Boghossian, Paul and Peacocke, Christopher, eds., *New Essays on the A Priori* (Oxford: OUP, 2000), pp.xi+478, £15.99

This book is like a box of chocolates: once you've looked at the contents page, you know exactly what you're going to get—but this does not mean that the pleasure of consumption is in any way diminished. It consists of seventeen new essays on the *a priori* by some of the most distinguished philosophers going about, together with an editorial introduction by two of these philosophers.

The editors divide their very useful introductory discussion into three parts: identifying (or characterising) the *a priori*; explaining the *a priori*; and demarcating (or determining the scope of) the *a priori*. Almost all of the essays are mainly concerned with the second of these topics, i.e. with the question of explaining something about the *a priori*, either in general, or in some particular domain. However, the last few essays are mainly concerned with the third topic, in particular with arguments which suggest that the scope of the *a priori* is more extensive than anyone could reasonably believe; and the first couple of essays are more concerned with questions about the characterisation of the *a priori* in the thought of particular philosophers. I shall now say something about each of the essays in the book, taken in the order in which they appear.

Tyler Burge ("Frege on Apriority") discusses Frege's conception of apriority, and its debts to Kant and Leibniz. On the one hand, Burge claims, it appears that Frege follows Kant in giving a role to pure intuition in the justification of the axioms of geometry. But, on the other hand, Burge adds, it is clear that Frege rejects the further suggestion that the role of pure intuition is to provide underived singular understanding of objects which figures in the justification of the axioms of geometry; for, according to Frege, it is characteristic of *a priori* truths that their canonical justification involves derivation from general truths alone. In this latter respect, says Burge, Frege's conception of the *a priori* is much closer to that of Leibniz. (Burge also provides interesting discussions of the application of Frege's conception of apriority to arithmetic, and to *cogito* judgements and the like; and of much else besides. As with many of the essays in the collection, it is hard to do justice to its content in a few brief sentences.)

Quassim Cassam ("Rationalism, Empiricism, and the *A Priori*") discusses the distinction between "rationalist" and "empiricist" theories of *a priori* knowledge. He argues that the standard account of this distinction—which turns on (i) whether rational intuition is the source of at least some of our *a priori* knowledge, and (ii) whether *a priori* knowledge of reality is possible—gives a trivial victory to the rationalist. According to Cassam, the distinction is better made to turn on whether, as Kant claims, "reason only has insight into that which it produces after a plan of its own" (hence, on whether there can be *a priori* knowledge of "natural"—as opposed to merely "conventional"—reality).

Philip Kitcher ("*A Priori* Knowledge Revisited") begins with a summary of the account of *a priori* knowledge which he first developed in "*A Priori* Knowledge" Philosophical Review **89**, 3-23. Since it is a consequence of that account that there is not—and cannot be—*a priori* mathematical knowledge, it is natural to ask whether the account is flawed in some way. Kitcher's answer is in two parts. On the one hand,

while it is true that his earlier attempts to defend his account are plainly flawed, it may nonetheless be the case that it captures what epistemologists have always understood by apriority—and, if that is right, then there can be no *a priori* mathematical knowledge. On the other hand, if we follow Kitcher's critics and make a natural weakening of his account, then it will turn out that "*a priori* knowledge" can be dependent upon history and tradition—and, in particular, upon "the experiences of those who come before us"—and hence there is neither harm nor difficulty in allowing that there can be "*a priori* mathematical knowledge".

Penelope Maddy ("Naturalism and the *A Priori*") argues against philosophical theories which require a distinction between two levels of discourse—e.g., "empirical" versus "transcendental" (Kant), or "internal" versus "framework" (Carnap)—and in favour of a naturalism which forgoes any such distinction. However, unlike Quine, Maddy does not reject the distinction between levels of discourse because she accepts a blanket pragmatist account of scientific methodology; in her view, there *is* a genuine methodological distinction between the conventional/pragmatic and the theoretical/empirical, but this distinction is not a distinction between different levels of discourse, and it cannot be used to support a viable account of *a priori* knowledge. Moreover, Maddy insists that it is important to allow that the differences between conventional/pragmatic and theoretical/empirical hypotheses should be "studied side-by-side using scientific methods"—an insistence which must go by the board if the conventional/pragmatic is held to be *a priori*, i.e. prior to scientific inquiry.

Hartry Field ("Apriority as an Evaluative Notion") argues that reasonableness is a non-factual or evaluative property, and that recognition of this fact can help us to attain a thoroughly naturalistic and demystified account of the *a priori*. In particular, he claims that certain rules—governing deductive inference, inductive inference, and perceptual belief formation—are default reasonable, and hence *a priori*. In support of his "evaluationism", Field argues (1) that naturalistic reductionism—i.e. the view that reasonableness is entirely a matter of prediction of truth, avoidance of falsehood, and so forth—is subject to numerous difficulties; and (2) that evaluationism provides the only satisfactory response to epistemological scepticism and to a well-known argument for the conclusion that we must suppose that our basic empirical methods are empirically defeasible.

