

# How Are A Priori Truths Possible?<sup>1</sup>

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With some trepidation caused by the sight of the wreckage of the other vehicles which have attempted to cross the same terrain, I will attempt to give an answer to the question of how a priori truths are possible. The question has received two distinctive kinds of answer in this century. One kind consists in the adoption of some form of conventionalism, which comes in more or less radical varieties. The other much-discussed answer is found in the views of Quine. My suspicion is that many present-day philosophers would be reluctant to endorse either of these two answers without serious reservations. The purpose of this paper is to present a third theory, which aims to address our inherited question.

There is a characterization of the a priori which has become standard. The standard characterization states that a truth is a priori if it can be known to be true in the actual world independently of any particular kind of experience or empirical information. This standard characterization is in such need of clarification that a natural reaction to the agenda I just described is to wonder whether it might not be wiser first to establish the existence or even the possibility of a priori truths. Charles Parsons would probably be regarded by many as diplomatic in commenting that "a reader of today would be prepared at least to entertain the idea that the notion of a priori knowledge is either hopelessly unclear or vacuous" (Parsons 1992, pp. 62–3). There are, however, other examples in which providing a credible theoretical account of the origins and nature of some disputed type of thing is crucial to making it plausible that the type is instantiated. (No one would believe in the existence of black holes prior to having a theoretical explanation of their possibility.) So I ask those who are sceptical about the very terms of my agenda at least to suspend their scepticism until the positive account is before us. I will in fact use the positive account to generate a characterization of the a priori which is additional to the standard definition, and which aims to be somewhat more explanatory.

## 1. The Metasemantic Account

It is a striking fact that the standard characterization of the a priori involves three notions which must be dealt with by any theory of concepts or modes of presentation. First, the property of being a priori is evidently a property of contents at the level of sense. Replacing one concept in an a priori truth with another concept which refers to the same thing may well result in a content

which is not a priori: it is a priori that I am here, it is not a priori that I am in Oxford. Second, the standard characterization involves the notion of truth, which must also be dealt with by any theory which is capable of explaining how contents composed of concepts can be true or false. Third, in using the notion of knowledge, the standard characterization involves a connection with the relation of justification, which is equally an unavoidable concern of any complete theory of concepts. Some instances of the relation of justification in which a content may stand, either as first or as second term, are traceable to the very identity of the concepts in the content.

I will be drawing on the theory of concepts on which I have been working in recent years, and which is presented in *A Study of Concepts* (Peacocke 1992b). Two elements of the theory are important for present purposes, and I briefly review them. The concepts which form the subject-matter of the theory are at the level of sense. They are essentially Frege's modes of presentation, for their identities are answerable to considerations of cognitive significance. Like Frege's modes of presentation, concepts as understood here may be of any category – they may be singular concepts of objects, they may be predicational concepts, or they may be concepts of higher order. Suitably combined, they form contents which are assessable as true or as false.

The first element of the theory important for the present paper is its claim that a concept is individuated by a correct, noncircular statement of what has to be true of a thinker for him to possess the concept. I call such a statement a formulation of the *possession condition* for the concept. One way to give a possession condition for a concept *F* is to give a true identity statement of the form

the concept *F* is that concept *C* to possess which a thinker must meet the condition  $A(C)$ ,

where the concept *F* is not mentioned as such within the scope of the thinker's propositional attitudes described in the condition  $A(C)$ . The condition  $A( )$  will specify a certain role in the thinker's cognitive economy, a role constitutive of the concept in question. For an observational concept, the condition  $A( )$  will mention the thinker's willingness to apply the concept to perceptually given objects on the basis of certain kinds of perceptual experience. It will also have to specify a certain kind of ability to employ the concept in contents not accepted on the basis of the thinker's own perceptions. For a logical concept, the condition  $A( )$  will specify a certain role in inferential principles, principles which the thinker must accept in a certain way if he is to possess the concept. For all but the very simplest logical concepts, it is a challenging task to formulate a possession condition. To have a clearly satisfactory formulation of the possession condition for the first-person concept, for instance, would be a major achievement in the philosophy of mind and thought.

The second element of the theory important for an account of the a priori is the thesis that for each possession condition, there exists a certain relation, which

we can call its *value-fixing* relation. The value-fixing relation is the relation which holds between a possession condition and an entity of the appropriate category when the concept individuated by that possession condition has that entity as its semantic value. The claim that for each possession condition, there exists a value-fixing relation is the version, for this theory, of the principle that sense determines reference. Without the claim, this theory of concepts would have no satisfactory account of how concepts are combinable into contents which are truth-evaluable; for any such account must involve the notion of the semantic value, or reference, of a concept.

We can call a correct specification of the value-fixing relation for any given possession condition a *determination theory* corresponding to that possession condition. A determination theory, then, states how a possession condition, commonly together with the way the world is, determines a semantic value for the concept individuated by the possession condition.<sup>2</sup> Part of the challenge of formulating the possession condition for a concept is to do so in a way which accommodates known facts about its semantic value. A formulation of a possession condition, however noncircular and formally satisfactory, will not be acceptable if it is impossible to formulate a determination theory which corresponds to it.

It was a thesis of *A Study of Concepts* that each determination theory bears a certain uniform relation to the possession condition to which it corresponds. The relation is that of making correct the inferential and/or belief-forming practices mentioned in that possession condition. Thus the determination theory for an observational concept assigns (say) a function from objects to truth-values to the concept *red* in such a way that someone forming beliefs about the redness of objects in accordance with the possession condition for *red* will thereby form true beliefs. Similarly, the semantic value of a logical concept will be one which makes truth-preserving inferences of the form which have to be accepted if the thinker is to meet the possession condition for the concept.<sup>3</sup>

This apparatus gives us an approach to a priori truths, because the determination theory for a particular concept guarantees that certain principles containing the concept will be true in the actual world. For suitably chosen principles, the determination theory gives this guarantee in advance of any empirical information about the way the world is. So, to take what must be one of the simplest possible cases, consider the possession condition for conjunction:

conjunction is that concept *C* to possess which the thinker must find instances of the following forms of inference primitively compelling, and must do so because of their form:

$$\frac{ACB}{A} \quad \frac{ACB}{B} \quad \frac{A \quad B}{ACB}$$

In accordance with the theory just outlined, the appropriate determination theory for this possession condition states that the semantic value of the

conjunction is that binary truth-function which makes inferences of the displayed forms always truth-preserving. As is easily checked by considering the various lines of a truth table, this determination theory entails that the semantic value of a connective with the displayed possession condition is the classical truth function for conjunction. If this is indeed the determination theory, then we know in advance of any empirical information about the way the world is – that is, we know a priori – that these inferences will be truth-preserving. Similarly we know a priori the corresponding conditionals of the form “If A&B, then A”. It is true that the determination theory employed here is written to be congenial to a realist. But there will be determination theories appropriate to verificationist and other constructivist approaches to content, and they will correspondingly be sources of contents determined as true a priori.

