

A THEORY OF THE A PRIORI

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In the first half of the Twentieth Century many philosophers—for instance, many logical positivists—treated analyticity, necessary truth, and the a priori as equivalent. There are, however, convincing arguments showing that each of these equivalences fails.¹ An important corollary is that, even if (as Quineans hold) the notion of analyticity is suspect, it does not follow that modality and the a priori are suspect as well. In this paper I will assume that modality is acceptable. With that starting point, one of my main goals will be to show that the a priori is equally acceptable.

Two other alleged equivalences have been prominent, not just in Twentieth Century epistemology, but throughout the history of epistemology: the alleged equivalence between knowledge and justified true belief, and the alleged equivalence between justification and good evidence (good reasons). Clearly, if these two equivalences held, they would make the tie between knowledge and evidence very close indeed. But Gettier examples convincingly show that good evidence plus true belief is not sufficient for knowledge.² Furthermore, various reliabilists and coherentists have questioned whether good evidence is even necessary for knowledge. Although that debate continues, there is nevertheless significant agreement that good evidence is at least required for the high grade of theoretical knowledge sought in science, mathematics, and philosophy. It certainly is required for *critical* understanding. This suggests that a promising approach to a priori knowledge is through this topic of *evidence*.³ That is the plan I will follow.

The paper will have three parts. First, a brief discussion of our use of *intuitions* as evidence (reasons) in the a priori disciplines—logic, mathematics, philosophy—and an argument showing that omitting intuitions from one's body of evidence leads one to epistemic self-defeat. Second, an explanation of *why* intuitions are evidence. The explanation is provided by *modal reliabilism*—the doctrine that there is a certain kind of qualified modal tie between intuitions and the truth.⁴ Third, an explanation of why there should be such a tie between intuitions and the truth. According to the explanation, the tie does not have a mysterious, or supernatural, source (as perhaps it does in Gödel's theory of mathematical

intuition⁵); rather, it is simply a consequence of what, by definition, it is to possess—to understand—the concepts involved in our intuitions. Taken together, these three parts form the basis of a unified account of a priori evidence, an account which promises to clarify the relation between the empirical sciences and logic, mathematics, and philosophy (hereafter, ‘the a priori disciplines’).⁶

1. Intuition and Evidence

Our standard justificatory procedure.

It is truisitic that intuitions are *used* as evidence (or reasons) in our standard justificatory practices.⁷ For example, in elementary logic, number theory, and set theory. In philosophy, the use of intuitions as evidence is equally ubiquitous. Just recall the Gettier examples, Chisholm’s perceptual-relativity refutation of phenomenalism, the Chisholm-Geach-Putnam refutations of behaviorism, all the various twin-earth examples, Burge’s arthritis example, multiple-realizability, etc., etc. Each of these involve intuitions about whether certain situations are possible and whether relevant concepts would apply. It is safe to say that these intuitions—and conclusions based on them—determine the structure of contemporary debates in epistemology, metaphysics, and philosophy of logic, language, and mind. Clearly, it is our standard justificatory procedure to *use* intuitions as evidence (or as reasons). This, of course, does not entail that intuitions *are* evidence; showing that comes later.

Phenomenology of intuitions.

By intuition, we do not mean a magical power or inner voice or a mysterious “faculty” or anything of the sort. For you to have an intuition that A is just for it to *seem* to you that A. Here ‘seems’ is understood, not as a cautionary or “hedging” term, but in its use as a term for a genuine kind of conscious episode. For example, when you first consider one of de Morgan’s laws, often it neither seems to be true nor seems to be false; after a moment’s reflection, however, something new happens: suddenly it just *seems* true. Of course, this kind of seeming is *intellectual*, not sensory or introspective (or imaginative). For this reason, intuitions are counted as “data of reason” not “data of experience.”

In our context when we speak of intuition, we mean “rational intuition” or “a priori intuition.” This is distinguished from what physicists call “physical intuition.” We have a physical intuition that, when a house is undermined, it will fall. This does not count as a rational intuition, for it does not present itself as necessary: it does not seem that a house undermined *must* fall; plainly, it is *possible* for a house undermined to remain in its original position or, indeed, to rise up. By contrast, when we have a rational intuition, say, that if P then not not P, this presents itself as necessary: it seems that things could not be otherwise; it must be that if P then not not P.⁸

Intuition must also be distinguished from belief: belief is not a seeming; intuition is. For example, there are many mathematical theorems that I believe (because I have seen the proofs) but that do not *seem* to me to be true and that do not *seem* to me to be false; I do not have intuitions about them either way. Conversely, I have an intuition—it still *seems* to me—that the naive truth schema holds; this is so despite the fact that I do not believe that it holds (because I know of the Liar paradox).⁹ There is a rather similar phenomenon in sensory (vs. intellectual) seeming. In the Müller-Lyer illusion, it still *seems* to me that one of the arrows is longer than the other; this is so despite the fact that I do not believe that it is (because I have measured them). In each case, the seeming (intellectual or sensory) persists in spite of the countervailing belief.

It should be observed at this point that the existence of the paradoxes suggests that the infallibilist theory of intuition is mistaken: for example, the Liar Paradox shows that either our intuition of the naive truth schema or one or more of our intuitions about classical logic must be mistaken (or misreported).

This brings up a closely related difference between belief and intuition. Belief is highly plastic. Using (false) appeals to authority and so forth, you can get a person to believe almost anything, at least briefly. Not so for intuitions. Although there is disagreement about the degree of plasticity of intuitions (some people believe they are rather plastic; I do not), it is clear that, *collectively*, they are inherently more resistant to such influences than beliefs.

Similar phenomenological considerations make it clear that intuitions are likewise distinct from judgments, guesses, hunches, and common sense. My view is simply that, like sensory seeming, intellectual seeming (intuition) is just one more primitive propositional attitude.

I should note, finally, that the work of cognitive psychologists such as Wason, Johnson-Laird, Nisbett, Kahneman and Tversky tells us little about intuitions in our sense; these researchers have simply not been concerned with them. In other papers, I have defended the on-balance reliability of our elementary concrete-case intuitions against the attacks of “intuition-bashing” philosophers who think that psychological studies justify their aversion. To be sure, the logical paradoxes and other antinomies have shown that individual intuitions can be fallible. But their fallibility pales by comparison with a positive fact, namely, the on-balance reliability of elementary concrete-case intuitions. Indeed, the on-balance reliability of our elementary concrete-case intuitions is one of the most impressive general facts about human cognition. This is all the more impressive when one realizes that most *prima facie* conflicts among intuitions can be reconciled by well-known rephrasal strategies.¹⁰

The argument from epistemic terms.

So far we have seen what intuitions are and that we *use* them as evidence. But using something as evidence does not show that it really is evidence; for example, simply using astrology charts as evidence for what will happen is hardly enough to make them evidence for what will happen.

One way to show that intuitions are truly evidence is to invoke various concrete-case intuitions about what sorts of things qualify as evidence. While this direct route is entirely correct, it does not convince the skeptic. To do that, one needs a special form of argument which is designed to persuade *on their own terms* people who are in the grips of a view which interferes with the effectiveness of ordinary, direct arguments. Self-defeat arguments fall into this category. In “The Incoherence of Empiricism” I gave three distinct self-defeat arguments showing that radical empiricists, who reject intuitions as evidence, end up with a self-defeating epistemology (i.e., an epistemology which, by its very own standards, is not justified).¹¹ To give a feel for this style of argument I will sketch one designed to work specifically against radical empiricists of a Quinean persuasion.¹² Bear in mind that non-Quineans might find the other self-defeat arguments more persuasive.

Quineans hold the following three principles:

- (i) *The principle of empiricism.* A person’s phenomenal experiences and/or observations comprise the person’s evidence.
- (ii) *The principle of holism.* A theory is justified (acceptable, more reasonable than its competitors, legitimate, warranted) for a person if and only if it is, or belongs to, the simplest comprehensive theory that explains all, or most, of the person’s evidence.¹³
- (iii) *The principle of naturalism.* The natural sciences (plus the logic and mathematics needed for them) constitute the simplest comprehensive theory that explains all, or most, of a person’s phenomenal experiences and/or observations.