Paul Horwich ("Stipulation, Meaning and Apriority") provides a three-pronged attack on the claim that our *a priori* knowledge of logic and mathematics derives from either the meanings of words or the nature of concepts. Horwich claims: (i) that someone could possess whatever meanings and concepts are required to articulate our logical and mathematical convictions, and yet disagree with us about these convictions; (ii) that grasp of meanings and concepts must be based on prior commitments, and hence cannot be constitutive of these commitments; and (iii) that those who seek to explain our *a priori* knowledge of logic and mathematics in terms of our grasp of the meanings of words or our grasp of concepts are unable to explain how we are justified in taking on meaning-constituting commitments. However, Horwich accepts that we do have *a priori* knowledge of logic and mathematics—at least outside the domain of natural science—and he identifies three classes to which basic *a priori* beliefs might belong, viz: (1) the purely meaning constituting; (2) the purely pragmatically motivated; and (3) the innate and irremovable.

Peter Railton ("*A Priori* Rules: Wittgenstein on the Normativity of Logic") begins with the observation that there is something disquieting about claiming *a priori* standing for a proposition or principle, namely, that this seems to commit one to the epistemic imperative to treat all testimony of experience as bearing elsewhere on one's conceptual scheme. Railton concludes with the claim that we need to be able to regulate our practice by normative principles to which we have *a priori* commitment—and hence with the claim that the initially observed disquiet is misplaced. Between times—unsurprisingly—Railton argues that we can think of our *a priori* commitment to normative principles which regulate our practice in a way which is consistent with supposing that we are not thereby committed to holding that all testimony of experience must bear elsewhere in our conceptual scheme. Moreover, Railton claims that Wittgenstein's discussion of the normativity of logic in the Philosophical Investigations provides a model for the kind of view of the *a priori* which he endorses.

Stephen Yablo ("Apriority and Existence") argues that everyday talk about Platonic objects—numbers, models, worlds, propositions, facts, events, properties, areas of discourse, etc.—is nowhere to be taken literally. According to Yablo, everyday talk of Platonic objects is existential metaphor: the use of the definite article and the existential quantifier in these connections is always non-literal. However, this is not to say that such talk is eliminable: the existential metaphors in question have no literal paraphrases, or none which is readily available, or none with equally happy cognitive effects. Moreover, there are various reasons why it is hard to notice that talk of Platonic objects is existential metaphor: figurative elements in speech are often unconscious; metaphors can be pregnant, or prophetic, or patient, or in other ways outrun a speaker's sense of the particular truths which the metaphor is apt to express. Finally, Yablo claims that the view that talk of Platonic objects is existential metaphor provides the only satisfactory explanation of, say, our reluctance to infer the existence of models from uses of the Tarskian analysis of validity.

Paul Boghossian ("Knowledge of Logic") discusses the question whether it is possible to be justified in believing that *modus ponens* is a valid rule of inference (and the related question whether it is possible to be entitled to the disposition to reason in accordance with that rule). After considering and rejecting various alternative positions, Boghossian defends the view that such justification is possible, since one can give a "rule-circular" inferential justification. In order to argue in defence of this claim, he relies on the following assumptions: (1) the meanings of logical constants are determined by their conceptual roles; (2) not every conceptual role determines a possible meaning; (3) if an inferential disposition is meaning-constituting then it is *a fortiori* reasonable and justifiably used without supporting argument; and (4) something can be a warrant from something even if it is powerless to persuade a determined sceptic. Boghossian claims that, with the aid of these (controversial) assumptions, it can be shown that rule-circular justifications for the belief that *modus ponens* is a valid rule of inference need not be either question-begging or doomed to keep bad company.

Christopher Peacocke ("Explaining the *A Priori*: The Programme of Moderate Rationalism") sets himself the goal of "identifying those features of concepts which explain why a given way of coming to know a particular content is an *a priori* way".

However, while his "programme of moderate rationalism" is committed to the possibility of explaining each case of *a priori* status by reference to features of understanding or concept possession, it is not permitted to proceed by first postulating causal or explanatory relations holding between properties of things in a third realm of concepts or meanings and then going on to assert that those relations are involved in understanding. Rather, in general, if the moderate rationalist is interested in explaining the *a priori* status of some way W of coming to know a content which essentially involves the concepts in a set {Ci}, then the moderate rationalist is required to discover a "key" relation—which holds between (1) the possession conditions for the concepts in {Ci}, (2) the semantic values of the concepts in {Ci}, and (3) the way W—which "unlocks" the explanation of the *a priori* status of the given concept. Peacocke claims to exhibit such "key" relations for a range of cases; often the possession conditions for the concepts in question are said to involve an "implicit" conception—a content-involving sub-personal state—and that idea is made to do quite a lot of work in Peacocke's concluding discussion of phenomena which Godel claimed could only be explained in terms of "rational intuition".