For an empirical concept, the appropriate determination theory fixes its semantic value as a function of the way the world is. Suppose again – perhaps incorrectly but just for the sake of illustration – that we take the semantic value of an empirical monadic concept to be a function from objects to truth-values. Then, if we accept the particular possession condition and associated determination theory given in *A Study of Concepts*, the semantic value of the concept *red* will be that function which meets the following condition. It maps an object on to the truth value *true* if the object is experienced by the thinker as having what is in fact a shade of red, when the thinker is perceiving properly and environmental conditions are suitably normal. It will also map the object to the truth value *true* if the object has the primary quality which is the ground of the disposition of an object to appear red to perceivers in the circumstances mentioned in the preceding sentence. (I have suppressed the temporal relativization.) On this conception of the semantic value of a predicative concept, its reference is obviously an empirical matter, varying with the way the actual world is. But this determination theory still equally generates some truths knowable in advance of knowledge of the way the world is: for instance, that if someone perceives an object as a shade of red, is perceiving properly and environmental conditions are appropriate, then the object is red. A more complex possession condition would generate a correspondingly more complex a priori truth.

Clearly we have here an instance of a general model for explaining a priori truth. The general model I label the *metasemantic* account of the a priori. The metasemantic account of the a priori status of contents in a given class K states the following:

the a priori status of a content in the class K is fundamentally explained by the fact that the possession conditions for the concepts from which those contents are composed, together with the corresponding determination theories for those concepts, jointly guarantee that the content is true in the actual world.

This statement speaks of fundamental explanation. It must be an additional part of the task of a metasemantic theorist to elucidate the connection between (a) a

guarantee of truth in the actual world provided by the possession conditions and determination theories, and (b) the possibility of knowledge independently of empirical information about the way the world is.

When a nonphilosopher knows something independently of experience or empirical information, his justification for his belief will not mention possession conditions and determination theories. It will commonly involve a proof, or some kind of informal demonstration, or argument, or consideration. We can call these justifications which do not mention possession conditions and determination theories *ground-level* justifications. The metasemantic account of the a priori status of a set of contents is not a ground-level justification. It is, rather, concerned to explain what makes ground-level justifications for a priori contents possible. Part of the task, then, of elaborating the metasemantic theory is to explain in detail the relation between ground-level justifications of a content and the demonstration of its a priori truth from facts about the possession conditions and determination theories for its constituent concepts. I start on that task further below (§4).

A completely general metasemantic account would hold that the metasemantic explanation is correct for all a priori truths. But what I want to explore initially are the presuppositions and consequences of the correctness of the metasemantic account for any given class of truths.

A metasemantic account will be able to explain the a priori status of all truths which meet the classical Fregean criterion of analyticity. In the *Grundlagen* Frege wrote:

The problem becomes, in fact, that of finding the proof of the proposition, and of following it up right back to the primitive truths. If in carrying out this process, we come only on general logical laws and on definitions, then the truth is an analytic one, bearing in mind that we must take account also of all propositions upon which the admissibility of any of the definitions depends. (Frege 1953, § 3).

If the various determination theories for the logical constants in a given sentence or content do indeed assign to them the right semantic values, then Frege's "general logical laws" (other than Basic Law V) are guaranteed to be true in the actual world. It is easily checked by computation that, under the classical assignment of semantic values, these laws will be true in the actual world. Equally, if a given term is synonymous with a complex expression, the corresponding fact about concepts will be reflected in the possession condition for the concept expressed by the term. The determination theory for the concept expressed by the term should ensure that it has the same semantic value as that of the complex concept expressed by its *definiens*. From these points it follows that the metasemantic account will endorse as a priori all truths which are analytic by Frege's criterion.<sup>4</sup>

Being analytic by Frege's criterion is a sufficient condition for being a priori according to the metasemantic account; it is not a necessary condition. There are

several ways in which the class of contents ratified as a priori by the metasemantic account is wider than the class of Fregean analytic truths. First, it is not clear that even so simple an a priori truth as one of the form "I am here" really conforms to the Fregean paradigm. Evans (1982) has made a plausible case that neither "I" nor "here" is properly to be understood in terms of the other. What it is to possess these concepts has to be explained simultaneously: mastery of each involves mastery of the other. But it can still be true – and it is all the metasemantic account requires – that the possession conditions and determination theories for each of "I" and "here" entail that the reference of an utterance of "I" is located at the place the utterer refers to by "here".

"I am here" is a priori, but – as David Kaplan has long insisted – it is not necessary. So to have a theory of the a priori is not yet to have a theory of necessity. My own view is that giving an explanatory theory of the a priori is an essential first step in the very difficult task of formulating an explanatory theory of necessity. Beyond that first step, there is still a great distance for a theory of necessity to travel. But the a priori is quite enough for one paper, and I will continue to confine myself to that.

The second divergence from Frege's criterion results from the fact that the metasemantic account can ratify arithmetical truths as a priori without any commitment to reducing arithmetic to logic. Some form of acceptance of certain basic arithmetical principles – such as instances of the principle that  $n + \text{the successor of } m = \text{the successor of } (n + m)$  – can be required in the possession conditions for arithmetical concepts. The corresponding determination theories can then assign semantic values to those concepts in such a way that we can infer a priori that the principles in question are true. In this way, the metasemantic account can explain the a priori status of arithmetical principles independently of the truth or falsity of logicism.

Third, the metasemantic account also allows us to make sense of the idea of a content being a priori for a thinker in, or relative to, given empirical circumstances. A plausible possession condition for the observational concept *square* will have the consequence that for a thinker who experiences something as square, the content "If I am perceiving properly, then that's square" can be known. For a thinker in those circumstances, no further experience or empirical information is needed for him to know that the content is true in the actual world. The metasemantic account generalises naturally to such cases; Frege's characterisation of analyticity does not.

On the view I am defending, for any set of concepts a thinker employs, no matter which they are, there will be some a priori truths involving them. For any concept, there will exist its possession condition and its associated determination theory. Since the determination theory (together with the way the world is) will assign semantic values in such a way as to make correct the judgmental practices mentioned in the corresponding possession condition, some truths (or inferential principles) are guaranteed to be correct a priori. This reasoning can be used to support the following claim: that necessarily, for any set of concepts, there will be some truths or principles involving them such that necessarily *they* are a

priori. This claim goes beyond the weaker proposition that necessarily, for any set of concepts, necessarily some truths or principles or other which involve them are a priori.

When a metasemantic account appeals, in its explanation of the a priori status of a truth, to a given possession condition and its determination theory, it is committed to the determination theory (and the possession condition) having an a priori status. Were the determination theory not to be a priori, it could hardly be held that the metasemantic account derives the truth of the content in question from premisses which themselves can be known in advance of the way the world is. But both determination theories and possession conditions do seem to have an a priori status. Their doing so sits well with the idea which the label "metasemantic" is meant to capture. That is the idea that an account of *what makes* a concept have the semantic value it does is also sufficient to generate a set of a priori truths.