Quineans use these principles to obtain a number of strong negative conclusions. The following is an illustration. From principles (i) and (ii)—the principle of empiricism and the principle of holism—it follows that a theory is justified for a person if and only if it is, or belongs to, the simplest comprehensive theory that explains all, or most, of the person’s phenomenal experiences and/or observations. From this conclusion and principle (iii)—the principle of naturalism—it follows that a theory is justified for a person if and only if it is, or belongs to, the natural sciences (plus the logic and mathematics needed for them). It is understood that this is to be the *simplest regimented formulation* of the natural sciences. By implementing various ingenious techniques of regimentation, Quineans give arguments showing that the underlying logic needed for this formulation of the natural sciences is just elementary extensional logic and, in turn, that no modal propositions (modal sentences) are found in this formulation of the natural sciences. If these arguments are sound, it follows that no modal proposition (sentence) is justified. Indeed, (the sentence expressing) the proposition that modal truths exist does not belong to the simplest regimented formulation of the natural sciences. Given this, it follows that it is unjustified even to assert the existence of modal truths. This, then, is how Quinean empiricism joins forces with naturalism to attack the modalities and modal knowledge.

Quineans mount much the same style of argument to attack analyticities, synonymies, intensional meanings, definitions, definitional truths, property identities, property reductions, and the associated ontology of intensional entities (concepts, ideas, properties, propositions, etc.). For, just as no modal propositions (sentences) belong to the simplest regimented formulation of the natural sciences, neither do propositions (sentences) to the effect that such and such is a definition (definitional truth, analytic, etc.). According to Quineans, the natural sciences on their simplest regimented formulation have no need to include definitions and the special apparatus of intensional logic and/or intensional semantics needed to state them. Likewise for propositions (sentences) about definitional truth, analyticity, synonymy, intensional meaning, property identity, property reduction, and so forth: to explain one's phenomenal experiences and/or observations, one always has a simpler formulation of the natural sciences that avoids these things. Therefore, given principles (i)-(iii), any theory that includes these things is unjustified. Quineans are surely right that principles (i)-(iii) do lead to these negative conclusion. This is extremely plausible when one realizes that, for our radical empiricists, techniques of regimentation need not conform to our intuitions; after all, for them, intuitions have no evidential weight whatsoever.

We are now ready for our argument that radical empiricism, as formulated, is epistemically self-defeating. The principle of holism and the principle of naturalism (or something like them) are quite plausible. Let us agree that some such principles are correct. It is the principle of empiricism that is questionable. For *reductio*, let us suppose that it too is correct. What is the justificatory status of principles (i)-(iii) themselves?

Notice that these principles contain the familiar terms 'justified', 'simplest', 'theory', 'explain', and 'evidence'. These terms do not belong to the primitive vocabulary of the simplest regimented formulation of the natural sciences. Moreover, given the validity of the Quinean negative arguments, these terms cannot be *defined* within this formulation of the natural sciences (likewise they cannot be stated to be *translations* of other expressions; nor can they be stated to express the same *properties* as; or to be *synonyms* of—or *abbreviations* for—other expressions; etc.). The reason is that this formulation of the natural sciences does not contain an apparatus for indicating definitional relationships (or relationships of translation, synonymy, abbreviation, property identity, property reduction, or anything relevantly like them).¹⁴ It follows that the radical empiricists' principles (i)-(iii) do not belong to this formulation of the natural sciences and, therefore, that principles (i)-(iii) do not count as justified according to principles (i)-(iii). Hence, this version of empiricism is epistemically self-defeating. Moreover, as I show in "The Incoherence of Empiricism," various sophisticated efforts to escape this conclusion within the Quinean framework fall prey to the same sort of problem.

As indicated, principles (ii) and (iii) are quite plausible. (Although there are reasonable alternatives to principle (ii), none of them is sufficiently different to enable radical empiricists to escape the self-defeat.) Principle (i) is the problem. If we replace it with the following principle, the problem disappears:

(i') *The Principle of Moderate Rationalism*. A person's phenomenal experiences and intuitions comprise the person's basic evidence.¹⁵

For our intuitions provide the evidence needed to justify various philosophical theories—including, in particular, principles (i'), (ii), and (iii).

This self-defeat argument shows (as do the other self-defeat arguments presented in “The Incoherence of Empiricism”) that whoever engages in epistemic appraisal of their beliefs and theories will end up in an epistemically self-defeating position unless they accept intuitions as evidence. Since all of us philosophers, in connection with our pursuit of critical understanding, must engage in epistemic appraisal, we cannot rationally avoid the thesis that intuitions are evidence.

2. Modal Reliabilism: Why Intuitions Are Evidence

What explains why intuitions are evidence? In “Philosophical Limits of Scientific Essentialism” I argued that the only adequate explanation is some kind of truth-based (i.e., reliabilist) explanation. In *Philosophical Limits of Science* I develop these arguments in detail, dealing there with various alternative explanations—pragmatist, coherentist, conventionalist, contextualist, and rule-based (or practice-based). In the present context, I will assume that these arguments are successful and that we must turn to a truth-based explanation. This assumption will appeal to many readers independently of the indicated arguments.

Reliabilism has been associated with analyses of knowledge and justification, analyses which most philosophers today reject. Our topic, however, is not knowledge or justification but rather *evidence*. This difference is salutary, for here reliabilism is more promising. But not as a *general* theory of evidence: sources of evidence traditionally classified as *nonbasic* sources are subject to counterexamples much like those used against reliabilist theories of justification. For example, testimony would still provide an individual with evidence (reasons to believe) even if the individual has been exposed to systematic but undetectable lying. So reliability is not a necessary condition for something's qualifying as a source of evidence. Nor is reliability a sufficient condition for something's qualifying as a source of evidence: as in the case of justification, such things as nomologically reliable clairvoyance, etc. are *prima facie* counterexamples.

The natural response to these counterexamples is to demand only that *basic* sources of evidence be reliable: something is a basic source of evidence iff it has an appropriate kind of reliable tie to the truth.¹⁶ Then we would be free to adopt some alternative treatment of nonbasic sources; for example, something is a nonbasic source of evidence relative to a given subject iff it would be deemed (perhaps unreliably) to have a reliable tie to the truth by the best comprehensive theory based on the subject's basic sources of evidence.¹⁷ If we accept the traditional thesis that phenomenal experience and intuition are our basic sources and that all other sources are nonbasic,¹⁸ then the above counterexamples would not fault this analysis of nonbasic sources of evidence. For example, even in the context of systematic undetectable lying, testimony would now rightly be counted as a source of

evidence, for the best comprehensive theory based on the individual's basic sources (phenomenal experience and intuition) would deem it to have a reliable tie to the truth (even if it in fact does not because of the envisaged lying). And in the examples of spurious nonbasic sources (reliable clairvoyance, etc.), if their reliability is not affirmed by the best comprehensive theory based on the individual's basic sources, their deliverances would rightly not qualify as evidence.

Let us therefore agree that reliabilism should be restricted to basic sources of evidence: something is a basic source of evidence iff it has an appropriate kind of reliable tie to the truth. The fundamental question then concerns the character of this tie. Is it a contingent (nomological or causal) tie? Or is it some kind of necessary tie?

Contingent reliabilism.

On this account, something counts as a basic source of evidence iff there is a contingent nomological tie between its deliverances and the truth. This account, however, is subject to counterexamples of the sort which faulted the original sufficiency condition above (nomologically reliable clairvoyance, etc.). Consider a creature who has a capacity for making reliable telepathically generated guesses. Phenomenologically, these guesses resemble those which people make in blind-sight experiments. The guesses at issue concern necessary truths of some very high degree of difficulty. These truths are known to the beings on a distant planet who have arrived at them by ordinary a priori means (theoretical systematization of intuitions, proof of consequences therefrom, etc.). These beings have intelligence far exceeding that of our creature or anyone else coinhabiting his planet. Indeed, the creature and his coinhabitants will never be able to establish any of these necessary truths (or even assess their consistency) by ordinary a priori means. Moreover, none of these creatures has any beliefs whatsoever about the superior beings and their intellectual accomplishments. Finally, suppose that the following holds as a matter of nomological necessity: the creature guesses that p is true iff p is one of these necessary truths and the superior beings telepathically induce the creature to guess that p is true when the question arises. But, plainly, guessing would not qualify as a basic source of evidence for the creature, contrary to contingent reliabilism.¹⁹ Would you say that, by virtue of just guessing that Fermat's Last Theorem is true, the creature has evidence (reason to believe) that it is true?!

Modal reliabilism.

