, did not do this himself. G. P. Baker, Hacker’s co-author in the first two volumes, has argued that the descriptive understanding of ‘perspicuous representation’ (übersichtliche Darstellung) with the reading of the adjective as attributively used is in error and leads expectations in the wrong direction. A perspicuous representation might be any representation of something that makes what is represented perspicuous to someone to whom it is given. Evidently, then, it matters decisively to whom it is given. Wittgenstein conducts his elucidatory dialectic in a sustained dialogue with a wayward interlocutor. Perhaps the text of PI, Part I, might gain more perspicuous unity by attempting to find some unity in the interlocutor’s misunderstandings rather than by taking the plural of the book’s title as indicative of a

1 G. P. Baker, Philosophical Investigations section 122: neglected aspects, in R. L. Arrington, H.-J. Glock (eds), Wittgenstein’s Philosophical Investigations—Text and Context, (London/New York: Routledge, 1991), 35–68.
sequence of conceptual investigations, only more or less loosely connected; their purpose is rightly seen as predominantly descriptive, the description itself, however, is not sufficiently perceived as being severely limited by the dialectical concerns of the critical argument.

From the Foreword of PI one knows that Wittgenstein wanted to have PI Part I published together with his first book Tractatus-Logico-Philosophicus (TLP) in one single volume. If one tries to find the unity of the interlocutor’s misunderstandings within the context of a specific interpretation of TLP, one might say that the conception of the command and use of language advocated in the latter suffered from succumbing to the twin illusions of determinacy of sense and of inner mental processes giving life to the spoken or written signs of language. One could then understand the first 242 §§ of PI as being concerned with the demolition of the illusions connected with the requirement of determinacy of sense (cp. TLP 3.23) and the rest of PI Part I with demolishing the illusion of inner mental states and processes. Hacker himself points in this direction when considering whether the last four chapters in his division of the text could not be seen as a single one, ‘motivated primarily by the need to clarify certain psychological concepts ... preparatory to a final assault upon the idea that acts of meaning underlie the significant use of language, giving words and utterances their “life”’ (p. 394; cp. p. 681). And hesitatingly (cp. Vol. 3, p. 313), but with growing determination, he subscribes in the end (Vol. 4, 682–92) to a ‘mentalist’ interpretation of TLP which holds that the conception of the command and use of language in Wittgenstein’s first book rests on tacit psychological assumptions which imply that it is thinking (das Denken) the sense of a sentence (conceived of as an inner process of analysis) that makes it into a proposition in a projective relation to reality (cp. TLP 3.11 b, 3.12). (pp. 682–8). Hacker does not pursue this line of interpretation as the central one because to him it seemed that the discussion of psychological concepts at the end of PI Part I ‘delves much deeper into the topics surveyed than is strictly necessary’ for the dialectical purpose contemplated. But this undeniable fact could well be explained by the requirement—to which Wittgenstein explicitly subscribes in the beginning of his ‘Remarks on Frazer’s Golden Bough’—that a philosophical critique not only has to show what is right but also must explain how the errors and misunderstandings of the interlocutor are made possible by the concepts and specific idioms of our language concerning willing, intending and meaning something.

This evidently is not the place to show the feasibility of an interpretation of PI Part I as exclusively (self-)critical of the conception of the command and use of language implicit in TLP. Certainly the claim stands in need of considerable qualifications if it is to be upheld. One of the most important is the following: Wittgenstein thought that the working-through of his own problems belonged in a diary rather than in a book and that his book should focus on the solutions— ‘if any’ —he found to his difficulties. (Ms. 136, 24.1.48!) That’s why the difficulties are hidden in the generaliz-

2 Quoted in: M. Nedo/M. Ranchetti, Wittgenstein—Sein Leben in Bildern und Texten, Frankfurt/Main (suhrkamp) 1983, p. 316.
ing ‘Augustinian picture of language’ in the beginning of PI and it is not
easily seen that the motivation of structure and development of the argu-
ment in Part I are based in the problems of his own earlier philosophy
(and, of course, in the additional problems that arose in the process of its
demolition).