A fully general metasemantic account, one claiming that the explanation of a priori truth is always metasemantic, would also want to explain the a priori status of the various determination theories and possession conditions. The claim would have to be that, for instance, the possession condition for the concept *semantic value* itself, together with those for the other concepts involved, ensures the truth of the determination theory for a particular concept. This component of a generalized metasemantic account is a coherent, plausible, and non-regressive view. It would be objectionably regressive if, in order to establish the a priori status of a truth such as  $7 \times 8 = 56$ , one had first to establish the a priori status of the possession conditions and determination theories of the concepts it contains. For then a regress is started: one would have in turn to establish the a priori status of the possession conditions for the concepts in the possession conditions for the concept 7, and so on. But one should not confuse ground-level justifications with the metasemantic account of the possibility of ground-level justifications. Only a ground-level justification is required to establish a priori knowledge of  $7 \times 8 = 56$ . The derivation of a priori status from a priori possession conditions and determination theories must indeed exist. But it is not necessary to establish that such a derivation exists, nor to establish the a priori status of its premisses, in order to know  $7 \times 8 = 56$  independently of experience, nor to know that it is a priori.

Still, it may make a thinker queasy that on the metasemantic account, the a priori status of a content is explained by deriving it from various other principles which are a priori. The metasemantic theorist should not try to evade this point, for it is unavoidable. If a derivation concluding that a given content is true in the actual world were to use any premisses or principles which are not a priori, it could hardly succeed in showing that the content is true in the actual world independently of all empirical information. So if a philosophical explanation of the a priori status of a given content is to be a derivation at all, it must be a derivation from a priori principles. On the metasemantic theory, the a priori status of these latter principles can in turn be explained in the same way, from suitable possession conditions and determination theories.

It may help to dispel the appearance that this is an objectionable state of affairs if we note that the same property is present in the explanation of the truth of a given sentence or content. An explanation of the truth of a sentence or content can be given by a derivation of its truth from the axioms of an appropriate truth theory, together with further information. (The most natural such derivations for the truth of a given object-language sentence will proceed by deriving a T-sentence for it, and inferring its truth from that T-sentence and non-linguistic information.) Now of course any proposed explanation, these explanations of truth included, will hardly be acceptable unless its premisses are true and its inferential principles truth-preserving. Does this then make such an explanation of the truth of a sentence or content spurious? – I cannot see that it does, and the explanation seems to me to be entirely in order. As in the case of the a priori, all is in order partly because we can offer a similar explanation of the truth of those sentences whose truth is taken for granted in the explanation. For both the case of truth, and the case of the a priori, we have an explanation-schema which is of general application.

Not every derivation of an a priori status for a sentence amounts to an explanation of its a priori status, and the metasemantic theorist is likely to want to distinguish his explanation from some other derivations. For instance, a disquotational biconditional

$$s \text{ is true iff } p$$

is itself a priori, if it is carefully framed. If it is also a priori that  $p$ , we can then derive that it is a priori that  $s$  is true. But this is hardly an explanatory derivation.  $s$  has the same sense as the sentence which replaces the schematic letter " $p$ ". So this derivation takes for granted the a priori status of a content which is also the content expressed by the sentence  $s$ . It is fair for the metasemantic theorist to comment that his derivations of the a priori status of a content do not have this unsatisfyingly circular character.

## 2. A Comparison with Conventionalism

We can compare the metasemantic account of the a priori with conventionalist accounts. Conventionalism comes in various forms, and the conventionalist may or may not attribute truth to a priori contents or sentences. For some conventionalists, the conventions which they adduce in explanation of the a priori are precisely conventions to the effect that certain sentences are, or are to be held, true. So if such conventions are in force, these theorists are committed to saying that a priori sentences or contents are true. By contrast, the later Wittgenstein, who is often characterized as a radical conventionalist, denies that certain a priori propositions are true in a sense in which other propositions may be true:



. . . the reason why [logical inferences] are not brought in question is not that they 'certainly correspond to the truth' – or something of the sort, – no, it is just this that is called 'thinking', 'speaking', 'inferring', 'arguing'. There is not any question at all here of some correspondence between what is said and reality; rather is logic *antecedent* to any such correspondence . . . (Wittgenstein 1978, I 156).

. . . there must be something wrong in our idea of the truth and falsity of arithmetical propositions. (*ibid.* I 135).

Wittgenstein does of course allow that one can say that "It is true that this follows from that", but for him these uses are to be explained by the redundancy theory of truth (1978, I 5).

What all conventionalists are committed to, however, whether or not they apply any notion of truth to a priori sentences, is this: that the full explanation of why certain a priori sentences are true, or are correct on whatever notion of correctness is recognized for them, is distinct in kind from the explanation of why a posteriori sentences are true or correct. On their view, convention is involved in those a priori cases in a way in which it is not involved in the truth of the a posteriori sentences.

The metasemantic account disagrees. Consider a given expression, for instance the logical constant "and" once again. According to the metasemantic account, a single, univocal statement of how it gets its semantic value is sufficient both to explain why instances of "If A and B, then A" have the truth condition they do, and why an empirical sentence such as "Thatcher resigned and Reagan retired" has the truth condition it does. Both the a priori and the a posteriori sentences are true, when they are, because their disquotational truth conditions are fulfilled. These truth conditions are consequences of uniform assignments of meaning to each of the words in the sentences. No special stipulations of meaning, or of truth, or other specific conventions, are required to explain why a logical truth is true. It is just that the single, uniform means of assigning a semantic value to "and" assigns to logical truths containing it a truth condition of such a kind that we can know a priori that it will be fulfilled; whereas the truth condition the uniform means assigns to the empirical conjunction is not one for which we have any such a priori assurance.

As is now often noted, Wittgenstein's later view that there is a significant sense in which a priori sentences are not true has affinities with his claim in the *Tractatus* that truth-functional tautologies say nothing and lack sense.<sup>5</sup> These claims of the *Tractatus* are compulsory when it is also held both that "A proposition is a picture of reality" (4.01) and that "There are no pictures that are true a priori." (2.225). If we reject the picture theory, but still retain a truth-conditional account of sense, space is opened up for the theses of the metasemantic account I am defending. When the support of the picture theory is removed, the early Wittgenstein's reasons for saying that tautologies say nothing seem rather thin. He wrote that "A tautology has no truth-conditions,

since it is unconditionally true" (4.461). What is unconditionally true is true; the tautology has truth-conditions, and they are always fulfilled.

In his review of Wittgenstein's *Remarks on the Foundations of Mathematics*, Michael Dummett famously identified and criticised the doctrine he called "modified conventionalism" (Dummett 1959). Modified conventionalism holds that some sentences are conventionally stipulated as true outright, while others are derived conventions, derived from these primitive stipulations. Dummett remarked that such a modified conventionalism gives no account of the relation of derivability, which cannot itself always be conventional, and which is nevertheless both a priori and necessary in suitable cases. Does Dummett's criticism of modified conventionalism equally apply to the metasemantic account?