Given that contingent reliabilism fails, we are left with modal reliabilism, according to which something counts as a basic source of evidence iff there is an appropriate kind of strong modal tie between its deliverances and the truth. This formula provides us with a general scheme for analyzing what it takes for a candidate source of evidence to be basic. It is not itself an analysis: it is not intended that *just any* strong modal tie be necessary and sufficient for something's being a basic source of evidence. Rather, this scheme provides us with an *invitation* to

find the weakest natural (non-*ad-hoc*) modal tie that does the job—that is, the weakest such tie which lets in the right sources and excludes the wrong ones.²⁰ The explanation of why intuition is a basic source of evidence then goes as follows. By definition, a candidate source of evidence is basic iff it has *that* sort of modal tie; intuition does have that sort of modal tie; therefore, intuition is a basic source of evidence. Likewise for phenomenal experience: it too has that sort of modal tie and so is a basic source of evidence. And we have an explanation of why other candidate sources are nonbasic: they lack that sort of modal tie.

We thus have an invitation to find the weakest non-*ad-hoc* modal tie that does the job. Clearly, infallibilism is out of the running: it posits too strong a tie. Some form of fallibilism is what is needed. A modal tie with the following characteristics seems to do the job: (1) it holds relative to some suitably good cognitive conditions, (2) it is holistic in character, and (3) it holds, not with absolute universality, but as Aristotle would say “for the most part.” This suggests an analysis along the following lines: a candidate source is basic iff for cognitive conditions of some suitably high quality, necessarily, if someone in those cognitive conditions were to process theoretically the deliverances of the candidate source, the resulting theory would provide a correct assessment as to the truth or falsity of most of those deliverances.²¹ In our own case, we might not be in the indicated sort of cognitive conditions. But, when we limit ourselves to suitably elementary propositions, then relative to them we *approximate* such cognitive conditions. For suitably elementary propositions, therefore, deliverances of our basic sources would provide in an approximate way the kind of pathway to the truth they would have generally in the envisaged high-level conditions.

This analysis does the job. It tells us in a natural, non-*ad-hoc* way what is common to the traditional basic sources of evidence—intuition and phenomenal experience.²² And it tells us what is lacking in all other candidate sources—those which are nonbasic and those which are not even sources of evidence, basic or nonbasic. Moreover, I can think of no natural modal tie that is weaker and still does the job. Finally, although there might be such a tie, it is plausible that it would at least resemble the foregoing.

Of course, the analysis, and others like it, would be vacuous if it were not at least *possible* for some subjects to be in cognitive conditions of the high quality indicated in the analysis and to arrive at the indicated sort of theory of the deliverances of each basic source—phenomenal experience and intuition. In the case of intuitions, this possibility, and the modal tie to the truth which such a theory would have, is important for the autonomy thesis discussed at the close of the paper.

Review

A shortcoming of traditional empiricism was that it offered no explanation of why phenomenal experience is a basic source of evidence; this was just an un-

explained dogma. By the same token, traditional rationalists (and also moderate empiricists who, like Hume, accepted intuition as a basic source of evidence) did not successfully explain why intuition is a basic source of evidence. Modal reliabilism provides a natural explanation filling in these two gaps. The explanation is in terms of the indicated modal tie between these sources and the truth. But why should there be such a tie to the truth? Neither traditional empiricism nor traditional rationalism provided a satisfactory explanation.²³ The theory of concept possession promises to fill in this remaining gap.

3. Concept Possession

We will begin by isolating two different but related senses in which a subject can be said to possess a concept. The first is a nominal sense; the second is the full, strong sense. The first may be analyzed thus:

A subject possesses a given concept at least nominally iff the subject has natural propositional attitudes (belief, desire, etc.) toward propositions which have that concept as a conceptual content.²⁴

Possessing a concept in this nominal sense is compatible with what Tyler Burge (1979) calls misunderstanding and incomplete understanding of a concept. For example, in Burge's arthritis case, the subject misunderstands the concept of arthritis, wrongly taking it to be possible to have arthritis in the thigh. In Burge's verbal contract case, the subject incompletely understands the concept of a contract, not knowing whether or not contracts must be written. (Hereafter I will use 'misunderstanding' for cases where there are errors in the subject's understanding of the concept and 'incomplete understanding' for cases where there are gaps—i.e., "don't know.") Possessing a concept in the nominal sense is also compatible with having propositional attitudes merely by virtue of attribution practices of third-party interpreters. For example, we commonly attribute to animals, children, and members of other cultures various beliefs involving concepts which loom large in our own thought. We do so without thereby committing ourselves to there being a causally efficacious psychological state having the attributed content which plays a role in "methodologically solipsistic" psychological explanation. Our standard attribution practices, nonetheless, would have us deem such attributions to be appropriate. Advocates of this point of view hold that these attribution practices reveal to us essential features of our concept of belief (and, indeed, might even be constitutive of it). Everyone should at least agree that people could have a word 'believe' which expresses a concept having these features. In what follows, the theory I will propose is designed to be compatible with this practice-based view but will not presuppose it. These, then, are some weak ways in which a person can possess a concept. And there might be others belonging to a natural similarity class. This, too, is something which our theory will be designed to accommodate but not to presuppose.

With these various weak ways of possessing a concept in mind, we are in a position to give an informal characterization of possessing a concept in the full, strong sense:

A subject possesses a concept in the full sense iff (i) the subject at least nominally possesses the concept and (ii) the subject does *not* do this with misunderstanding or incomplete understanding or just by virtue of satisfying our attribution practices or in any other such manner.

In ordinary language, when we speak of “understanding a concept,” what we usually mean is possessing the concept in the full sense. In what follows, this ordinary-language idiom will help to anchor our inquiry, and I will use it wherever convenient. It will also be convenient to have available the technical term ‘possessing a concept determinately’, which is just another way of expressing the notion of understanding a concept (i.e., possessing a concept in the full sense).

Just as a person can be said to understand a concept (to possess it in the full sense), a person can be said to misunderstand a concept or to understand a concept incompletely and so on. Similarly, a person can be said to understand a proposition, to misunderstand a proposition, to understand a proposition incompletely, and so forth.

Now, intuitively, it is at least *possible* for most of the central concepts of the a priori disciplines to be possessed determinately by some cognitive agent or other (e.g., such concepts as conjunction, negation, identity, necessity, truth, addition, multiplication, set membership, quality, quantity, relation, proposition, consciousness, sensation, evidence, justification, knowledge, explanation, causation, goodness, etc.). It would be quite *ad hoc* to deny this. This possibility will be important in our discussion of the autonomy thesis at the close of the paper.

In the foregoing remarks we have characterized determinate possession informally—negatively and by means of examples, and we evidently have an ordinary-language idiom for this notion. We readily see what notion is, and it seems important theoretically. A legitimate philosophical project would therefore be to give a positive general analysis of the notion. Indeed, it cries out for one. But there is as yet no analysis in the philosophical (or psychological) literature that is at once noncircular and fully general.²⁵

My strategy will be to begin with a series of intuitive examples which serve to isolate some general features which determinate possession has and which other modes of possession lack. The first two examples are designed so that neither features of other people nor of the larger social or linguistic context are relevant. Nor are features of the environment. Nor are features such as salience, naturalness, or metaphysical basicness.

The multigon example

Suppose that in her personal journal a sincere, wholly normal, attentive woman introduces *through use* (not stipulation) a new term ‘multigon’.²⁶ She applies the

term to various closed plane figures having several sides (pentagons, octagons, chiliagons, etc.). Suppose her term expresses some definite concept—the concept of being a multigon—and that she determinately possesses this concept. Surely this is possible. By chance, however, the woman has neither applied her term ‘multigon’ to triangles and rectangles nor withheld it from them. The question has not come up. But eventually she does consider the question of whether it is possible for a triangle or a rectangle to be a multigon. When she does, her cognitive conditions continue to be fully normal—she is intelligent, attentive, possessed of good memory, free from distractions, and so forth—and she determinately understands the question. Now let us suppose that the property of being a multigon is either the property of being a closed straight-sided plane figure or the property of being a closed straight-sided plane figure with five or more sides. (Each alternative is listed under ‘polygon’ in my desk *Webster’s*.) Then, intuitively, when the woman considers the question, she would have an intuition that it *is* possible for a triangle or a rectangle to be a multigon if and only if the property of being a multigon = the property of being a closed straight-sided plane figure. Alternatively, she would have an intuition that it is *not* possible for a triangle or a rectangle to be a multigon if and only if the property of being a multigon = the property of being a closed straight-sided plane figure with five or more sides. Intuitively, if these things did not hold, the right thing to say would be that either the woman does not really possess a determinate concept or her cognitive conditions are not really fully normal.²⁷

The chromic example.

