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A Theory of Concepts and Concept Possession

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A theory of concepts should answer three questions: (1) Do concepts exist and, if so, what is their modal status (*post rem*, *in rebus*, *ante rem*)? (2) What are concepts (assuming that they exist)? (3) What is it to possess a concept? My starting point is the truism that *the concept of being F* is a concept. This canonical gerundive form identifies the primary sense of the term 'concept' in ordinary English and serves to anchor usage in philosophical discussions. I hold that concepts, in this primary sense, are *sui generis* irreducible entities comprising the ontological category in terms of which propositions (thoughts, in Frege's sense) are to be analyzed. Some people believe that one must invoke psychology to justify the ontology of concepts. Even if this style of justification succeeds, I believe that the existence of concepts and propositions is more convincingly established by certain considerations in logic —specifically, modal logic and the logic of logical truth— where one deals with 'that'-clauses, gerundives, and other canonical intensional terms. Moreover, unlike the psychological approach, the logical approach is able to settle the question of *modal status*; specifically, it implies the *ante rem* view of propositions and concepts (i.e., the view that they are mind-independent entities which would exist whether or not they apply to anything). But what is it to possess a concept? Continuing a theme of several past papers, I hold that concept possession is to be analyzed in terms of a certain kind of reliable pattern in one's intuitions. The challenge is to find an analysis that is at once noncircular and fully general. Environmentalism, anti-individualism, holism, analyticity, etc. provide special obstacles. If correct, the analysis forms the basis of an account of *a priori* knowledge, which in turn implies a qualified autonomy and authority for logic, mathematics, and philosophy *vis-à-vis* empirical science. Other implications concern the Benacerraf problem about mathematical truth and the Wittgenstein-Kripke puzzle about rule-following.

Concept possession is a central philosophical notion which calls out for analysis. The primary goal of this paper is to venture one. No doubt the analysis is in need of further refinement, but I hope that it at least points the way to a successful analysis.

Part I. A Realist Framework

The appropriate starting points for a theory of concept possession are realism about the modalities (possibility, necessity, contingency), realism about concepts and propositions, and realism about the propositional attitudes —including, in particular, intuition. In this part I will discuss some of these starting points in more detail.

1 The Modalities, Concepts, and Propositions

Although I will simply assume realism about the modalities, realism about concepts and propositions requires elaboration, especially in connection with their modal status. The way I propose to approach concepts is to extrapolate from certain arguments concerning propositions: since concepts are of the same general ontological type as propositions, most ontological conclusions about the propositions —e.g., about their modal status— hold for concepts as well. In the tradition of Frege's critique of psychologism, my view is that propositions (and the concepts in terms of which they are analyzable) are ontologically independent of the mind. Propositions are independently required for the purposes of logical theory, and they have the modal status one would expect logical objects to have. Thus, I disagree with Jerry Fodor when he says, "[P]ropositions exist to be what beliefs and desires are attitudes *toward*".[1] It would more correct to say that propositions exist to be the primary bearers of truth, possibility, necessity, impossibility, logical truth, etc. This is the view I defend in "Universals" (1993). The following provides some of the flavor of the argument.

Considerations of logical form and truth conditions lead us to the following preliminary conclusions. Expressions such as 'is true', 'is possible', 'is necessary', 'is impossible', 'is logically true', 'is probable', etc. are one–place predicates; 'that'–clauses are singular terms; and sentences of the form ⌜It is F that A⌝ have referential truth conditions: ⌜It is F that A⌝ is true iff there is something which the 'that'–clause ⌜that A⌝ designates and to which the predicate ⌜F⌝ applies.

Consider the type of entities designated by 'that'–clause. (We will allow for the possibility that some of entities of this general ontological type are not designated by any 'that'–clause, due to the expressive deficiencies of natural languages.) For terminological convenience, let us call entities of this general type *propositions*. This will not be question–begging, for it does not prejudge the question of what these entities *are*. Are they linguistic entities, psychological entities, extensional complexes (e.g., ordered sets or sequences), possible–worlds constructs, etc.; or are they *sui generis* and irreducible? Nor does it prejudge the question of the modal status of propositions. Are they *post rem*, *in rebus*, *ante rem*? (Advocates of the *in rebus* view hold the following: for all x, necessarily, the proposition that $\ldots x \ldots$ exists only if x exists; and, necessarily, for all y, the proposition that $\ldots y \ldots$ is actual only if y is actual.[2] Advocates of the *ante rem* theory of propositions deny this.)

As I have said, I believe that logical theory makes commitment to propositions prior to any consideration in psychological theory. The following truisms illustrate the point:

It is logically true that triangles are triangles.

It is *not* logically true that triangles are trilaterals.

The explanation of this plus kindred phenomena require, not only a commitment to propositions, but to a commitment to types of

[1] J. Fodor, *Psychosemantics*, P. 11.

[2] In contemporary logical theory, the most familiar example of an *in rebus* theory identifies propositions with extensional complexes —ordered sets or sequences.

propositions having all the richness as those required for psychological theory. Important as this conclusion is, however, it does not settle the modal status of propositions.

I will now proceed to sketch my defense of the *ante rem* view. (In this defense, we will assume actualism. In the present context, we should feel free to do this. The reason is that possibilism leads to a view of propositions that is similar to an actualist *ante rem* theory of propositions. For, according to possibilism, all possible worlds exist, and all possible propositions exist. In this way, propositions have a kind of prior existence, just as they do on an actualist *ante rem* theory. This is the underlying point I am trying to establish.)