It seems to me that it does not apply. According to the metasemantic account of the a priori, the explanation of the a priori truth or truth-preserving quality of principles mentioned in the possession conditions for concepts is of the same kind as the explanation for the a priori truth of consequences of those principles. Even for the principles mentioned in the very possession condition for a concept, the explanation of their a priori status implicates all of the following: the determination theory for the concept, its consequences, and the a priori status of both the determination theory and the possession condition. These explanatory resources are also sufficient to explain the a priori status of the derived principles and rules. What leads to trouble for the modified conventionalist is his differential treatment, in respect of the source of their truth, of those a priori truths which were alleged to be stipulated as true outright as compared with those which are their consequences. The metasemantic theorist is not offering such a differential treatment.

It would of course be a fair comment that some of the constitutive and epistemological problems which the modified conventionalist hoped to solve by regarding some truths and principles as conventionally stipulated, the metasemantic theorist hopes to solve by including acceptance of those truths and principles in suitable possession conditions. But the theoretical context in which the notion of a possession condition is embedded makes a crucial difference. The requirement that for each possession condition, there exists a determination theory, is one which makes inapplicable the notion of something's being true purely by conventional stipulation. Even for something mentioned in the possession condition, its truth value will be dependent upon the semantic value of its constituents. Maybe this contrast between the conventionalist and the metasemantic theorist would indeed not exist if possession conditions could be stipulated at will, so that for anything of the appropriate form, a determination theory will automatically exist. I argued independently in other work (1993) that possession conditions cannot be stipulated at will. The requirement that a determination theory exists is a genuine filter which excludes alleged possession conditions which are otherwise of a satisfactory abstract form.

Despite the fundamental differences between any conventionalist treatment of the a priori and the metasemantic account, there are certain points

emphasized even in Wittgenstein's extreme conventionalist approach with which the metasemantic theorist can agree. I note two of these points. After denying that there is any question of correspondence between logical inferences and reality, Wittgenstein continued:

rather is logic *antecedent* to any such correspondence; in the same sense, that is, as that in which the establishment of a method of measurement is *antecedent* to the correctness or incorrectness of a statement of length (1978, I 156).

There is certainly one form of antecedence doctrine with which the metasemantic theorist will agree. He will agree that we can infer from the principles which individuate the logical concepts in a given logically valid inference, together with correct statements of the appropriate determination theories, that however the actual world turns out to be empirically, we can know in advance that the inference will be truth-preserving in the actual world. Similarly, we can know on the same basis that however the actual world turns out to be empirically, we can know of a logical truth that it will be true. These are limited doctrines of antecedence to empirical truth in the actual world, and these limited doctrines have a meaning-involving source.

How does Wittgenstein's analogy with measurement fare under the metasemantic account? Note that in above quotation, it is the *method* of measurement, not the unit of measurement, that is said to be antecedent to any correspondence with reality. If it is the method which is thus antecedent, what are the sentences for which there is no question of "correspondence to the truth"? Maybe this: "Two objects which, when each juxtaposed to a rigid rod, match it in length are equal in length at the times of the two juxtapositions"? Or perhaps it is some very complex sentence describing a procedure for determining, not sameness of length, but length itself. In either case, there would be a distinguished sentence or class of sentences of which the claim would be that their acceptance is somehow antecedent to the truth of any claim about length. The analogy with logical principles would then need careful formulation if it is to be consistent with the metasemantic standpoint. The metasemantic account does say that the truth conditions of empirical sentences containing logical constants depend fundamentally in part upon the possession conditions and corresponding determination theories for the concepts expressed by the logical constants they contain. So perhaps to develop the analogy we could fix upon a particular distinguished class of sentences or contents, viz. the class of principles acceptance of which is required for understanding of these logical constants, and then go on to say the following. The truth conditions of empirical sentences containing logical constants do depend in part upon their relations to sentences in this distinguished class, even on the metasemantic theory. For the relations can be sufficiently complex as to include a specification of the way in which determination theories operate on those principles to fix semantic values for the logical constants. This formulation of the analogy will obviously not, though,

support the conclusion that logical principles in the distinguished class are not true – quite the contrary, for the reasons we have already given in discussing the contrast between the metasemantic and the conventionalist theories. Indeed, thinking through the analogy this way would cast doubt on the claim that a statement of a fundamental procedure for determining length does not have a truth value. For if true statements about length are whatever are determined as true by following the measuring procedures, it seems that a statement specifying these procedures will be counted as true by this same standard.

The second point, in addition to a limited form of “antecedence” doctrine, at which a metasemantic account can support some of Wittgenstein’s claims is captured in such passages as this in the *Remarks on the Foundations of Mathematics*:

The propositions of logic are ‘laws of thought’, ‘because they bring out the essence of human thinking’ – to put it more correctly: because they bring out, or shew, the essence, the technique of thinking. (*ibid.*, I 133)

. . . the reason [logical inferences] are not brought in question . . . – it is just this that is called ‘thinking’, ‘speaking’, ‘inferring’, ‘arguing’. (*ibid.*, I 156)

The metasemantic account can make something of these passages, precisely because of its reliance on the apparatus of possession conditions. A plausible possession condition aims to state what it is to possess a concept. So if, for instance, the possession condition for universal quantification requires a thinker to be willing to infer a singular instance from it, then the theory will entail that no one is really thinking something of the form of a universal quantification unless he is willing to make that singular inference. This *is* a matter of “what is called” thinking something with that particular content. The metasemantic theorist will merely insist that, far from being the beginning of an alternative account which rejects the truth or truth-preserving quality of logical principles, such observations can rather be the starting point of a theory which explains how logical principles can have those truth-involving properties.

### 3. Between Carnap and Quine

It may be helpful if I attempt to locate the metasemantic treatment of the a priori in relation to the extended debate between Carnap and Quine on analyticity. (For an illuminating discussion of that debate, see Creath 1990.) The way in which I have been elaborating the metasemantic account has been intended as part of an elucidation and defence of the notion of the a priori. Nevertheless, there are three important respects in which the present account sides with Quine in that celebrated series of exchanges with Carnap.