Suppose a woman has through use (in her journal) introduced a new term ‘chromic’. She applies the term to phenomenal qualia, specifically, to shades of phenomenal color—red, blue, purple, etc.—but withholds it from phenomenal black and phenomenal white. Suppose the term ‘chromic’ expresses some definite concept—the concept of being chromic—and that she determinately possesses this concept. Again, this is surely possible. Suppose, however, that the woman has not yet experienced any shades of phenomenal gray. When she finally does, it is a central shade of phenomenal gray, and the experience of it is clear and distinct—vivid, unwavering, and long-lasting. During the course of the experience, the question whether the shade is chromic occurs to her. When it does, her cognitive conditions are wholly normal (she is fully attentive, etc.), and she determinately understands the question. Suppose, finally, that the property of being chromic is either the property of being a nonblack nonwhite phenomenal color or the property of being a nonblack nonwhite nongray phenomenal color. In this case, intuitively, the following would hold: the woman would have the intuition that the shade *is* chromic iff the property of being chromic = the property of being a nonblack nonwhite phenomenal color. Alternatively, she would have the intuition that the shade is *not* chromic iff the property of being chromic = the property of being a nonblack nonwhite nongray phenomenal color. That is, just as in

the multigon case, the woman's intuitions would track the truth *vis-à-vis* the relevant test question. As before, if this were not so, we should say instead that the woman does not really possess a determinate concept or her cognitive conditions are not really fully normal.

What is distinctive about the chronic example is that the woman determinately possesses the concept of being chronic at a time when the decisive cases involve items—namely, shades of phenomenal gray—which lie beyond her experience and conceptual repertory. She determinately possesses the concept of being chronic even though, prior to experiencing phenomenal gray, she cannot even entertain the relevant test questions, let alone have truth-tracking intuitions regarding them. Surely such a thing is possible. There is no requirement that, in order to possess a concept determinately, a person must *already* have experiential and/or conceptual resources sufficient for deciding the possible extensions of the concept. Determinate concept possession is in this sense “Hegelian”—a present feature revealed only in the future.²⁸

Here is a variant on the example. It might be that it is *nomologically impossible* for the woman (or, for that matter, anyone else) to experience phenomenal gray: as a matter of nomological necessity, attempts to overcome this deficiency (e.g., electrodes, drugs, neurosurgery, etc.) only lead to irreversible coma and death. But, intuitively, this would not prevent the woman's term ‘chronic’ from determinately expressing a definite concept, the concept of being chronic. Consistent with all of this, however, is a relevant *metaphysical possibility*, namely, the metaphysical possibility that the woman—or someone whose initial epistemic situation is qualitatively identical to hers—might have an increased potential for phenomenal experiences (*viz.*, for phenomenal gray). This could be so without there being any (immediate) shift in the way the woman (or her counterpart) understands any of her concepts or the propositions involving them. In this improved situation, there would be no barrier to the woman's coming to understand and to consider the test question determinately. Intuitively, it is metaphysically possible for all this to happen.²⁹ And, intuitively, if it did, then just as in the original example, the woman (or her counterpart) would have truth-tracking intuitions *vis-à-vis* the test question.

Of course, the same sort of thing could happen in connection with nomologically necessary limitations on aspects of the woman's cognitive conditions (intelligence, attentiveness, memory, constancy, etc.): it could be that, because of such limitations, it is nomologically impossible for her to have truth-tracking intuitions *vis-à-vis* relevant test questions. It would nonetheless be metaphysically possible for her (or a counterpart whose initial epistemic situation is qualitatively identical) to have improved cognitive conditions. Intuitively, in such a situation, she would then have the relevant truth-tracking intuitions. She would determinately possess the concept iff such intuitions were metaphysically possible.

Finally, all this would hold *mutatis mutandis* if the examples concerned, not a solitary person (as above), but whole groups of people who determinately possess relevant concepts. These people would determinately possess the target concept iff it were metaphysically possible for them (or counterparts of them whose

initial epistemic situation is qualitatively the same as theirs) to have the associated truth-tracking intuitions.

The moral is that, even though there might be a nomological barrier to there being intuitions of the sort we have been discussing, there is no metaphysically necessary barrier. This leads to the thought that determinate concept possession might be explicated in terms of the metaphysical possibility of relevant truth-tracking intuitions (in appropriately good cognitive conditions and with appropriately rich conceptual repertoires). The idea is that determinateness is that mode of possession which constitutes the categorical base of this possibility.³⁰ When a subject's mode of concept possession shifts to determinateness there is a corresponding shift in the possible intuitions accessible to the subject (or the subject's counterparts). In fact, there is a shift in both *quantity* and *quality*. The quantity grows because incomplete understanding is replaced with complete understanding, eliminating "don't know." The quality improves because incorrect understanding is replaced with correct understanding.

Using these ideas, I will now formulate a progression of analyses, each beset with a problem which its successor is designed to overcome—converging, one hopes, on a successful analysis.

Subjunctive analyses

Our discussion of the multigon example suggests the following:

x determinately possesses the concept of being a multigon iff: x would have the intuition that it is possible for a triangle or a rectangle to be a multigon iff it is *true* that it is possible for a triangle or a rectangle to be a multigon.

In turn, this suggests the following:

x determinately possesses the concept of being a multigon iff: x would have intuitions which *imply* that the property of being a multigon = the property of being a closed straight-sided plane figure iff it is *true* that the property of being a multigon = the property of being a closed straight-sided plane figure.

The natural generalization on this is the following:

x determinately possesses a given concept iff, for associated test property-identities p: x would have intuitions which imply that p is true iff p is true.

By test property-identities p, I mean the following. Suppose F is the given concept. Then the associated test property-identities p are propositions to the effect that the property of being F = the property of being A, or the denials of such propositions (where A is some possible formula).³¹

When we transform the foregoing into a direct definition of *determinateness*, the mode of understanding involved when one understands determinately, we obtain the following:

determinateness = the mode *m* of understanding such that, necessarily, for all *x* and property-identities *p* which *x* understands *m*-ly, *p* is true iff *x* would have intuitions which imply that *p* is true.

The intention here is that ‘*m*’ ranges over *natural* modes of understanding (i.e., non-*ad-hoc* modes of understanding).

A priori stability

A problem with this analysis is that it relies on the subjunctive ‘would’, but there are well-known general objections to relying on subjunctives in settings such as this. The solution is to replace the subjunctives with a certain ordinary modal notion. I will call this modal notion *a priori stability*. Consider an arbitrary property-identity *p* which someone *x* understands *m*-ly. Then, *x* settles with a priori stability that *p* is true iff, for cognitive conditions of some level *l* and for some conceptual repertory *c*, (1) *x* has cognitive conditions of level *l* and conceptual repertory *c* and *x* attempts to elicit intuitions bearing on *p* and *x* seeks a theoretical systematization based on those intuitions and that systematization affirms that *p* is true and all the while *x* understands *p* *m*-ly, and (2) necessarily, for cognitive conditions of any level *l'* at least as great as *l* and for any conceptual repertory *c'* which includes *c*, if *x* has cognitive conditions of level *l'* and conceptual repertory *c'* and *x* attempts to elicit intuitions bearing on *p* and seeks a theoretical systematization based on those intuitions and all the while *x* understands *p* *m*-ly, then that systematization also affirms that *p* is true.³² A diagram can be helpful here.

The idea is that, after *x* achieves $\langle c, l \rangle$, theoretical systematizations of *x*’s intuitions always yield the same verdict on *p* as long as *p* continues to be understood *m*-ly throughout. That is, as long as *p* is understood *m*-ly, *p* always gets

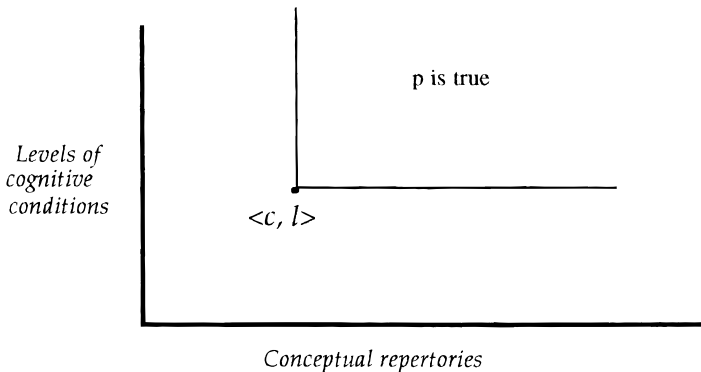


Figure 1

settled the same way throughout the region to the “northeast” of $\langle c, l \rangle$. When this notion of a priori stability replaces the subjunctives in our earlier analysis, we arrive at the following:

determinateness = the mode m of understanding such that, necessarily, for all x and property-identities p which x understands m -ly, p is true iff it is possible for x to settle with a priori stability that p is true.