Bob Hale and **Crispin Wright** ("Implicit Definition and the *A Priori*") defend the neo-Fregean view that the meanings of significant classes of expressions can be constituted by implicit definitions, and that such definitions have an important role to play in any satisfactory account of the possibility of *a priori* knowledge of logic and mathematics. According to Hale and Wright, where implicit definition is meaning-constituting: (1) the definition must explain the meaning in such a way that it can be grasped by someone who antecedently lacks the resources to grasp it; (2) the definition must create a pattern of use in which certain constraints—e.g. of "conservativeness", "generality", and "harmony"—are met; (3) the definition must provide the only possible way of grasping the meaning; and (4) the definition may proceed by stipulating that certain sentences involving the term(s) to be defined are true while allowing that other sentences involving these term(s) are hostage to empirical fortune. Furthermore, according to Hale and Wright, we can legitimately think of the stipulation of the truth of "Hume's Principle"—i.e. the claim that the number of Fs is the same as the number of Gs iff there is a one-one correlation between the Fs and the Gs—as an implicit definition of the numerical operator "the number of" which satisfies the first three of these conditions (and perhaps more besides)—and hence can hope for success in carrying out a substantial part of Frege's programme aimed at providing logical foundations for arithmetic.

Frank Jackson ("Representation, Scepticism and the *A Priori*") provides a compact argument for the conclusion that naturalists who reject scepticism, and who accept that logical-cum-mathematical truths are *a priori*, should also accept that the class of *a priori* truths greatly outruns the logical-cum-mathematical truths. The core of Jackson's argument—according to Jackson—is the claim that, if we are to get information from the testimony of other speakers, as we obviously do, sentences must have representational meanings, which we must, at least on many occasions, grasp. Moreover—according to Jackson—the notion of "representational meaning" must be understood in a set-theoretic way: to represent is to make a division, among entities of some kind or other, between those which are in accord with how things are represented as being, and those which are not. Consequently—for Jackson—to grasp the representational meaning of a sentence is to know how that sentence makes the division between the relevant entities and which side of the division is represented to

be in accord with how things are. But—according to Jackson—given all of this, it is clear that grasp of representational meaning alone, when combined with straightforward logical inference, suffices to allow knowledge of truth in the case of certain kinds of sentences. And—according to Jackson—this knowledge would plainly be classified as *a priori* by traditional accounts of the *a priori*.

Stewart Shapiro ("The Status of Logic") defends the view that there is something in the realm of logic which is fundamentally *a priori*—i.e. possessed of an *a priori* warrant, where the reliability or legitimacy of that warrant is *a priori*, and the reliability or legitimacy for this too is *a priori*, and so on (until we reach something which is not in need of any warrant)—and much more which is locally *a priori*—i.e. possessed of an *a priori* warrant, but of such a kind that, in justifying the warrant, we ultimately appeal to observation *via* roles in our web of belief. In particular, Shapiro claims that some transfer principles—i.e. some principles which represent equivalences between inference and logical truth—are fundamentally *a priori*. This positive claim is located within an extended critical discussion of two prominent critics of the view that logic is *a priori*, W. V. O. Quine and Michael Resnik. Against Quine, Shapiro argues that, by Quine's own lights—i.e. by other claims to which Quine is more deeply wedded than he is to his rejection of the claim that logic is *a priori*—something in the neighbourhood of the transfer principles is fundamentally *a priori*, and the rest of logic is at least locally *a priori*. Against Resnik, Shapiro deploys a battery of arguments designed to show that Resnik's non-cognitivism about logic is untenable, and that if anything at all is objective (and hence cognitive) then logic is.

Michael Friedman ("Transcendental Philosophy and *A Priori* Knowledge: A Neo-Kantian Perspective") offers—as an alternative to Quine's holistically conceived web of belief—a differentiated system of belief which consists of three levels. At the base there are the concepts and principles of empirical natural science: empirical laws of nature which face the tribunal of experience *via* a rigorous process of empirical testing. At the next level up there are the constitutively *a priori* principles which define the fundamental (spatiotemporal) framework within which—and within which *alone*—the rigorous formulation and testing of base-level principles is possible. And, at the top level, there are philosophical meta-paradigms or meta-frameworks which play the indispensable role of serving as a source for guidance or orientation in motivating and sustaining the transition from one fundamental (spatiotemporal) framework to another. According to Friedman, the need to distinguish between the first two levels was recognised by Reichenbach, Carnap, Kuhn, and others, and is well-motivated by close attention to the early twentieth century Einsteinian revolution in physics. However, according to Friedman, a complete vindication of the constitutive *a priori* (of the kind provided by Carnap et. al.) requires the deployment of a kind of transcendental justification at the top level, and is strongly supported by a close reading of the entire history of spacetime physics from Aristotle to Einstein.