My defense will focus on a family of intuitively true sentences which I call *transmodal* sentences. Here is an illustration:

> Every x is such that, necessarily, for every y, the proposition that $x = y$ is either possible or impossible.[3]

We may symbolize this sentence thus:

(i) $(\forall x)\Box(\forall y)$ (Possible $[x = y] \vee$ Impossible $[x = y]$).

How is the embedded 'that'-clause to be treated? If it has narrow scope, (i) would imply:

(ii) $(\forall x)\Box(\forall y)\ (\exists v)v = [x = y]$.[4]

That is, every x is such that, necessarily, for every y, the proposition that $x = y$ exists. Therefore, on the *in rebus* view, this implies:

$$(\forall x)\Box(\exists v)v = x.$$

That is, everything necessarily exists. A false conclusion, for surely there exist contingent objects.[5] On the other hand, consider the wide scope reading of (i). On it, (i) entails that every x is such that, necessarily, for all y, there exists an *actual* proposition that $x = y$. In symbols:

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[3]One could replace '$x = y$' with 'if x and y exist, $x = y$'.

[4]On an extensional-complex theory, (ii) might be represented thus:

$(\forall x)\Box(\forall y)\ (\exists v)\ v = \langle x, \text{'identity'}, y\rangle$.

Yet, necessarily, a set exists only if its elements exist. So (ii) would imply:

$(\forall x)\Box(\exists v)v = x$.

I.e., everything necessarily exists. This is the implausible consequence we are in the midst of deriving in the text in a more general setting.

[5]At least according to actualism, which I am assuming here. Certain possibilists might accept the conclusion of the *reductio* in the text. But these possibilists would already be willing to accept (something like) the *ante rem* view of propositions, so I need not discuss their view in the present context.

(iii) $(\forall x)\Box(\forall y)\ (\exists_{\text{actual}} v)\ v = [x = y]$.[6]

But, on the *in rebus* view, this implies:

$\Box(\exists y)\ y$ is actual.

That is, necessarily, everything (including everything that might have existed) is among the things that actually exist. Again, a false conclusion: clearly it is possible that there should have existed something which is not among the things that actually exist.[7] So, on both of its readings, the intuitively true sentence (i) entails falsehoods if the *in rebus* view is correct. So the *in rebus* view is incorrect. Of course, the underlying error is to think that things are literally *in* propositions. As Frege says (in "The Thought"): "[W]e really talk figuratively when we transfer the relation of whole and part to thoughts".

Now much the same sort of argument carries over *mutatis mutandis* to *post rem* theories of propositions, according to which propositions are some sort of mind-dependent psychological entity. This leaves the *ante rem* theory.[8]

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[6]On an extensional–complex theory, (iii) might be represented thus:

$(\forall x)\Box(\forall y)\ (\exists_{\text{actual}} v) v = \langle x, \text{'identity'}, y\rangle$.

But, necessarily, a set is actual only if its elements are actual. So (iii) would imply:

$\Box(\forall y)\ y$ is actual.

I.e., necessarily, everything (including everything that might have existed) is among the things that actually exist. The same implausible consequence we are deriving in the text in a more general setting.

[7]Notice that the above argument is entirely consistent with actualism: I am not supposing that there are things which are not actual; I am only supposing that it is *possible* that there should have existed things which are not among the things that actually exist. Nowhere in the argument am I committed to the existence of nonactual possibilia, for the relevant quantifiers always occur within *intensional* contexts, viz., 'it is possible that', 'necessarily', etc. As such, these quantifiers have *no* range of values. E.g., that it is possible that there should have been more planets than there actually are does not entail that there are possible planets.

[8]The above transmodal considerations allow us to reach an even stronger conclusion: necessarily, if a proposition could exist, it actually exists; furthermore, every actual proposition exists necessarily. The argument goes as follows. Suppose that (ii) is true iff (iii) is true. Recall that either (ii) or (iii) or both must be true. Since one must true, both are true. But (iii) tells us that the relevant transmodal propositions are already actual, and (ii) tells us that they exist necessarily. If this holds for propositions of the sort relevant to (ii) and (iii), uniformity supports the conclusion that it holds for all propositions.

As for reductionism, most reductionist theories of propositions are either *in rebus* or *post rem* theories —for example, those which identify propositions with linguistic entities (in a natural language or a "language-of-thought") or with mental entities (mind-dependent conceptual entities) or with entities constructed from linguistic and/or mental entities. So the foregoing argument leads to the conclusion that those reductionistic theories of propositions fail. (The foregoing does not count against the possible-worlds reduction of propositions, for possible-worlds reductionists may hold that the variables 'x' and 'y' in the argument range over possibilia. Although I believe that there are convincing objections to this sort of reduction, I do not have the space to give them here. But as far as the issue of modal status of propositions is concerned, possibilism leads to a view is similar to our actualist *ante rem* view. For according to possibilism, possible worlds and, in turn, propositions have a kind of prior existence resembling that asserted by the actualist *ante rem* view.)

Now, as I have said, propositions and concepts intuitively belong to the same general ontological type. So, absent an argument to the contrary, we are led to the conclusion that concepts, too, are *ante rem* entities. This conclusion is supported further by a theoretical consideration which emerges in the next section. According to the approach taken there, even though propositions are irreducible entities, they nevertheless have logical analyses. In those analyses, concepts play the role of *predicate entities.* Since these analyses give the *essence* of the propositions, concepts ought to have the same modal status as propositions.