The biconditional has two parts:

(a) p is true *if* it is possible for x to settle with a priori stability that p is true.

and

(b) p is true *only if* it is possible for x to settle with a priori stability that p is true.

The former is a *correctness* (or soundness) property. The latter is a *completeness* property. The correctness property tells us about the potential *quality* of x 's intuitions: it is possible for x to get into a cognitive situation such that, from that point on, theoretical systematizations of x 's intuitions yield only the truth regarding p , given that x understands p m -ly throughout. The completeness property tells us about the potential *quantity* of x 's intuitions: it is possible for x to have enough intuitions to reach a priori stability regarding the question of p 's truth, given that x understands p m -ly throughout. According to the analysis, determinateness is that mode of understanding which constitutes the categorical base for the possibility of intuitions of this quantity and quality.

A qualification is in order. As the analysis is stated, x must be able to go through the envisaged intuition-driven process arriving at the conclusion that p is true. It is enough, however, that *an epistemic counterpart of x* (i.e., x 's *doppelgänger* in some possible population whose epistemic situation is qualitatively the same as that of x 's population) be able to go through the envisaged process with that outcome, while understanding p m -ly. Let us understand the proposal and its sequels in this way.

Accommodating scientific essentialism

Even with this qualification, however, there is a serious problem with the completeness clause: it conflicts with scientific essentialism—the doctrine that there are property-identities that are essentially a posteriori (e.g., the property of being water = the property of being H_2O). Plainly, the completeness clause in the analysis goes too far, for it requires that such things can be settled a priori. The completeness clause thus needs to be weakened.³³

Granted, we do not have a priori intuitions supporting such scientific essentialist property-identities. Even so, whoever determinately understands these

property-identities should at least have associated twin-earth intuitions, that is, intuitions regarding twin-earth scenarios of the sort which underwrite arguments for scientific essentialism. For example, if someone determinately understands the proposition that the property of being water = the property of being H_2O , that person ought to have the following twin-earth intuition: if all and only samples of water here on earth are composed of H_2O , and if the corresponding samples on a macroscopically identical twin earth are composed of XYZ ($\neq H_2O$), then those samples would not be samples of water.

If the person has intuitions of this sort, the person also ought to have various modal intuitions concerning the sorts of *counterpart entities* that are possible. For example, the person ought to intuit that it is possible for there to be a twin earth on which there is a counterpart of water whose composition consists of counterparts of hydrogen, oxygen, and the sharing of two electrons. Naturally, this generalizes.

These considerations lead to the following idea. Although a person who determinately understands a given natural-kind property-identity cannot settle a priori whether it is true, nonetheless the person ought to be able to settle a priori whether there is at least a *counterpart* of the property-identity which is true. Being able to settle such things a priori is a necessary condition for understanding the *categorial content* of the constituent concepts. And, of course, understanding the categorial content of a concept is a necessary condition for determinately possessing it. The idea is that this condition, taken together with the correctness condition, is jointly necessary and sufficient for determinateness.

This suggests the following analysis in which the completeness clause (b) is weakened so that it only requires categorial understanding:

determinateness = the mode m of understanding such that, necessarily, for all x and property-identities p understood m -ly by x ,

(a) p is true *if* it is possible for x to settle with a priori stability that p is true.

(b) p is true *only if* it is possible for x to settle with a priori stability that p has a counterpart which is true.³⁴

Before proceeding, I should note that there is an important family of test propositions p which are entirely immune to scientific essentialism, namely, those which I call *semantically stable*: p is semantically stable iff, necessarily, for any population C , it is necessary that, for any proposition p' and any population C' whose epistemic situation is qualitatively identical to that of C , if p' in C' is the counterpart of p in C , then $p = p'$. (There is of course an analogous notion of a *semantically stable concept*.³⁵) Thus, if p is a semantically stable property-identity, the weakened completeness clause in the revised analysis entails the strong completeness clause of the earlier analysis, namely:

(b) p is true *only if* it is possible for x to settle with a priori stability that p is true.

This fact is significant for epistemology, for most of the central propositions in the a priori disciplines—logic, mathematics, philosophy—are semantically stable and, therefore, immune to scientific essentialism.³⁶ (This point is important for the defense of the autonomy thesis discussed at the close of the paper.)

Accommodating anti-individualism

To avoid the clash with scientific essentialism, we weakened the completeness clause so that it bears on only the categorial content of our concepts. This weakening, however, creates a predictable problem having to do with the *non-categorial* content of our concepts. Suppose *x* is in command of nothing but the categorial content of a certain pair of concepts, say, the concept of being a beech and the concept of being an elm. He would then be in a position resembling that of Hilary Putnam, who was entirely unable to distinguish beeches from elms. In this case, *x* certainly would not possess these concepts determinately (although the above analysis wrongly implies that he would). A symptom of *x*'s incomplete understanding would be his complete inability—*without relying on the expertise of others*—even to begin to do the science of beeches and elms. What is missing, of course, is that *x*'s “web of belief” is too sparse. An analogous problem of misunderstanding would arise if *x* were too often to classify beeches as elms and/or conversely.

In order for *x* to achieve determinate possession, *x*'s web of belief would need to be improved. But how? We can answer this question by making use of the idea of *truth-absorption*. If *x* were to absorb ever more true beliefs related to beeches and elms (perhaps including relevant social and linguistic facts), eventually *x*'s incomplete understanding (or misunderstanding) would shift to determinate understanding. And, in general, if an arbitrary person *x* has categorial mastery of certain of his concepts but nonetheless does not understand them determinately, then by absorbing ever more true beliefs *x* eventually will switch out of his deficient mode of understanding and thereby come to possess the relevant concepts determinately. By contrast, people who already determinately possess their concepts can always absorb more true beliefs without switching out of their determinate possession.

These considerations suggest the following revision:

determinateness = the mode *m* of understanding such that, necessarily, for all *x* and all *p* understood *m*-ly by *x*,

(a) *p* is true *if* it is possible for *x* to settle with a priori stability that *p* is true.

(b.i) *p* is true *only if* it is possible for *x* to settle with a priori stability that *p* has a counterpart which is true. (for property-identities *p*)

(b.ii) *p* is true *only if* it is possible for *x* to believe *m*-ly that *p* is true. (for *p* believable by *x*).³⁷

Why do improvements in the web of belief suffice to eliminate indeterminateness in the usual beech/elm cases? The reason (given the truth of scientific essentialism) is that there can be nothing else in which determinateness could consist in cases like this; the question of whether this is a beech or an elm is simply beyond the ken of a priori intuition. Absent intuition, web of belief is the default position on which determinateness rides. But on questions for which there is a possibility of a priori intuitions, they are determinative.

Summary

In the course of our discussion, we found it convenient to shift our focus from determinate understanding of *concepts* to determinate understanding of *propositions*. The analysis of the former notion, of course, has always been only a step away:

x determinately possesses a given concept iff_{def} x determinately understands some proposition which has that concept as a conceptual content.

This analysis invokes the notion of determinately understanding a proposition. To understand a proposition determinately is to understand it in a certain *mode*—namely, determinately. The hard problem was to say what distinguishes this mode from other natural modes of understanding. My strategy for answering this question was to quantify over natural modes of understanding, including determinateness itself (much as in nonreductive Ramsified functional definitions of mental properties one quantifies over properties, including the mental properties being defined). The goal in this setting was to isolate general properties which determinateness has and which other natural modes of understanding lack. My proposal was the following:

determinateness = the mode m of understanding with the following properties:

- (a) correctness
- (b.i) categorial completeness
- (b.ii) noncategorial completeness.