Martin Davies ("Externalism and Armchair Knowledge") provides a refinement of prior attempts of his to explain how one can consistently adopt externalism about content while nonetheless maintaining that subjects have privileged access to the contents of their own thoughts. The difficulty he confronts is that: (1) the argument: "I am thinking that water is wet; If I am thinking that water is wet then I am (or have been) embedded in an environment that contains samples of water; therefore I am (or

have been) embedded in an environment that contains samples of water" is plainly valid; (2) acceptance of the first premise of this argument can be warranted *a priori* (given that one has privileged access to the contents of one's own thoughts); (3) acceptance of the second premise of this argument can be a warranted *a priori* (given that philosophical theorising can justify externalism about content); and yet (4) acceptance of the conclusion of the argument is plainly not something which can be warranted *a priori*. Davies argues that acceptance of a certain general claim—viz. that epistemic warrant cannot be transmitted from the premises of a valid argument to its conclusion if, for one of the premises, acceptance of (i) the assumption that there is such a proposition for the knower to think as that premise and (ii) the warrants for the other premises cannot be rationally combined with doubt about the truth of the conclusion—would suffice to solve the difficulty. Moreover, Davies offers interesting reasons for thinking that this general claim should be accepted. And, in consequence, he claims—at least *inter alia*—that more expensive solutions to the difficulty which have been considered in the literature need not be adopted.

Bill Brewer ("Externalism and *A Priori* Knowledge of Empirical Facts") discusses exactly the same argument which is the focus of Davies' paper. After rejecting a number of responses which he finds unsatisfactory—including a previous variation of Davies' present response—Brewer argues that the proponent of the problematic argument is mistaken in thinking that an adequate account of a person's knowledge of the contents of her own beliefs entails that this knowledge is wholly non-empirical. For, according to Brewer, this kind of self-knowledge requires that the person in question grasps the contents of the beliefs in question; but grasp of those contents requires possession of component concepts; and, in turn, possession of those component concepts requires reason-giving empirical relations—epistemic acquaintance—with the semantic values of those concepts. Thus, according to Brewer, while it may be true that the contents in question are knowable *a priori* in one sense—since, at least for some subjects in some circumstances, understanding those contents is sufficient for knowing their truth—there is an important sense in which they are no knowable *a priori*—viz. that they are not knowable independent of experience.

Thomas Nagel ("The Psychophysical Nexus") begins by defending a family of claims about the nature of conscious mental states: (1) mental concepts cannot be *analysed* functionally; (2) functional roles are needed to *fix the reference* of mental terms; (3) it is a *conceptual* and *contingent* truth that each conscious mental state plays its characteristic functional role in relation to its behaviour; (4) it is a *conceptual* and *necessary* truth that each conscious mental state has the phenomenological properties which it actually has; (5) it is a *non-conceptual necessary* truth that each conscious mental state has the physiological properties which it actually has. Nagel then goes on to suggest that we will need to construct "a new concept" if we are to understand how mental states can satisfy (1)-(5), and hence have a "dual essence". Finally, Nagel holds that it is plausible to conjecture that some form of "more limited psychophysical unity" may exist in smaller or more specialised sub-parts of the brain—and hence that one can tell a "compositional" story in which the "complicated inner-outer link" at the level of the organism is explained in terms of "strict inner-outer links" at more basic levels.

There are many interesting points of convergence and divergence which appear when all of these essays are taken together. Not everyone operates with the same conception of the *a priori*; and not everyone agrees about where the greatest problems for a satisfactory treatment of the *a priori* arise. However, if the essays in this book are anything to go by, there does seem to be an emerging consensus that Quine's rejection of the *a priori* on the basis of an undiscriminating blanket pragmatism is no longer tenable: even if there are reasons for being sceptical about the *a priori*, those reasons are not the ones upon which Quine relied. (Many similar—but more interesting—points of this kind could be made; but the present kind of review is not an appropriate place in which to try to do so.)

I think that this is a book which almost all philosophers will want to own. The essays are of a very high standard, and they deal with matters of considerable philosophical importance. In almost every way, the editors—and authors—should be congratulated for the fine work which they have done. (One tiny grumble. There are numerous minor typographical errors—I counted more than thirty—of a kind which could not be detected by a standard spellchecker.)