So it remains to establish the supposition: (ii) is true iff (iii) is true. Here is the argument. First we show (iii) implies that, for all x, it is necessary that, for each y that is not now actual, the proposition that $x = y$ is already actual. If in our actual situation such transmodal propositions already exist, it would be odd in the extreme if in other possible situations analogous transmodal propositions did not exist as well. But (ii) implies that each contingent object x is such that, in every possible situation in which x does not exist, it is nevertheless the case that, for all y, the transmodal proposition that $x = y$ exists in that situation. But if this holds, (ii) would hold in its full generality: for any x (contingent or necessary), it is necessary that, for all y, the proposition that $x = y$ exists. The conclusion is that, if (iii) is true, it would be odd in the extreme if (ii) were not true as well. Analogous considerations show that the converse implication holds as well: that is, if (ii) is true, so is (iii). Note that this argument is given in the setting of actualism.

Although possibilists might not agree with the conclusion, they would accept something similar, for they grant to propositions a kind of prior existence.

2 The Nonreductionist Approach to Concepts and Propositions

Consider some truisms. The proposition that A & B is a conjunction of the proposition that A and the proposition that B. The proposition that not A is a negation of the proposition that A. The proposition that Fx is a predication of the concept of being F of x. The proposition that there exists an F is an existential generalization on the concept of being F. The proposition that everything is F is a universal generalization on the concept of being F. And so on. These truisms tell us what these propositions are essentially: they are by nature conjunctions, negations, predications, existential generalizations, universal generalizations, etc. These are rudimental facts which require no further explanation and for which no further explanation is possible.

It turns out that this nonreductionist point of view can be developed systematically by adapting algebraic logic to an intensional setting. To do this, one assumes that examples can serve to isolate fundamental logical operations —conjunction, negation, singular predication, existential generalization, and so forth— and one takes concepts and propositions as *sui generis ante rem* entities. The primary aim is then to analyze their behavior with respect to these fundamental logical operations. This may be done by studying what I call *intensional algebras*.[9] Within this setting, propositions have *logical analyses* (in terms of the inverses of the logical operations). On the picture that emerges, concepts may be defined as those noncontingent entities which play the role of predicate entities in the logical analysis of predicative and general fine-grained propositions.[10]

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[9]This method was presented in "Theories of Properties, Relations, and Propositions" (1979), *Quality and Concept* (1982), and "Completeness in the Theory of Properties, Relations, and Propositions" (1983). Special issues of hyper-fine-grainedness are dealt with in "A Solution to Frege's Puzzle" (1993) and "Propositions" (1997). The main ideas of the nonreductionist algebraic approach were developed in my dissertation *A Theory of Qualities*, University of California at Berkeley, 1973.

[10]Can properties also play this role? The characterization in the text supposes that they cannot. Some philosophers, however, believe they can. On certain versions of their view, the characterization in the text would need to be refined. On one such version, for example, concepts are always distinct from properties even though properties can play the role indicated in the text. On this view, the characterization in the text should be modified thus: from the logical point of view, what distinguishes concepts from properties is that, whereas properties can

The algebraic approach can be extended to a more complex setting in which concepts and propositions, on the one hand, and properties, relations, and states of affairs (or conditions), on the other hand, are treated concurrently. In such a setting, moreover, a relation of correspondence between the two types of entities can be characterized in terms of the fundamental logical operations.[11] Concepts and propositions function as bearers of truth, logical truth, necessity, etc. and also as cognitive and linguistic contents. Properties, relations, and states of affairs (or conditions) play a fundamental constitutive role in the structure of the world.

Some philosophers (for example, Jerry Fodor and Robert Stalnaker) believe that, when theorizing about propositions, one is forced to make a hard choice between sentence–like hyper–fine–grained propositions, on the one hand, and bead–like hyper–coarse–grained propositions, on the other hand. This is a false dilemma, which is evidently engendered by the debate between those who would reduce propositions to functions on (or sets of) possible worlds and those who would use hypothetical languages–of–thought as the guide to propositional identity. No such choice must made. The right view is that there can be a whole spectrum of types of propositions, ranging from hyper–coarse–grained to hyper–fine–grained.[12] The algebraic approach was designed to be able to capture this sort of spectrum, that is, to be able to deal concurrently with such a spectrum of diverse granularities. These different granularities would be suited to various different roles they might play in logical theory, metaphysics, and psychological theory. In psychological theory, for example, hyper–coarse–grainedness might be relevant when belief acquisition and revision are treated as just (probabilistic) information flow; hyper–fine–grainedness might be relevant when belief acquisition and revision are treated as proof–like.

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play a predicative role in the analysis of both propositions and states of affairs, concepts play such a role only in the analysis of propositions.

I should also note that there is a view on which certain concepts are no different from their corresponding properties. On this view, for example, simple concepts (i.e., those which have no logical form) are like this; e.g., in the case of a particular phenomenal shade, there is no difference between the concept and the property. The thing is presented directly to the mind under no aspect. If this view were correct, the characterization in the text would still be right but should be taken in this light.

[11]This two–tier picture was the picture developed in *Quality and Concept*.