(a) A mode m has the correctness property iff, necessarily, for all individuals x and all propositions p which x understands in mode m, p is true *if* it is possible for x (or some epistemic counterpart of x) to settle with a priori stability that p is true, all the while understanding p in mode m. (b.i) A mode m has the categorial completeness property iff, necessarily, for all individuals x and all true (positive or negative) property-identities p which x understands in mode m, it is possible for x (or some epistemic counterpart of x) to settle with a priori stability that there exists some true twin-earth style counterpart of p, all the while understanding p

in mode *m*. (b.ii) A mode *m* has the noncategorical completeness property iff, necessarily, for all individuals *x* and all true propositions *p* which *x* understands in mode *m* and which *x* could believe, it is possible for *x* (or counterpart of *x*) to believe *p* while still understanding it in mode *m*.

Of course, this analysis might need to be refined in one way or another.³⁸ The thesis to which I wish to be committed is that some analysis along these general lines can be made to work.³⁹

4. Conclusions

The analysis of concept possession is the final step in our account. In the course of our discussion of the evidential force of intuitions, we noted a shortcoming in traditional empiricism and traditional rationalism, namely, that neither successfully explains why intuition and phenomenal experience should be basic sources of evidence. Modal reliabilism filled this explanatory gap: the explanation is that these two sources have the right sort of modal tie to the truth. We saw, moreover, that neither traditional empiricism nor traditional rationalism successfully explains why there should be such a tie between these basic sources and the truth. The analysis of determinate concept possession fills this gap: In the case of intuition, determinate possession of our concepts entails that there must be such a tie. But determinate concept possession also guarantees that there be a corresponding tie in the case of phenomenal experience. Our intuitions are what seem intellectually to be so concerning the applicability of concepts to cases presented to pure thought. If our intellectual seemings have the indicated modal tie to truth, then we could hardly be mistaken regarding what seem reflectively (in Locke's sense) to be the contents of our phenomenal experiences. In this way, the analysis of determinate concept possession promises to complete the picture begun by our two main epistemological traditions—rationalism and empiricism. If this is so, the fact that one and the same analysis can play this dual role provides additional reason to accept it.

The analysis of concept possession has further explanatory pay-offs. To begin with, insofar as a priori knowledge is a product, directly or indirectly, of a priori intuitions, the analysis of concept possession serves as the cornerstone of a unified account of a priori knowledge. On the one hand, the correctness property provides the basis of an explanation of the *reliability* of a priori intuition and, in turn, a priori knowledge itself. On the other hand, the completeness property provides the basis of an explanation of the *scope* of a priori intuition and, in turn, a priori knowledge. Finally, when taken together, the correctness and completeness properties answer Benacerraf's question of how, absent a supernatural source, mathematical knowledge is nonetheless possible. And, more generally, they explain how it is possible to have knowledge of Popper's "Third World."

Now, at the outset of the paper, I indicated that the proposed account of the a priori would help to clarify the relation between the a priori disciplines—logic, mathematics, and philosophy—and the empirical sciences. Specifically, it suggests that these disciplines have a qualified autonomy *vis-à-vis* empirical science.

Roughly: most of the answerable questions of the a priori disciplines could (as a metaphysical possibility) be answered wholly *within* those disciplines, without relying substantively on the empirical sciences; moreover, when empirical science and the a priori disciplines provide answers to the same questions, the support that empirical science could provide for its answers is no stronger than that which the a priori disciplines could provide for their answers. Of course, this thesis needs to be qualified further. For example, the questions at issue need to be restricted to appropriately central, pure (as opposed to applied or practical) questions.⁴⁰ And other qualifications might also be needed.

This kind of autonomy thesis is a *modal* claim; it posits only the *metaphysical possibility* of autonomous a priori knowledge, perhaps on the part of creatures in cognitive conditions superior to ours. But, if true, the thesis would nevertheless help to illuminate our own situation. For to the extent that we *approximate* the indicated cognitive conditions, we are able to *approximate* the sort of autonomous a priori knowledge contemplated in the thesis.

There are two promising lines of argument that can be mounted in support of a qualified autonomy thesis—one associated with our discussion of intuitional evidence and the other with our analysis of concept possession.

The Argument from Evidence. To explain why intuitions have the evidential force they do, we were led to modal reliabilism—the doctrine that, relative to some suitably high quality cognitive conditions, there is an appropriate kind of necessary tie between intuitions and the truth. We saw, moreover, that this account would be vacuous if it were not at least *possible* for some subjects to be in cognitive conditions of the indicated high quality. The associated possibility of intuitions with this necessary tie to the truth is none other than the possibility underlying the autonomy thesis.

Someone might question this defense of the autonomy thesis, thinking that scientific essentialism (the doctrine that there are essentially a posteriori necessary truths, e.g., water = H₂O.) provides a reason for doubt. But scientific essentialism provides no barrier, as I argue in “*A Priori Knowledge and the Scope of Philosophy.*” The reason is that scientific essentialism holds only for semantically unstable terms (‘water’, ‘heat’, ‘gold’, ‘beech’, ‘elm’, etc.). By contrast, the relevant central terms of the a priori disciplines are semantically stable; contingencies of the external environment make no relevant contribution to their meaning.⁴¹

The use of testimony and artificial reasoning devices (computers) might also provide a reason to doubt that this defense of the autonomy thesis. But, intuitively, whatever intuition-based knowledge might be available to a group of individuals working collectively over time could (as a metaphysical possibility) be available to a single individual. Likewise, whatever might be proved with the aid of a computer, intuitively, could be proved by one or more individuals. In any event, there is a legitimate standard use of ‘a priori’ which applies to intuition-based knowledge possessed by groups of individuals working collectively and to knowledge derived from artificial reasoning devices the soundness of whose programs has been settled a priori. So when the autonomy thesis is understood this way, the present worry does not arise.

The Argument from Concepts. The analysis of concept possession provides the second argument for the autonomy thesis. In our informal remarks about the notion of determinate concept possession, we saw that it is at least *possible* for most of the central concepts of the a priori disciplines to be possessed determinately by some cognitive agent or other. This possibility, together with the possibilities given in clauses (a) and (b.1) of the analysis of determinate possession, provide the basis for establishing autonomy. This proceeds in two steps.

(1) Suppose that the answers to the central questions of the a priori disciplines are all (what traditionally would have been counted as) analytic. Then the autonomy thesis would follow immediately from the possibilities given in clause (a) and (b.1). This would be the end of the matter.

(2) Let us agree, however, that the answers to the central questions of the a priori disciplines are in some cases (what traditionally would have been counted as) synthetic. To see that the analysis of determinate possession also accommodates these propositions, we exploit the elastic nature of the boundary between what traditionally would have been counted as analytic and synthetic.

According to the analysis, determinateness entails the possibility of settling a priori any semantically stable test property-identity *p*. These property-identities are not restricted to what traditionally would have been counted as analytic truths. They include substantive propositions that would have been deemed synthetic (e.g., that being an equilateral triangle = being an equiangular triangle; that being a plane figure with points equidistant from a common point = being a plane figure all of whose arcs have equal curvature; that being recursive = being λ -calculable = being Turing computable; etc.). To *prove* these property-identities requires *synthetic axioms* (e.g., axioms of geometry, number theory, etc.).⁴² Now, intuitively, if someone is able to establish one of these property-identities by means of the sort of theoretical systematizations of intuitions envisaged in the analysis of determinateness, the person should also be in a position to establish synthetic axioms sufficient for proving the property identity; indeed, it would seem that any such axioms would simply be included in one or another theoretical systematization of the envisaged sort. But it would seem that synthetic axioms of this sort should provide for all the a priori knowledge not covered in step (1). In any case, it is hard to see what could prevent such residual a priori knowledge from being supplied in this or some kindred manner by the indicated theoretical systematizations.

Notes

1. For a summary, see my "The A Priori" (1998).
2. Edmund Gettier (1963).
3. The idea is that our various sorts of nontheoretical knowledge may be understood in terms of their relations to this ideal sort of knowledge. Incidentally, in this paper I will not have time to discuss the topic of a priori concepts (vs. empirical concepts), though this topic is quite important.
4. So, even if reliabilists are right that evidence is not a necessary condition for knowledge, the reliabilist's demand that knowledge have a reliable tie to the truth will be satisfied in cases of knowledge which are based on a priori intuitions.