The first respect of agreement with Quine is in the thesis that the notions “true

purely by convention", or "true purely in virtue of linguistic meaning", do not apply to any sentences or contents. The metasemantic account, as I have developed it, is wholly in agreement with Quine's view that what any true sentence is true in virtue of is the holding of its disquotational truth condition. Such a view does not preclude further substantive elaboration of the characteristics of the truth predicate in different areas of discourse. Nor does it involve endorsing the redundancy theory of truth. What is being endorsed here is just the claim that any (appropriate) sentence can be said to be true in virtue of its disquoted truth condition, rather than any stronger thesis to the effect that the disquotational schema in some way exhausts the notion of truth. The position agrees with Quine's statement that "No sentence is true but reality makes it so" (Quine 1970, p. 10). Nor, further, does this first point of agreement with Quine involve denying that there were genuine insights motivating those who wished to employ the notion of truth purely in virtue of linguistic meaning. The view of the metasemantic theorist is likely to be that some of what Carnap counted as true by convention should rather be incorporated into the understanding condition for expressions, or into the possession condition for concepts, in such a way that a certain kind of acceptance of it is required for understanding or, respectively, for possession. The metasemantic theorist's goal will be to explain the distinctive epistemological properties of some of what Carnap counted as true by convention by noting the consequences of this position in the understanding-conditions or possession conditions.

Second, there is no language-relativity in the metasemantic theorist's description of the a priori. The a priori status of a content originates partly in the possession conditions for its constituent concepts, and partly in the corresponding determination theories. There is nothing language-relative in either source. If a sentence expresses in a language L a given a priori content, then we can of course say that the sentence is a priori in L. This kind of language-relativity flows simply from the conventionality of the association of expressions of concepts, and exists for the concept of truth as well as for that of the a priori. Carnap, by contrast, employed the notion of a sentence being analytic-in-a-given-language-L, and did not treat it as derivative from some property which is not relative to a language. Indeed to treat it as so derivative would have been in conflict with other parts of his philosophy of language, according to which the choice between kinds of language is not a choice between truth and falsity, but only a matter of convenience. "*It is not our business to set up prohibitions, but to arrive at conventions*"; "*In logic, there are no morals. Everyone is at liberty to build up his own logic, i.e. his own form of language, as he wishes.*" (Carnap 1964, §17 "The Principle of Tolerance in Syntax", pp. 51 and 52, Carnap's italics). Carnap's way of proceeding made his account highly vulnerable to Quine's complaint that he, Carnap, had given no philosophical elucidation of "analytic in L" for variable L (Quine 1961, section 4). The charge stuck because Carnap's accounts gave either a list of examples for each language considered, without an explanatory unifying criterion, or else relied on a notion of a "semantical rule" tied to the notion of truth-purely-in-virtue-of-meaning. The metasemantic

account is not so clearly exposed to a parallel set of objections. Its account of the a priori does not involve listing cases. The notions of a possession condition and of a value-fixing relation to which it appeals are language-independent. The notion of a possession condition itself is rather constrained, as always with theories at the level of Fregean sense, by the need to explain facts about epistemic possibility.

Very closely related to these first two points of agreement with Quine is a third. This is the point that there can be such a thing as a justification of the primitive rules of inference and axioms employed by a given speaker. Carnap allows that there is a choice between various possible languages, with their analytic sentences and "transformation rules", but this choice is essentially a matter of convenience; it does not seem to have anything to do with truth. In Quine, axioms and inference rules are justified by their role in the speaker's total theory, and may in principle be revised in extreme circumstances. The metasemantic account will offer a justification for primitive axioms and inference rules which casts its net much less widely, and appeals only to what can be inferred from the possession conditions and determination theories for the constituent concepts. But this is still a justification. I return to the notion of justification in the next section.

On the other hand, some of the consequences of the metasemantic account place it closer to Carnap than to Quine. The metasemantic account is with Carnap in endorsing some notion of a priori sentences, and the class it recognizes is much wider than those Quine later came to acknowledge on the basis of his "verdict tables" (Quine 1974). The metasemantic account also agrees with Carnap on the point that, in this wider class, holding certain principles is constitutive of understanding certain of the expressions they contain. Finally, it agrees that this last fact is at least part of the explanation of why it is correct to hold them. Carnap, of course, believed that it is the whole explanation; the metasemantic account does not. The metasemantic appeal to determination theories is not redundant.

It should be noted, though, that there is one point on which the metasemantic theorist agrees with both Carnap and Quine, and indeed with the views of Wittgenstein from the 1930s onwards. A point of agreement between all these four views is their explicit or implicit rejection of a conception of meaning on which a thinker can first fully grasp the meaning of an expression and then, for any a priori proposition involving it, somehow or other move rationally from this prior grasp of meaning to the conclusion that the proposition is correct. The nature of this prior grasp is quite obscure, as is equally the nature of the alleged transition from it to an a priori proposition. It would have to be a transition which, in the nature of the case, cannot consist in any kind of inference. This point of agreement is one reason that the metasemantic account, despite the several points of divergence already noted, should be seen as building on the thought of those grappling with these problems in the 1930s, rather than as simply a reversion to some earlier view.

#### 4. The Metasemantic Account and the Relation of Justification

The notion of the a priori has always had a close connection with the normative notion of justification. The standard characterization of the a priori as what can be known to be true in the actual world independently of experience or empirical information has almost always been used in a way which makes clear that what is in question is justification which does not appeal in some specified way to experience or to empirical information. It was precisely the apparent fact that a priori propositions have some justification independent of experience that posed a challenge for Kant (cp. De Pierris 1988).

In tracing the explanatory origins of the a priori to possession conditions, the metasemantic account inherits a link with justification. There is a plausible general principle connecting the possible justifications of a content with the possession conditions of its constituents. A rough, overly general initial statement of the principle is this:

When a belief, a perception or any other mental state justifies a thinker's acceptance of a content, it does so ultimately in virtue of some feature of the possession conditions of the content's constituent concepts.

For present purposes, we need to consider a more specific form of this principle, which is more restrictive in two respects. The first restriction is that we want to confine our attention to the relation of what we can call *direct* justification. Justification is a transitive relation. Anything may justify practically anything in the context of suitable auxiliary hypotheses, and by a suitable chain of justifying links. Let us say that a set of contents and states directly justifies a given content if there is no need to mention intermediate justifying links in explaining why it justifies the content.

The second restriction for the purposes of this discussion of the a priori is that we are considering a justifying set which is sufficient for the content it justifies; we are not at the moment concerned with less than conclusive justification. When our attention is restricted to direct justifying sets which are also sufficient, it is possible to be more specific about the link between justification and possession conditions for concepts:

When a given set *S* of contents and states provide a direct sufficient justification for accepting a given content *p*, the following is a consequence of the possession conditions for the concepts in the contents involved: accepting the contents in *S*, together with enjoyment of the states in *S*, is sufficient to lead a thinker to judge that *p*, if the question arises.

This more specific principle applies straightforwardly when the set *S* of contents is the set of premisses of an introduction rule for a logical constant, and

where the content  $p$  is the corresponding conclusion. But the principle applies beyond logical and mathematical cases. It can apply if the content  $p$  is one which consists of a predication of an observational concept combined with a perceptual-demonstrative mode of presentation of an object. In such cases, the justifying set  $S$  will include a statement of the kind of perceptual experience which contributes to the individuation of the observational concept. (This kind will be a kind of nonconceptual representational content, on my own views.<sup>6</sup>) The set  $S$  will also include a statement of various presuppositions on the part of the perceiver, about the proper functioning of his perceptual systems, and the normality of his environment.