[12]Propositions of an intermediate granularity, for example, would include those which, while sensitive to individual contents, are insensitive to various distinctions of form in the associated 'that'–clauses as long as those 'that'–clauses always yield necessarily equivalent outputs for the same content inputs.

Against this background we can characterize the notion of the *conceptual content* of a proposition:[13] If x belongs to every analysis of z (under the inverses of the logical operations whose values are of the same granularity as z), then x belongs to the conceptual content of z; and if x belongs to the conceptual content of y and y belongs to the conceptual content of z, then x belongs to the conceptual content of x.[14]

Everything I will say about concept possession is consistent with the view that there is a spectrum of diverse granularities. For heuristic purposes, however, let us adopt the assumption that there is only one type of proposition, namely, hyper-fine-grained propositions —or that there are only two types of proposition, namely, hyper-fine-grained propositions and hyper-coarse-grained propositions. Doing so will simplify our discussion at certain places.

3 The Propositional Attitudes

I come now to the propositional attitudes. Again, I will assume a traditional realism. First, with respect to the question of what propositional-attitude states *are*, I will assume the classical analysis: a subject is in the state of believing that P iff the subject stands in the relation of believing to the proposition that P; likewise, for other propositional-attitude states (states of desiring, remembering, etc.). This classical analysis of course doubles as an analysis of mental content: a mental state has the proposition that P as its content iff it consists of a subject standing in a propositional-attitude relation to the proposition that P.

How does this traditional realism bear on the analysis of concept possession? Although I personally adopt a nonreductionism about the attitudes,[15] my positive analysis of concept possession does not

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[13]This notion of conceptual content is the natural generalization of the notion of the "intension" —or "comprehension"— of a concept, which was prominent in traditional logic. See my "Intensional Entities" (1998).

[14]Unlike hyper-fine-grained propositions, hyper-coarse-grained propositions can be analyzed infinitely many different ways (under the inverses of the relevant logical operations, i.e., the logical operations whose values are hyper-coarse-grained intensions). For every concept which appears in one of these analyses, there is always another analysis in which the concept does not appear. That is, no concept appears in every logical analysis of the proposition. This leads to the view that hyper-coarse-grained propositions do not have any specific conceptual content; from that point of view they are just "marbles" from which no specific conceptual content can be recovered.

[15]See "Mental Properties" (1994) and "Self-Consciousness" (1997).

presuppose this position. Nearly everything I have to say should be consistent with reductionism. What is crucial is this. Whether or not one accepts the nonreductionist point of view, one should feel free to adopt the traditional realist framework I have been sketching —specifically, realism about the modalities, concepts, propositions, and the standard propositional-attitude relations (believing, remembering, etc.). In the case of the most important kind of concept possession —what I will call *determinate concept possession*, or in common parlance, *understanding a concept*— analyses which do not take the attitudes as starting points (whether or not reducible) are doomed in my opinion. In this connection, the propositional attitude that will be most central to our analysis will be *intuiting*. (See below.) A related point is that, in an analysis of concept possession, one should feel free to admit other psychological notions such as those pertaining to the quality of the cognitive conditions —intelligence, attentiveness, memory, constancy, and so forth. Again, there will be nothing circular about this, and failure to admit them all but ensures that the analysis will fail. Remember that our goal will be to give a conceptual clarification of what it is to possess concepts in the various ways we do, not to give an ontological reduction of concept possession. In this connection, I will adopt a further thesis about the propositional-attitude relations, namely, that they are "natural" (*vs.* "Cambridge") relations.[16] Given the acceptability of this thesis, it should also be acceptable to take as a starting point an analogous thesis concerning the various ways in which we standardly possess concepts, namely, that they are "natural" modes of possession (*vs.* "Cambridge" modes). I will adopt this thesis as well. Given it, we may think of our project as follows: to locate, within the space of "natural" modes, various prominent ways in which we standardly possess concepts.

Incidentally, if reductionism fails (as I personally believe it does), adopting the proposed realist framework does not mean abandoning naturalism. After all, naturalism is not primarily a doctrine about reduction but rather *explanation* —that all occurrences[17] have explanations wholly within nature, that all causes are natural causes. There is no violation of naturalism if, in one's analysis of the various kinds of concept possession, one takes the modalities, concepts,

[16] I defend this thesis in "Self-consciousness". The distinction between "natural" and "Cambridge" properties and relations is defended at length in *Quality and Concept*.

[17] This might need to be qualified for the following reason: individual quantum occurrences might have no explanation, but presumably this would not refute naturalism.

propositions, the attitudes and other psychological notions as starting points, accepting that they may well be irreducible. For it is entirely consistent with naturalism to view mental occurrences as belonging to nature, as being real causes and effects in nature even if mental properties and relations are not reducible. On a related note, many philosophers think that, if reductionism fails, understanding concepts must amount to some kind of mystical "grasping". This is not so. Indeed, if (something like) my analysis proves successful, it will actually show by example that understanding concepts is not mystical at all.

4 Intuition

Our final preliminary point concerns intuition. It is uncontroversial to say that intuitions are frequently invoked in our standard justificatory practices. What do we mean by intuitions in this context? 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 *seems* true. Of course, this kind of seeming is *intellectual*, not sensory or introspective (or imaginative).

Intuition must 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).[18] 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

[18] 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.

measured them). In each case, the seeming (intellectual or sensory) persists in spite of the countervailing belief.