5. Kurt Gödel (1990, 1995).
6. This overall picture of a priori knowledge was outlined in my “Philosophical Limits of Scientific Essentialism” (1987). I gave three self-defeat arguments against radical empiricism at the 1989 George Myro Memorial Conference in Berkeley and published them in “The Incoherence of Empiricism” (1992). I defended modal Reliabilism in my “*A Priori* Knowledge and the Scope of Philosophy” and “On the Possibility of Philosophical Knowledge” (1996). I presented the final piece of the picture—the explicit positive analysis of concept possession—at the USC Conference on A Priori Knowledge in 1997. The larger view of the a priori is developed and defended in much greater detail in my forthcoming book *Philosophical Limits of Science*.
7. When we say that an intuition is used as evidence, we of course mean that the *content* of the intuition is used as evidence.
8. Incidentally, Kripke believes that there is a kind of a priori knowledge of certain contingent facts (e.g., the length of the standard meter bar) which is associated with stipulative introductions of names. If this is right and if there are rational intuitions associated with this a priori knowledge, these remarks would need to be adjusted accordingly.
9. I am indebted to George Myro, in conversation in 1986, for a kindred example (the comprehension principle of naive set theory) and for the point it illustrates, namely, that it is possible to have an intuition without having the corresponding belief.
10. I discuss these matters in “The Incoherence of Empiricism,” “Mental Properties,” and the other pieces mentioned in note 6.
11. Unlike radical empiricism, Hume’s more moderate empiricism deems intuitions of relations of ideas to be evidence. It is a scholarly question whether Hume’s relations of ideas include only analyticities. If so, his view can also be shown to be self-defeating. If not, it resembles the sort of moderate rationalism which I am defending in this paper.
12. Our argument builds upon George Myro’s important and elegant paper “Aspects of Acceptability” (1981).
13. I.e., the simplest comprehensive theory that explains why (all or most of) the various items that are evident to the person do in fact hold.
14. Quine tells us, “There does, however, remain still an extreme sort of definition which does not hark back to prior synonymies at all: namely, the explicitly conventional introduction of novel notations for purposes of sheer abbreviation. Here the definiendum becomes synonymous with the definiens simply because it has been created expressly for the purpose of being synonymous with the definiens. Here we have a really transparent case of synonymy created by definition; would that all species of synonymy were as intelligible.” (Quine 1953, p. 26 f.) Quine is mistaken. In view of the critique of intensionality sketched above, he cannot consistently maintain this sanguine attitude toward stipulative definitions and abbreviation. But even if he could, that would not help to avoid the problem in the text. To avoid that problem, Quine needs an apparatus for giving definitions of terms that are *already* in use (‘evidence’, ‘justify’, etc.). Stipulative definitions do not fulfill this function.
15. I have said ‘basic evidence’ rather than ‘evidence’ to allow for the fact that there are other, less basic, sources of evidence, e.g., observation and testimony (see the next section). For this reason, we should either substitute ‘basic evidence’ for ‘evidence’ in principle (ii) or keep principle (ii) as it stands but adjoin a further principle characterizing the relation between ‘evidence’ and ‘basic evidence’. Given our intuitions about evidence, justification, etc. and given relevant empirical facts about the overall

- reliability of human observation and testimony, it is plausible that these two alternatives can be shown to be equivalent.
16. The notion of a basic source of evidence is an intuitive notion which can be picked out with the aid of examples and rough-and-ready general principles. The following examples are typical. Depending on one's epistemic situation, calculator readings can serve as a source of evidence for arithmetic questions; etc. It is natural to say that these sources are not as basic as phenomenal experience, intuition, observation, and testimony. By the same token, it is natural to say that testimony is not as basic as observation, and likewise that observation is not as basic as phenomenal experience. Phenomenal experience, however, is as basic as evidence can get. Here are some typical rough-and-ready principles. A source is basic iff it has its status as a source of evidence intrinsically, not by virtue of its relation to other sources of evidence. A source is basic iff no other source has greater authority. A source is basic iff its deliverances, as a class, play the role of "regress stoppers." Although examples and principles like these serve to fix our attention on a salient intuitive notion, they do not constitute a definition. That is our goal in the text.
 17. This approach to nonbasic sources may, if you wish, be thought of as an idealization. See Paul Grice (1986) and Christopher Peacocke (1986) for a suggestive discussion of how idealizations might function in philosophical psychology and epistemology. Note that I need not commit myself to the approach to nonbasic sources in the text. For an alternative account, see note 25, in my "On the Possibility of Philosophical Knowledge" (1996). What is important for the present argument is that there be *some* account consistent with a reliabilist account of basic sources.
 18. Might intuition be a nonbasic source? No. First, we have a wealth of concrete-case intuitions supporting the thesis that intuition is basic (e.g., intuitions to the effect that elementary logical intuitions are basic). Second, as Quine has shown us, our best overall *purely* empirical theory does not affirm that our modal intuitions have a reliable tie to the truth. So within the present explanatory strategy, we have no alternative but to identify intuition as a basic source of evidence. (This point is developed in greater detail in section 6 of my "Philosophical Limits of Scientific Essentialism.")
 19. An analogous counterexample could be constructed around "hardwired" dispositions to guess. One way of trying to rule out these counterexamples would be to add to contingent reliabilism a further requirement involving *evolutionary psychology*: in the course of the evolution of the species, a cognitive mechanism's contingent tie to the truth must have been the more advantageous to the survival of the species than alternative sources which would not have had a tie to the truth. But this additional requirement does not help. Our guessing example can be adapted to yield a counterexample to this revised analysis. Specifically, we need only make the example involve a hypothetical species in whom the extraordinary powers for making true guesses have played a positive (but always undetected) role in the species' evolution. Guessing is still guessing whether generated by hardwiring or by telepathy.
 20. It is understood here that something can be a basic source only if it is a natural (i.e., non-Cambridge-like) propositional attitude. For example, intuition, appearance, belief, desire, guessing, wondering, etc. This requirement serves to block various *ad hoc* counterexamples, e.g., the relation holding between x and p such that x believes p and p is Fermat's Last Theorem. Plainly, this relation is not a natural propositional attitude.
 21. I require only that *most* of the indicated assessments made by this a priori theory be true. I do not say *all*, for I do not want to rule out in principle unresolvable logical and philosophical antinomies. Nor do I want to rule out the possibility that Burge-like

incomplete understanding might contaminate selected intuitions. What is ruled out is that this sort of thing could be the norm.

22. Likewise, one may use the analysis to explain why basic sources of evidence have the informal features invoked in note 16 to help single out the intuitive concept of a basic source of evidence. And, given the reliability of intuition and phenomenal experience, one can (*pace* Alston) give a noncircular justification of our belief in the reliability of our sense perception: one is justified in believing the best overall explanation of the deliverances of one's basic sources of evidence (phenomenal experience and intuition); the best explanation of these deliverances deems our perceptual modalities to be more or less reliable; so we are justified in believing in the reliability of the latter.

The analysis rightly does not include memory as an absolutely basic source of evidence, for in discussions of evidence 'memory' is used nonfactively for recall of past beliefs regardless of their truth value. For an explanation of why memory is nonetheless a source of evidence, see *Philosophical Limits of Science*.

23. The lack of such an explanation in the case of intuitions makes a number of people worry about relying on intuitions. (This really is just Benacerraf's worry about mathematical knowledge.) This skepticism is unwarranted. After all, the fact that our ancestors lacked an explanation of a tie between observation and the truth did not provide them with a reason to challenge observation as a source of evidence. More to the point, the fact that even now neither traditional empiricists nor traditional rationalists have an explanation of the tie between phenomenal experience and the truth does not provide us with a reason to challenge phenomenal experience as a source of evidence. So, too, with intuition. Nonetheless, a more convincing overall account would result if there were an explanation of why intuition and phenomenal experience have their strong ties to the truth.
24. This notion of conceptual content is defined in *Philosophical Limits of Science*. In the simplified setting in which all propositions are fine-grained we would have the following more familiar analysis: *x* possesses a given concept at least nominally iff *x* has natural propositional attitudes (belief, desire, etc.) toward propositions in whose logical analysis the concept appears. Incidentally, if you question whether there really is this weak, nominal sense of possessing a concept, you may treat the analysis just given as a stipulative definition of a technical term. Doing so makes no difference to the larger project.
25. In the ensuing analysis of concept possession, I will make use of our ordinary modal idioms and of variables whose ostensible range of values include concepts, propositions, and the standard propositional-attitude relations. If the reader has a nonrealist way of taking these idioms, I have no objection.

Personally, I am inclined to realism in this context. Given that intuitions have evidential weight, such realism has a straightforward defense. We have a wide range of robust modal intuitions (e.g., the intuition that it is contingent that the number of planets is greater than seven; there could have been fewer); when such intuitions are taken as evidence, the simplest theory is one which accepts the necessary/contingent distinction at face value. Other intuitions yield related defenses of realism about concepts, propositions, and the propositional attitudes .