This more specific link between justification and possession conditions is not just a brute fact. It has a rationale within the framework I have been proposing. In general, determination theories associated with possession conditions assign semantic values to concepts in such a way as to ensure that the belief-forming procedures mentioned in the possession conditions lead to the formation of true beliefs.<sup>7</sup> Suppose the possession conditions for the various concepts involved entail that someone believing the contents and enjoying the states mentioned in a given state  $S$  will judge that  $p$ , if the question arises. Then, given the general point about determination theories I just made, it follows that if the contents in  $S$  are true and the subject is in the states it contains, then semantic values will be assigned to concepts in such a way as to make it true that  $p$ . It should not then be surprising that the set  $S$  justifies acceptance of the content  $p$ ; this is as good as justification can get.<sup>8</sup>

On this conception of the relation between justification and possession conditions, the existence of a priori contents emerges as a natural form of limiting case. Sometimes acceptance of a content is justified by certain other beliefs or perceptions, and these justifying beliefs or perceptions may be more or less extensive. In some cases, the contents of the justifying beliefs or perceptions are true, and the justifications give conclusive grounds. In such cases, the content whose acceptance they justify will also be true. We can consider cases in which the class of contents and states on which justified acceptance of a given content rests is narrower and narrower. Eventually we reach the limiting cases, for which we can infer independently of any information about the correctness of the thinker's other beliefs or any information about the veridicality of his experiential states that a certain content will be true. These are the a priori contents.

Here there is an obvious structural parallel with logical inference. Some conclusions follow logically from premisses on which they depend. But it is distinctive of some logical truths that they can be justified outright, without dependence on any premisses. In a natural deduction system, they are the logical truths which have proofs in which all hypotheses are discharged. A priori truths are the analogues of these logical truths, once we use a notion of justification which is not restricted to logical justification.

As the problem of a priori knowledge initially presents itself to us, before any construction of a theory of the matter, the notion of something being known a



priori is prior in the order of discovery to the notion of something being a priori. Philip Kitcher writes more generally that

What is *primarily* a priori is an item of knowledge. Of course, we can introduce a derivative use of "a priori" as a predicate of propositions: a priori propositions are those which we could know a priori. (Kitcher 1980, pp. 3–4)

If, however, the metasemantic account, and the recent remarks on justification are correct, then in the order of philosophical explanation, the notion of a content or proposition which is a priori is philosophically more fundamental. Indeed, if a content can be justified independently of experience or empirical information, the possibility of doing so must originate in something distinctive of the concepts which make up the content. The metasemantic account aims to say what those distinctive origins are. Since the notion of a possession condition is precisely something which concerns a thinker's relations to a concept, it is fair to say that the role of the thinker does not disappear altogether. But what matters is that the role of the thinker is important in giving a philosophical explanation of the a priori only by way of its part in individuating the concepts which compose an a priori content. The explanation still proceeds by features which are distinctive of the conceptual constituents of a priori contents.

What, then, is the answer to the much-deferred question of the relation of the metasemantic explanation of the a priori to the standard characterisation of the a priori – as that which can be known to be true in the actual world independently of experience or empirical information? The answer to be given to this question depends in part on the correct attitude to the possibility of sharpening up that standard characterization of the a priori into something theoretically significant and discriminating. Let us call a person who thinks that no such sharpening is possible a pessimist, and a person who thinks it is possible, an optimist. The pessimist will hold that nothing significant can be made of the phrase "justified independently of experience". If we are pessimists, the metasemantic account can best be regarded as a reconstruction which gives an account of what underlies the existence of the idea that some truths can be known independently of experience, whilst not actually endorsing the idea. It is quite consistent to hold that the possession conditions and determination theories for the concepts contained in a content guarantee its truth in the actual world, whilst also holding that nothing is known or justified independently of experience. (Such a person would, though, need different theories of justification and knowledge from those outlined in this material.)

If we are optimists about the standard characterization (as I am inclined to be), we have two complex tasks. The first task, which has two parts, is (a) to carry out the required sharpening of the standard characterization, and (b) to show the sharpening succeeds. The second task is to show that what is counted as a priori by the sharpened criterion coincides with what is counted as a priori by the metasemantic explanation.

If the optimist is to have any hope of success in giving an account of the kind of justification for knowledge which makes for a priori status, he had best not make it a requirement that the justification be one which no later course of events would make him query as sufficient for the content in question. Probably nothing meets that requirement. Even very elementary proofs in logic may, epistemically, be open to serious challenges that they rely on illegitimate conceptions of meaning. Even if such challenges cannot in the end be made out, if they are worth considering seriously, they may lead to rational withholding of judgement on the conclusions of the queried proofs. Philip Kitcher notes Hume's observation that a mathematician will be eager for confirmation from his colleagues that his attempted proofs are sound; and Kitcher himself is surely right in arguing that complex proofs may reasonably make us feel uncertain about their conclusions (1984, p. 42). Any optimist who tries to sharpen the standard characterization in a way that requires justifications for a priori propositions to be epistemically invulnerable is heading for a definition of the a priori under which nothing falls.<sup>9</sup>

Our optimist would do better to insist upon a distinction. One must distinguish the question of independence of experience in this sense

whether someone believes the content depends in part upon his experiences

from the question of independence in this sense

whether the justification for the content itself mentions or involves experience.

Perception of a proof explains, even rationally explains, a thinker's acceptance of its conclusion; but the justification of the conclusion is the proof itself. This justification does not involve experience, nor the thinker's, nor others', relations to the proof. By contrast, this optimist will continue, the justification for an observational content "that tile is square" will be the thinker's perceptual state itself. If he follows through this type of approach, the optimist will say that to have a justification for a content is not thereby to have an epistemically unoverturnable warrant for acceptance of the content. Whether the justification is sufficient is one thing, and whether it is rationally certain that it is so is another.

This optimist will distinguish between two relations. There is the impersonal relation which holds between something  $x$  and a content  $p$  when  $x$  justifies  $p$ . There is also the person-relative relation of a particular person's being justified in taking  $x$  as justifying acceptance of  $p$ . When a mathematician consults his colleagues about the soundness of his new attempted proof, and receives a favourable response, his justification for taking his proof as justifying its conclusion increases. This is an increase in the degree to which the second, person-relative relation holds. If the mathematician's proof is sound, the first,

impersonal, relation held all along. Indeed, precisely what the concerned mathematician learns from his colleague is that the first relation holds between his proof and its conclusion. For this reason, it would not, *prima facie*, be coherent to acknowledge such examples and also to try to claim that the person-relative relation of justification is the only one there is. Indeed, the coherence of that last claim is questionable in any case, since the person-relative notion embeds the impersonal notion.<sup>10</sup>

If we allow that a justification for a priori knowledge is not epistemically immune from query in the light of later experience, do we thereby “abandon the fundamental idea that a priori knowledge is knowledge which is independent of experience” (Kitcher 1984, p. 88)? Our optimist should say that we do not thereby abandon it. On a conception of justification under which it is not necessarily epistemically certain, there is still a distinction between those justifying conditions which do not mention experience and those which do (such as those for perceptual beliefs). The optimist is just using a more discriminating, but still philosophically pertinent, way of elucidating the notion of independence from experience.