Similar phenomenological considerations make it clear that intuitions are likewise distinct from judgments, guesses, hunches, and common sense. The final starting point I will adopt is the thesis that, like sensory seeming, intellectual seeming (intuition) is just one more *sui generis* propositional attitude. Incidentally, it is worth noting that the existence of the logical and semantical paradoxes shows that the classical modern infallibilist theory of intuition is incorrect. We shall be mindful of this fact in what follows.

Part II. Concept Possession

There are at least two different but related senses in which a subject can be said to possess (or have) 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.[19]

Possessing a concept in this nominal sense is compatible with what Tyler Burge calls misunderstanding and incomplete understanding of the concept. For example, in Burge's arthritis case, the subject misunderstands the concept of arthritis, 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 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 —"don't knows"— in the subject's understanding of the concept.) Possessing a concept in the nominal sense is also compatible with having propositional attitudes merely by virtue of

[19]If you question whether there really is this weak, nominal sense of possessing a concept, you may treat this as a stipulative definition of a technical term. Doing so makes no difference to my larger project. Incidentally, in the simplified setting in which all propositions are hyper-fine-grained we would have the following: 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.

attributions on the part of third-person 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. And we do so without thereby committing ourselves to there being a causally efficacious psychological state having the attributed content which plays a role in "methodological solipsistic" psychological explanation. Our standard attribution practices, nonetheless, would have us deem such attributions to be correct. 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 would at least agree that we 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 weak such way.

In ordinary language, when we speak of "understanding a concept", what we 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.[20] It will also be convenient

[20]It is not essential to our inquiry that the ordinary-language idiom fit exactly the informally characterized notion of possessing a concept in the full sense. If it does not, my eventual proposal should be viewed an analysis of the informally characterized notion. There is a long tradition of isolating a theoretically important notion informally by means examples and then turning to the theoretical project of giving a positive general analysis of it. Indeed, there is a tradition of doing this even when there is no ordinary-language idiom which exactly fits the notion in question. We see this kind of project in Aristotle in connection with the notions of substance, eudaimonia, etc.; in St. Augustine and Russell in connection with the notion of acquaintance; in Kripke in connection with his notion of epistemic possibility; and so forth. If need be, my project should be viewed in the same way. Having made this qualification, however, I will assume

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).

Now just as a person can be said to understand a concept (that is, to possess it in the full sense, i.e., possess it determinately), a person can be said to misunderstand a concept and can be said 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. For example, the person in Burge's arthritis case, not only misunderstands the concept of arthritis, but also misunderstands the proposition that he has arthritis in his thigh. Likewise, the person in Burge's contract example, not only understands incompletely the concept of a contract, but also understands incompletely the proposition that he has entered into a contract. And so forth. This suggests the following necessary condition: a subject *understands a proposition* only if the subject understands the concepts belonging to its conceptual content. And a sufficient condition: a subject *understands a proposition* if the subject knows a logical analysis of the proposition and understands the concepts appearing in that analysis. A jointly necessary and sufficient condition is much harder to come by. Now just as a subject can understand a proposition, a subject can misunderstand it, understand it incompletely, and so forth. As a terminological convenience, we will extend our earlier use of 'determinate' to the case of propositions. In this connection, we will allow associated adverbial forms. Accordingly, we will say that a subject understands a proposition determinately iff the subject does indeed understand the proposition; and we will say that a subject understands a proposition indeterminately iff the subject misunderstands it, understands it incompletely, or understands it just by virtue of satisfying our attribution practices or in some other weak such way.[21]

I have characterized determinate possession characterized informally —negatively and by means of examples. And we seem to have a fairly well established ordinary–language idiom for this notion. We readily see what it, and it seems clear that it is important theoret-

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that the ordinary–language idiom does fit the notion of possessing a concept in the full sense, and I will proceed to use this idiom whenever convenient.

[21]Note that we will make an analogous use of the adverbials 'determinately' and 'indeterminately' in connection with the understanding of concepts: a subject understands a concept determinately iff the subject does indeed understand the concept; and a subject understands a concept indeterminately iff the subject misunderstands it, understands it incompletely, or understands it just by virtue of satisfying our attribution practices or in some other weak such way.

ically. It is therefore a legitimate philosophical project to try to give a positive general analysis of this notion. Indeed, it cries out for one. But there is no satisfactory general positive analysis in the philosophical (or psychological) literature. There are attempts to characterize what is, in effect, determinate possession of a particular concept (e.g., conjunction) or families of concepts (e.g., concepts of midsized perceptible physical natural kinds). We see such efforts in the work of Christopher Peacocke and Jerry Fodor, for example. But setting aside the question of whether such analyses are satisfactory as far as they go (I do not think that they are), we can see that they do not promise *generality*. What in general is it for someone to possess an arbitrary concept determinately —to understand it? Evidently, no extant approach suggests an answer. In what follows I will attempt to give one, at least in outline.