26. This example is taken from my "Philosophical Limits of Scientific Essentialism."
27. What would happen if the woman had one of these intuitions—say, that a triangular multigon is not possible—but upon seeing a triangle the woman formed a perceptual belief that the presently seen triangle *is* a multigon? Would this go against what I say in the text? No. For the woman's cognitive conditions would clearly be *abnormal*. The

- same thing would hold *mutatis mutandis* if the woman were to lack any intuition regarding the question. Given that the cognitive conditions are wholly normal, no concept would be determinately expressed by 'multigon' if the woman were to lack accompanying intuitions.
28. Christopher Peacocke (1998) and James Higginbotham (1998) subscribe to performance/competence models of the a priori according to which understanding a concept requires having (right now) implicit knowledge of all knowable necessary truths involving the concept. This is far too strong, as the chromic example dramatizes. Although the woman possesses the concept of chromic, she cannot (right now) know whether some chromic shades are gray. She does not even possess the concept of gray! Our analysis of concept possession will be designed to avoid this and kindred problems in more traditional performance/competence models.
 29. In the present example we can be sure that the envisaged conditions are metaphysically possible, for *we* are beings in such conditions. But this is only an artifact of the example. When we generalize on the above set-up, facts about *us* drop out. Thinking otherwise would be a preposterous form of anthropocentrism.
 30. Alternatively, if you are attracted to the view that a categorical base is not required (reminiscent of the view that properties are constituted by their disponents), you might prefer to hold that determinateness is simply that mode of possession constituted by the indicated possibility itself.
 31. There is a residual question regarding the restriction to property-identities *p*. Concerning this restriction, the formulation might be exactly right just as it stands. On a certain view of properties, however, an additional qualification would be needed. I have in mind the view according to which (1) all necessarily equivalent properties are identical and (2) for absolutely any formula *A* (no matter how *ad hoc* and irrelevant *A*'s subclauses might be), a property is denoted by all expressions of the form: the property of being something such that *A*. If this view were correct, there would be true property-identities of the following sort: the property of being *F* = the property of being *F* such that *P*, where *P* is any arbitrary necessary truth. In this case, the proposed analysis would commit us to the possibility that *any* determinately understood necessary truth could be settled a priori by some being or other. There ought to be a way to avoid this very strong consequence. I know of two. The first is simply to deny (1) or (2) or both; there are some plausible arguments supporting this move. The second way is to accept (1) and (2) but to adopt a logical framework which is able to mark the distinction between property-identities which are *ad hoc* in the indicated way and those which are not, even if this means taking the indicated notion of *ad-hoc*-ness as primitive. After all, at some point or other, every philosopher has a need for some such distinction. In what follows I am going to assume that the indicated consequence can be avoided by one or another of these means.
 32. When I speak of higher level cognitive conditions, I do not presuppose that there is always commensurability. In order for the proposal to succeed, I need only consider levels of cognitive conditions *l'* and *l* such that, with respect to *every* relevant dimension, *l'* is at least as great *l*.
 33. One solution is given in the text. Another solution is to give a free-standing characterization of what it is for a person to have a categorial mastery of a concept (as reflected in his intuitions, including his twin-earth intuitions). See *Philosophical Limits of Science* for a discussion of this solution.
 34. The notion of counterpart is defined as follows: *p'* is a counterpart of *p* iff_{def} it is possible that there is a population *C* such that it is possible that, for some population

- C' which is in qualitatively the same epistemic situation as C , p' plays the same epistemic role in C' as p does in C .
35. These notions were isolated in “Mental Properties” and examined further in “*A Priori Knowledge and the Scope of Philosophy*” and “On the Possibility of Philosophical Knowledge.”
 36. This theme is explored further in the papers just mentioned and in *Philosophical Limits of Science*. See note 39 for an important qualification.
 37. Perhaps ‘believe’ should be strengthened to ‘rationally believe’ and p restricted to propositions which x can rationally believe. In this connection, bear in mind that the testimony of a trusted informant is often sufficient for rational belief.
 38. We have identified determinateness as *the* mode m of understanding that has both the correctness and completeness properties. Plausibly, however, there is not just one mode m like this. (For example, if there is a relation of acquaintance like that posited in traditional epistemology, there is presumably an associated mode of understanding; if so, it would have both the correctness and completeness properties.) But such modes of understanding would be species of a genus, and that genus would be the general mode of understanding, determinateness. This would lead us to revise the analysis one last time as follows: determinateness = the genus of modes m of understanding with the correctness and completeness properties.
 39. It should be borne in mind that the analysis is compatible with the idea that determinateness might come in degrees, achieved to a greater or lesser extent. What the analysis aims at is the notion of completely determinate possession. If you find yourself disagreeing with the analysis on some point or other, perhaps the explanation is that you have in mind cases involving something less than completely determinate possession.
 40. See “On the Possibility of Philosophical Knowledge” for further clarification of this class of questions.
 41. Illustrative semantically stable terms: ‘and’, ‘not’, ‘is identical to’, ‘necessarily’, ‘true’, ‘addition’, ‘multiplication’, ‘is an element of’, ‘set’, ‘quality’, ‘quantity’, ‘relation’, ‘proposition’, ‘conscious’, ‘sensation’, ‘evidence’, ‘justify’, ‘know’, ‘explain’, ‘cause’, ‘good’, and so forth. See section 3, “Accommodating scientific essentialism.”
It might be held that there are uses of ‘time’, ‘space’, ‘probability’, ‘causation’, and ‘matter’ which are semantically unstable. Even if there are, there exist other generic uses—seen in expressions like ‘a kind of time’, ‘a kind of space’, etc.—which are semantically stable. (E.g., Euclidean space is a possible kind of space.) My claim is that the central questions of the pure a priori disciplines may all be framed in terms of semantically stable expressions—generic or otherwise.
 42. See my “Analyticity” (1998) for this and related points.

References

- Bealer, George (1987) “Philosophical Limits of Scientific Essentialism,” *Philosophical Perspectives* 1, 289–365.
- (1992) “The Incoherence of Empiricism,” *The Aristotelian Society, Supplementary Volume* 66, 99–138. Reprinted in *Rationality and Naturalism*, Steven J. Wagner and Richard Warner, eds., Notre Dame: University of Notre Dame Press, 1993.
- (1994) “Mental Properties,” *The Journal of Philosophy* 91, 185–208.
- (1996) “*A Priori Knowledge and the Scope of Philosophy*,” *Philosophical Studies* 81, 121–142.
- (1996) “On the Possibility of Philosophical Knowledge,” *Philosophical Perspectives* 10, 1–34.

- (1998) "Analyticity," *Routledge Encyclopedia of Philosophy*, vol. 1, London: Routledge & Kegan Paul, 234–9.
- (1998) "The A Priori," *Blackwell Guide to Epistemology*, Oxford: Blackwell, 240–267.
- (1999) *Philosophical Limits of Science*, New York: Oxford, forthcoming.
- Burge, Tyler (1979) "Individualism and the Mental," *Midwest Studies in Philosophy* 4, 73–122.
- Gettier, Edmund (1963) "Is Justified True Belief Knowledge?," *Analysis* 23, 121–3.
- Gödel, Kurt (1990) "What Is Cantor's Continuum Problem?," *Collected Works*, vol. II, Solomon Feferman et al., eds., New York: Oxford, 254–270
- (1995) "Some Basic Theorems on the Foundations of Mathematics and Their Implications," *Collected Works*, vol. III, 304–323.
- Grice, Paul (1986) "Reply to Richards," in *Philosophical Grounds of Rationality: Intentions, Categories, Ends*, Richard Grandy and Richard Warner, eds., Oxford: Oxford University Press.
- Higginbotham, James (1998) "Conceptual Competence," *Concepts, Philosophical Issues* 9, Atascadero: Ridgeview, 149–162.
- Myro, George (1981) "Aspects of Acceptability," *Pacific Philosophical Quarterly*, 62, 107–117.
- Peacocke, Christopher (1986) "Rationality Requirements, Knowledge and Content," in *Thoughts: An Essay on Content*, Oxford: Basil Blackwell, 153–170.
- (1998) "Implicit Conceptions, Understanding and Rationality," *Concepts, Philosophical Issues* 9, Atascadero: Ridgeview, 43–88.
- Quine, W. V. O. (1953) "Two Dogmas of Empiricism," *From a Logical Point of View*, New York: Harper and Row, 20–46.