It would take us too far into epistemology to assess whether the optimist or the pessimist is going to get the better of this argument. I just note here that if the optimist can make a good case, then there are reasonable prospects for carrying out his second task, that of showing that the contents picked out by a sharpened account of the a priori coincide with those recognised by the metasemantic account. In one direction, it would suffice to show that each of the “justifications independent of experience” which is acknowledged by the sharpened account corresponds to some form of deduction, a deduction from certain propositions entailed by the possession condition for the concepts involved, together with the determination theories, to the truth of the content in question. In the other direction, the optimist would need to establish the plausible claim that each of the ways the metasemantic account can ratify a content as a priori corresponds to a justification of the sort required for a priori status by the optimist’s sharpened account. If the coincidence between the metasemantic account of the a priori and the sharpened intuitive criterion for the a priori is established in that fashion, then the metasemantic theorist will have developed the link he requires between his theoretical account and what, back in §1, we called ‘ground-level’ justifications for a priori contents. He will have explained the possibility of ground-level justifications of a priori propositions.

## 5. Two Consequences: Proofs and Logical Constants

Once we have an explanation of the nature of the a priori, we ought to re-examine those of our philosophical accounts in which we have made use of the notion of something being a priori. For the present explanation of the status of being a priori may lead in turn to some further understanding of the notion in

whose elucidation we have been taking the a priori as unelucidated. I will give two examples, both having to do with the philosophy of logic, but which are of more general interest to the theory of meaning and epistemology.

The first example is the notion of a proof. Traditionally, the transitions in a proof are supposed to have the property that it is a priori that they preserve truth. Philip Kitcher, for instance, writes this into his account of the traditional conception's description of the nature of proofs:

What job do proofs do? The apriorist emphasis on the importance of proofs in mathematics reflects a traditional answer: proofs codify psychological processes which can produce a priori knowledge of the theorem proved. If we are to embed the popular thesis that mathematical knowledge is a priori because it is based on proof in an adequate epistemology, then I submit that this is the answer we should adopt (Kitcher 1984, p. 37).<sup>11</sup>

The metasemantic account of the a priori allows us to say something additional: a proof is a sequence each of whose steps is guaranteed to be truth-preserving by the determination theories for the concepts involved in that step. It seems to me that the characterization Kitcher offers on behalf of the traditional conception does not allow us to explain why mathematical knowledge is a priori in part by citing the fact that it is reached by proofs. It does not permit that as an explanation, because the characterization of proofs it offers on behalf of the apriorist simply defines them as ones which yield a priori knowledge. The characterization in terms of determination theories can, by contrast, be part of such an explanation against the background of acceptance of the metasemantic account.

The characterisation of proof from the metasemantic standpoint could be strengthened. Usually, we want each step in a proof either to be an instance of a form of transition mentioned in the possession condition for one of the concepts involved, or we want the step to give a mechanical recipe for expanding the step into a series of such transitions. But though that is a sufficient condition for a step to form part of a genuine proof, it is not necessary. In particular, in some cases a transition is justified not because it is of a type mentioned in the possession condition for a concept, but because it is a consequence of some "limiting condition" mentioned in the determination theory. One example of such a limiting condition is that for the concept of universal quantification over the natural numbers. The determination theory will state that the semantic value for that quantifier is the weakest function that validates universal instantiation for it on numerical terms. Given the correctness of this determination theory, we can soundly make inferences of the following form: for a given predicate  $F$ , if all sentences of the form  $F(n)$  are consequences of a true theory, where  $n$  is a canonical numeral, then "All natural numbers are  $F$ " will also be true. This is a sound form of transition, but it is not of a type explicitly mentioned in the possession condition for the concept of universal numerical quantification. A

sequence of transitions is a proof of a conclusion from given premises if each transition is either an instance of a kind mentioned in the possession condition for one of the concepts involved (or can be expanded to such a transition), or is validated by the other, limiting, conditions in the determination theory for one of the concepts involved.

The other example of a criterion which needs re-examination once we have an explanation of the a priori is a criterion for an expression's being a logical constant. Some years ago, I suggested that what makes an expression  $\mathcal{O}$  a logical constant is its meeting this condition: given information about which sequences of objects satisfy the expressions  $A_1, \dots, A_n$  on which  $\mathcal{O}$  operates, and the contribution made to truth-conditions by  $\mathcal{O}$ , one can infer a priori which sequences of objects satisfy  $\mathcal{O}(A_1, \dots, A_n)$  (Peacocke 1976). In the special case in which  $\mathcal{O}$  is a logical constant of the propositional calculus, this reduces to the criterion that: given information about the truth values of  $A_1, \dots, A_n$ , and the contribution made to truth-conditions by  $\mathcal{O}$ , one can infer a priori the truth value of  $\mathcal{O}(A_1, \dots, A_n)$ . This criterion captures some central cases; but like so many other criteria which simply help themselves to the notion of the a priori, it is not as explanatory as one should want. If an a priori inference of the sort mentioned in the criterion is possible for a given expression  $\mathcal{O}$ , there must be some feature of its meaning that makes it possible, and we should want to know what that feature is. The metasemantic account of the a priori, and indeed the general approach to content based on possession conditions, suggests a much more fundamental, and indeed simpler criterion for an expression to be a logical constant.  $\mathcal{O}$  is a logical constant if (a) the only transitions mentioned in its possession condition (or understanding condition) are transitions to or from sentences involving  $\mathcal{O}$ , and (b) those transitions are so characterized in the possession (or understanding) condition that they place no restrictions on the kinds of contents involved in the transition, other than their being in the right category and being related in the right way to the premises or conclusion of the transition. This criterion obviously entails what Ryle called the "topic-neutrality" of the logical constants (1953). It also entails the fulfilment of the criterion in terms of the a priori I just outlined. Indeed, it is also arguable that it treats some cases more satisfactorily than the criterion I suggested in 1976.<sup>12</sup>

## 6. A Further Method, and the Status of Possession Conditions

We have so far identified three methods of reaching a truth which is a priori. The methods correspond to these three categories of a priori truth:

- (1) There are contents which must be found primitively compelling by anyone who satisfies the possession conditions for the concepts from which the contents are built up.
- (2) There are contents whose truth follows from the limiting principles of the determination theories for the concepts they contain.

- (3) There are contents which are logical consequences of those covered by clauses (1) and (2); and there are contents which are logical consequences of those covered by this clause (3).