5 Examples

The purpose of this section is to consider a series of examples which serve to isolate some ideas which will play a role in the eventual analysis. To begin with, however, it is helpful to ask what general factors might be relevant to possessing concepts determinately. (1) Some theories feature the *functional* or *conceptual role* of the concept. On the usual versions, a person's concepts are uniquely fixed (or even implicitly defined) by the pattern they display in the beliefs which the person has or would have. (2) Some theories feature *causal* relations to relevant objects in the subject's immediate environment or in the environment of the subject's biological ancestors. (3) Other theories feature social or socio–linguistic relations; for example, the role the concept (or linguistic expression of the concept) plays in the beliefs (belief dispositions) and/or speech (speech dispositions) of the subject's whole community. (4) Other theories feature the naturalness (or salience) of the concept —either the inherent naturalness (salience) or its naturalness relative to the relevant environment or community. Each of these factors is relevant to a finished analysis. What I want to do now is to examine some examples in which a certain kind of conceptual role is prominent. One of the many ways in which this sort of conceptual role differs from that which is usually discussed is that it focuses on *intuitions* as opposed to beliefs. This difference will play a significant role in our eventual analysis.

The Platonist logician. This example is designed so that neither features of other people nor of the larger social, linguistic context are relevant. Nor are features of the environment. Nor are features such as salience, naturalness, metaphysical basicness.[22] Consider a Platonist logician whose practice is to jot down notes in a journal in the notation of the first-order predicate calculus. Through use, this man introduces a property–abstraction operator: if $\ulcorner Ax \urcorner$ is a formula with one free variable, $\ulcorner x(Ax) \urcorner$ is a singular term which denotes the property of being an x such that A. At no time, however, does he enrich his notation with an operation of propositional–abstraction, i.e., an operation that when applied to a sentence yields a singular term which denotes the proposition expressed by the sentence. Now, through use, our logician begins to write expressions of the form $\ulcorner [x(Ax)] \urcorner$. His patterns of use indicate that $\ulcorner [x(Ax)] \urcorner$ is a sentence, and his inferential patterns show that it is necessarily equivalent to the existential proposition that there exists an x such that Ax —and so, of course, that it is necessrily equivalent to the singular predicative proposition that the property of being an x such that A is manifest. But his uses do not settle what proposition $\ulcorner [x(Ax)] \urcorner$ expresses. Let us suppose that things are narrowed down to are two candidates: on the one hand, $\ulcorner [x(Ax)] \urcorner$ might be an existential generalization. Accordingly, $\ulcorner [x(\ )] \urcorner$ would be an existential quantifier —equivalent to $\ulcorner \exists x(\ ) \urcorner$— which when applied to a formula $\ulcorner Ax \urcorner$ yields a sentence $\ulcorner [x(Ax)] \urcorner$, and, like $\ulcorner [\exists x(Ax)] \urcorner$, this sentence would express the proposition that there exists an x such that Ax. On the other hand, '[ ]' might function as a kind of predicative device. When applied to the property abstract $\ulcorner x(Ax) \urcorner$, '[ ]' yields a sentence $\ulcorner [x(Ax)] \urcorner$ which is a singular predication, not an existential generalization; accordingly, $\ulcorner [x(Ax)] \urcorner$ would express the proposition that the property of being A is manifested. Although this proposition is necessarily equivalent to the proposition that there exists an x such that Ax, they are not identical. Suppose that the person determinately understands the proposition that $[x(Ax)]$ and that this proposition is one of the two candidates just characterized. Now suppose the person were to consider the question of whether the proposition

[22] I expressly chose an example in which, at least in the context, the options were equally salient, equally natural, equally basic, equally useful, etc. The person already has available a notation for existential generalization $\ulcorner [\exists x(Ax)] \urcorner$, but it would not be unnatural to have a notational variant of it. At the same time, the person already has a notation for property abstraction, and it would be natural to have a notation for predicating a certain salient property which some of these properties have —namely, being manifested. I also chose this example so that I would avoid the debate over the possibility of "alternate conceptual schemes": the "conceptual scheme" associated with the envisaged notation is the same as ours; in the example, the "alternatives" are natural choices each of which is already available within our own conceptual scheme.

that $[x(Ax)]$ is an existential generalization; or whether the proposition that $[x(Ax)]$ is a singular predication; or whether $\ulcorner[x(Ax)]\urcorner$ means that $\exists x(Ax)$; or whether $\ulcorner[x(Ax)]\urcorner$ means that the property of being A is manifested. Suppose that the person determinately understands all the test questions. Suppose that all the person's cognitive conditions (intelligence, attentiveness, memory, constancy, etc.) are wholly normal. Then, the person would intuit that the proposition that $[x(Ax)]$ is an existential generalization if and only if it is *true* that it is an existential generalization. Likewise, the person would intuit that the proposition that $[x(Ax)]$ is a singular predication if and only if it is *true* that it is a singular predication. And so forth. That is, the person's intuitions would be truth–tracking *vis–à–vis* such questions.

The cognitively and conceptually fit tribe. Consider a social variant on the above example, a tribe of beings whose (sole) language is syntactically just like the notation of our Platonist logician —that is, the first–order predicate calculus supplemented with property abstracts $\ulcorner x(A)\urcorner$ and sentences of the form $\ulcorner[x(Ax)]\urcorner$. As in the earlier example, a sentence of this form expresses the proposition that there exists an x such that A, or it expresses the proposition that the property of being A is manifested. Let us agree that just which proposition is expressed is a definite fact, and suppose that everyone in the tribe determinately understands this proposition. Suppose that in all relevant respects the tribe members are in cognitive conditions at least as good as the Platonist logician's. Suppose that they determinately understand all the test questions and that they consider the test questions attentively. Then, just as in the case of the logician, their intuitions would track the truth *vis–à–vis* these questions. That is, they would intuit that the proposition that $[x(Ax)]$ is an existential generalization if and only if it is *true* that it is an existential generalization. And so forth.