What about Hacker’s verdict on Part II of the posthumously published
text? In the literature there are philosophical arguments supporting his
position that Part II is not part of the same book. But was it not
Wittgenstein’s abiding intention after his return to philosophy in 1929 to
write just one book? And does not v. Wright, in spite of supporting
Hacker’s position on Part II, adduce evidence for the final idea of PI hav-
ing been a single book consisting of two, perhaps three volumes; the first
containing TLP and PI Part I, presenting the self-critique of
Wittgenstein’s older way of thinking (ältere Denkweise), the second con-
taining further descriptive elucidations in the philosophy of psychology,
and the third perhaps dealing with the philosophy of mathematics? T he
philosophical qualms about Part II being a genuine part of PI can be
counted hermeneutically. One of Wittgenstein’s preferred techniques in
dissolving philosophical problems was to look for a wider context, where
that which seems paradoxical at first sight loses its air of paradox (cp.
RFM III.85 g; VII.43 b). In the course of dissolving his interlocutor’s illusions
about meaning and understanding, Wittgenstein, already in Part I, had to touch upon the phenomena of ‘hearing a word with this meaning’
(§ 534) and to admit that it seems strange that such a thing is possible at
all—in view of the fact that, in a large class of cases, but not all cases, the
meaning of a word is its use in the language (§ 43) and that one cannot hear
the temporally extended use in the language in one moment (§ 138). It is
not enough to descriptively admit of a secondary meaning of ‘meaning’
and ‘understanding’. (§ 527–46; Hacker does not qualify this as such and
only sees ‘a fluidity of the concept of meaning’—p. 335 ad § 532). T raits
of language-use, like the ‘experiencing of meaning’ that are only touched
upon in Part I, do not lose their strangeness unless placed in the context of
aspect-perception which is central to Part II in section xi—there, the
philosophical importance of the phenomena of visual aspect-perception is
explicitly explained with recourse to the connection between the concepts
‘experiencing the meaning of a word’ and ‘seeing an aspect’ (p. 214 d; cp.
RPP I, 1050). So it seems that, because of both—the limitation of the
explanation of meaning as use in the language to a large class of cases (but
not all), as well as the requirement of dissolving the problems complete-
ly—a treatment of aspect-perception belongs to the idea of PI. And there-

3 G. H. V. Wright, The troubled History of Part II of the Investigations, in: Grazer Philosophische Studien 42, 1992, 181–92; O. Scholz, Zum Status von Teil II der Philosophischen Untersuchungen, in E. v. Savigny, O. Scholz (eds), Wittgenstein über die Seele, Frankfurt am Main (Suhrkamp) 1995, 24–40.

4 Cp. v. Wright, Wittgenstein, Oxford 1982, German (ed.) Frankfurt 1990, p. 133.
fore a version of Part II belongs to Pl. If one accepts the existing one in default of a better alternative, then the last section of Part II (xiv) indicates an intended Part III on the philosophy of mathematics.

If it were substantiated by detailed interpretation, this critique would mean that Hacker’s commentary, despite its impressive extension to about 2400 pages in four volumes and its claim of being an exhaustive treatment of Part I, is incomplete and does not sufficiently concentrate on the specific purpose of Part I. The verdict of incompleteness, however, would not be quite correct. Volume 2 of the commentary contains a synoptic treatment of Wittgenstein’s ideas in the philosophy of mathematics in the context of the discussion about ‘following a rule’. And the final volume reviewed here contains in essays and exegeses as well a lot of Wittgenstein’s ideas in the descriptive philosophy of psychology (sadly missing: the topic of aspect-perception), which, according to the idea of Pl sketched above, should be and are dealt with in Part II. This would seem to leave in place the point about underestimation of the exclusively (self-) critical scopus of Part I, which should be a focus of further discussion. But any further discussions could take as a point of departure and, in any case, must take into account Hacker’s interpretations, which are a decisive step forward in the attempts to understand Wittgenstein’s—as concerns structure and form, bewildering—text.

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