The self-referential clause in (3) allows it to operate recursively. However, not all a priori truths are reached by methods that correspond to clauses (1)–(3).

There is a further method of reaching a priori truths, and it consists of finding general axioms from which truths already known to be a priori follow. The method was described long ago by Russell, in his 1907 paper “The Regressive Method of Discovering the Premises of Mathematics” (Russell 1973). As Russell notes, this fourth method would have been the method by which the Peano axioms for arithmetic were originally discovered. Russell observes too that the method, when successfully applied, can lead to additional new knowledge, since the axioms discovered by the method may have consequences which were not previously known. The method obviously has certain affinities with Piercean abduction. It is not, though, required by recognition of the fourth method that the general axioms discovered by it be regarded as explanatory in exactly the same sense as theoretical general hypotheses of the empirical sciences.

A theorist’s view of this fourth method will depend, like much else, on his views about rule-following. This applies particularly to the intuitive requirement of the truth of any previously undiscovered consequences of a newly accepted general axiom reached by this method. According to the treatment of concepts developed in *A Study of Concepts*, these previously undiscovered consequences of the general axiom must be ratifiable as true by the theory of concepts, including a theory of semantic value, which could have been given prior to acceptance of the new axiom. Otherwise, it is arguable, the acceptability of the new axiom is insufficiently constrained. The point needs detailed argument – I mention it to signal that we are in territory where these issues arise.

Possession conditions for particular concepts are established as correct by this fourth method. A possession condition for a given concept is certainly not something which has to be found primitively compelling by anyone who possesses the concept of that concept. (Were that so, there would be rather less dispute in many areas of philosophy than there actually is.) Nor is it plausible that the correctness of a particular possession condition is a result of limiting conditions in theories of the determination of semantic values. The view that possession conditions are established by the fourth method emerges naturally from reflection on proper philosophical practice in the theory of conceptual content. We have a variety of initial data of the form “In such-and-such circumstances, such-and-such thought involving the concept *F* will be [or may be, or cannot be] informative to a thinker”. A possession condition for the concept *F* is a general statement about its role in a thinker’s cognitive economy which is capable of explaining these more particular facts about epistemic possibilities, and impossibilities, involving it.

General philosophical theses about concepts can also be regarded as resulting from application of the fourth method again, one level up this time, with facts

about possession conditions (and determination theories) as the data to be explained. At yet another level up, the metasemantic account of the a priori is itself also reached by the fourth method. This is important, for it allows the metasemantic theorist to have a coherent self-image. A theorist of the a priori does not have a coherent self-image if (a) he has an account of the a priori, (b) he regards his account as itself a priori, and yet (c) he is reluctant to apply his explanation of other a priori truths to his own philosophical account. Conventionalists are liable to have an acute problem in maintaining a coherent self-image, since they may well not be tempted by the view that their own conventionalist theory is itself a matter of convention.<sup>13</sup> The metasemantic theorist will not suffer from a corresponding instability if he regards his theory as reached by the fourth method. The metasemantic account is a priori, and it can be ratified as such by one of the same methods which is used to establish a priori truths of a nonphilosophical character.

To have a coherent self-image is not yet to have one that is complete. Not only philosophical theses, but also possession conditions themselves are meant to be necessary. Nor are general philosophical theses traditionally so modest as to be restricted merely to all actual concepts – they are meant to hold for any possible concept. We will not have a fully satisfactory view of these matters until we have built out from a theory of the a priori to establish a philosophical theory of necessity.

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#### NOTES

<sup>1</sup> I thank the referees for the *European Journal of Philosophy* for helpful comments on an earlier draft.

<sup>2</sup> In earlier formulations of this material, I did not sharply distinguish between value-fixing relations and the determination theories that specify them. Value-fixing relations exist whether or not there are any thinkers around to theorize about their nature. I thank Barry Stroud for pressing me on this matter.

<sup>3</sup> Virtually every sentence of the preceding four paragraphs is contentious in one or more ways. Further defence of what is here so dogmatically stated is attempted in *A Study of Concepts*.

<sup>4</sup> Today it would be seen by many as an improvement to define logical truth in model-theoretic terms, and then to define analytic truths by allowing substitution of synonyms in logical truths model-theoretically characterised. But when higher-order logics are in play, it is by no means guaranteed that all truths analytic in this sense are a priori: not all model-theoretically valid truths need be knowable at all.

<sup>5</sup> 4.461. We should remember, in saying this, that in the same work Wittgenstein distinguished lacking sense from being “non-sensical”. Tautologies and contradictions are not non-sensical, because “they are part of the symbolism”: 4.4611.

<sup>6</sup> See *A Study of Concepts*, ch. 3.

<sup>7</sup> For further discussion of this point, see chapters 1 and 5 of *A Study of Concepts*.

<sup>8</sup> Even where we are not concerned with justifications which are direct and sufficient, possession conditions and determination theories contribute to what makes something a good justification. Here are two examples. (1) One class of cases is that in which the determination theory for a concept fixes as correct certain transitions which are not themselves derivable from the transitions mentioned in the concept's possession condition. This is arguably the case for universal quantification over the natural numbers, where the transition in question is one from the provability of each instance of a formula  $G(n)$  to the truth of the universal quantification "For all natural numbers  $n$ ,  $G(n)$ ". See further §5 below. (2) A content's truth may require the fulfilment of a range of commitments fixed from the possession condition for one of its concepts. If the subject believes that at least some of this range of commitments do hold, that can provide nonconclusive evidence for the content. Its status as evidence is still grounded in a property of the possession condition for one of its concepts. For more on the relation between possession conditions and justification, see Peacocke (1992).

<sup>9</sup> Philip Kitcher does define a priori knowledge in a way that requires that in any life in which someone has the concepts for believing that  $p$ , any process of the type which actually produced the subject's belief that  $p$  would still warrant him in believing that  $p$  (1984, p. 24). His belief that no mathematical knowledge is a priori is held in part because he thinks that this is the best that can be given by way of elaboration of the notion of the a priori. If the claims of this paper are correct, the case would need to be reopened.

<sup>10</sup> It would not suffice to employ instead a different person-relative notion, that of a particular person's being justified in taking  $x$  as sufficient for  $p$ . There are too many different sorts of sufficiency. The mathematician who consults his colleagues is interested in whether he has a *proof*, which can hardly be divorced from the notion of justification.

<sup>11</sup> Kitcher is of course giving this description in presenting a conception he rejects.

<sup>12</sup> See the unsatisfactory discussion in the 1976 paper of definitional abbreviations of complex operators which are not, intuitively, logical constants but for which the relevant a priori inference is possible.

<sup>13</sup> Alberto Coffa (1991, pp. 320–326) provides an entertaining description of this problem as it arose for Carnap. The tensions in Carnap's position are also shown in what Coffa (p. 315) calls "the overwhelming fratricidal dimension" in Carnap's own use of his principle of tolerance.

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