The conceptually deficient tribe. Suppose that we vary the example slightly. Suppose the cognitive conditions of the tribe (intelligence, attentiveness, memory, constancy, etc.) are as good as before. But suppose that the tribe members presently lack the conceptual resources to pose the indicated test questions. Whether the proposition that $[x(Ax)]$ is an existential proposition, or alternatively a predicative proposition, is nonetheless a definite objective fact. This is not the sort of distinction over which a language would be indeterminate; its semantic force is built into the elementary syntactic structure of the language. Suppose now that the tribe members eventually come to possess the relevant test concepts determinately (e.g., the concept of being an existential proposition, the concept of being a singular predicative proposition, etc.). Then, as in the previous example, the tribe members would have truth–tracking intuitions *vis-à-vis* the test questions, supposing that the quality of their cognitive cognitions remain consistently high and that throughout they continue to understand determinately the proposition that $[x(Ax)]$ and all the various test concepts.

The cognitively and conceptually deficient tribe. Let us modify the example slightly. Suppose that everything is as before except that this time the tribe members are cognitively limited: they are unable to acquire the test concepts, or if they do, they are unable to consider the specific test questions. When appropriate efforts are made to impart the concepts or to get them to entertain the test questions, they simply fall asleep. It turns out, however, that there are ways to improve their cognitive conditions (drugs, neurosurgery, or whatever). Suppose that this is done and that their cognitive conditions become exactly as good as those of the cognitively fit tribe. Suppose that they thereafter come to possess the test concepts determinately. Throughout the process they understand the proposition $[x(Ax)]$ determinately. Accordingly, they are able to understand the test questions determinately. Suppose, finally, that they consider the test questions. Then, just as in the previous case, they would have truth–tracking intuitions *vis-à-vis* these questions.

Nomologically necessary deficiencies. Let us modify the example one last time. Suppose that everything is as before except that the tribe members are irreversibly cognitively limited: it is not nomologically possible for the tribe members to consider any of the relevant test questions. It is nomologically necessary that, whenever modifications occur (e.g., drugs, neurosurgery, "brain meld", "body transfer", etc.) which might enable them to get into the relevant states, they slip into irreversible coma and die. Moreover, this limitation holds as a matter of nomological necessity for any (contingent) being inhabiting the world under consideration. Still, the semantic force —existential or predicative— of sentences of the form $\ulcorner[x(Ax)]\urcorner$ could be a definite objective fact for the tribe's language; as before, the semantic force of these sentences is built into the very syntax of the language. And the tribe members determinately understand what is meant when they write $\ulcorner[x(Ax)]\urcorner$.[23] Consistent with

[23]Some people believe that there must be a difference in the "hidden "syntactic processing" which would signal whether the proposition $[x(Ax)]$ is an existential generalization or, instead, a singular predication. That is, when the tribe members think this proposition, perhaps there must be an associated tokening of Mentalese sentences in their Thinking Boxes, where the "hidden syntactic forma-

all of this, however, there is another metaphysical possibility: the tribe —or some tribe whose epistemic situation is qualitatively identical to that of the tribe— could thereupon be in improved cognitive conditions without there being any shift in the qualitative character of their epistemic situation. In particular, this improvement could happen without there being any (immediate) shift in the way they understand any of their concepts or the propositions involving them. In this situation, there would then be no barrier to the tribe coming to understand and to consider the test questions determinately. Intuitively, all this could happen. And, intuitively, if it did , just as in the foregoing examples, the tribe members would have truth-tracking intuitions *vis-à-vis* regarding these questions.

We have been considering a tribe for whom certain improved cognitive conditions are metaphysically possible even though they are not nomologically possible. For this particular example, we can be sure that the envisaged cognitive conditions are metaphysically possible, for *we* are beings in such cognitive conditions. However, this is only an artifact of the example. When we generalize on the above set-up, facts about actual human beings drop out. Thinking otherwise would be a preposterous form of anthropocentrism.

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. (Remember: these intuitions need not be in the original tribe; they may be in population of beings whose epistemic situation is qualitatively identical to that of the original tribe.) This leads to the thought that determinate concept possession might be explicated (at least in part) in terms of the metaphysical possibility of truth-tracking intuitions in appropriately good cognitive conditions. The idea is that determinateness is that mode of possession which constitutes the categorical base of this possibility. When a subject's mode of concept possession shifts to determinateness there is an associated shift in the possible intuitions accessible to the subject. 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 knows". The quality improves because incorrect understanding is replaced with correct understanding.

Before we proceed, a cautionary remark is in order. Our goal is to give an analysis of determinate possession. Our eventual analysis

tion history" of this token somehow reveals whether the sentence is existential or predicative and, in turn, whether the proposition is existential or predicative. But it is easy to construct counterexamples to this general proposal.

will be compatible with the idea that determinateness might come in degrees, achieved to a greater or lesser extent. What the analysis is aimed 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.

6 Working Toward an Analysis

Al though we have isolated an idea on which we might base an analysis, we are still a great distance from having a finished proposal. The following are some of the problems we must first overcome: circularity, reliance on subjunctives (counterfactuals), possible absence of elementary cases, possible absence of decisive cases, radical holism, environmentalism, anti-individualism (including reliance on experts), the role of naturalness and salience, etc. In this section, I will propose a progression of analyses, each beset with a problem which its successor is designed to overcome —converging, one hopes, on a successful analysis.

Before I begin, a general remark about strategy is in order. I believe that the problems facing a general analysis of determinate concept possession are so difficult that any attempt to overcome them piecemeal (as some philosophers have tried to do) is beyond us. What are needed at least in some cases are philosophically neutral analytical devices which, when inserted into the analysis in the right ways, automatically provide the benefit of solutions without our actually having to produce the solutions explicitly. If we did not adopt this strategy, I believe that the analysis of concept possession would simply be too difficult at the current stage of our intellectual history.

a. Subjunctive analyses. I will begin with a final example. This time it will be a real-life example featuring the concept of being a polygon. Suppose x's possession of the concept of being a polygon is determinate in all respects expect perhaps those regarding whether or not triangles and rectangles are polygons. Suppose that *either* the property of being a polygon = the property of being a closed plane figure, *or* the property of being a polygon = the property of being a closed plane figure with five or more sides. Suppose x determinately possesses all relevant test concepts (the concept of being a triangle, the concept of being a rectangle, etc.). Suppose x is considering the test question of whether it is possible for a triangle or a rectangle to be a polygon.. Suppose x's cognitive conditions (intelligence, attentiveness, etc.) are entirely normal. Then, on analogy with our earlier considerations, we are led to the following:

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

In turn, this suggests the following:

> x determinately possesses the concept of being a polygon iff:
>
> > x would have intuitions which *imply* that the property of being a polygon = the property of being a closed plane figure iff it is *true* that the property of being a polygon = the property of being a closed plane figure.
>
> x determinately possesses the concept of being a polygon iff:
>
> > x would have intuitions which *imply* that the property of being a polygon ? the property of being a closed plane figure iff it is *true* that the property of being a polygon ? the property of being a closed plane figure.
>
> x determinately possesses the concept of being a polygon iff:
>
> > x would have intuitions which *imply* that the property of being a polygon = the property of being a closed plane figure with five or more sides iff it is *true* that the property of being a polygon = the property of being a closed plane figure with five or more sides.
>
> x determinately possesses the concept of being a polygon iff:
>
> > x would have intuitions which *imply* that the property of being a polygon ? the property of being a closed plane figure with five or more sides iff it is *true* that the property of being a polygon ? the property of being a closed plane figure with five or more sides.

These are all alike except that the right–hand sides run through the positive and negative forms of each of the relevant test property–identities.

In a context where we already know that x possess the target concept determinately in all respects except perhaps those which would decide these test property–identities and nonidentities, each is equally good; any one of them suffices. Suppose, however, that we remove the background supposition that x determinately possesses the target concept in all respects except perhaps those which would decide just these property–identities and nonidentities. We would then want to generalize on the above pattern. The natural generalization the following:

> x determinately possesses the concept of being f iff, for arbitrary test property–identities $p(f)$:
>
> > x would have intuitions which imply $\pm p(f)$ iff $\pm p(f)$ is true.

Here '$p(f)$' is a "complex variable" intended to range over arbitrary property–identity propositions of following sort: the proposition that the property of being f = the property of being A. And '$\pm p(f)$' has two functions —first, to pick out the positive form of $p(f)$ and, then, to pick out the negative form. Accordingly, the formula 'x would have intuitions which imply $\pm p(f)$ iff $\pm p(f)$ is true' should be read as follows: x would have intuitions which imply $p(f)$ iff $p(f)$ is true, and x would have intuitions which imply $\neg p(f)$ iff $\neg p(f)$ is true'.[24]

Suppose that we transform this proposal 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,
> $\pm p$ is true iff x would have intuitions which imply $\pm p$.

[24]Thus, x determinately possesses the concept of being f iff, for every test proposition to the effect that the property of being f = the property of being A, x would have intuitions which imply this proposition iff this proposition is true, and x would have intuitions which imply the negation of this proposition iff the negation of this proposition is true.

In a fully finished presentation '$\pm p$' should be replaced with '$\overset{+}{\underset{0}{-}}p$'. The effect of '0' is to allow for the prospect that p might fail to be truth–evaluable. In the framework of realism about propositions, concepts, and properties, this prospect might seem odd. But we should not dismiss the prospect of non–truth–evaluability in connection with certain kinds of vagueness (e.g., boundary questions concerning color concepts). When we allow for this, contraposition and the importation and exportation of negation do not behave classically. With these prospects in the offing, I will not in this paper attempt any simplifications in the clauses containing '$\pm p$'.

This, by the way, indicates how in general I want to deal with vagueness here: x's intuitions (suitably processed) should track the "contour of vagueness" as long as there is a definite fact of the matter at some order and as long as x's understanding is determinate.

Notice that in this formulation we have shifted focus to determinate understanding of *propositions.* Determinate understanding of concepts will follow along automatically. I will return to that point at the close.

The purpose of transforming the analysis is tied to the problem of radical holism and the worry that an analysis of determinate understanding of a given concept might wrongly require determinate understanding of all concepts. To avoid this trap, we do not try to say directly what it takes to possess determinately a given concept f. Rather, we try to isolate a general feature of determinateness, namely, how it behaves with respect to arbitrary test property–identities. The proposal tells us that determinateness is that mode m of understanding that has a certain kind of truth–tracking stability *vis-à-vis* arbitrary m–understood test property–identities p. The idea is that it should be possible for a person to use intuitions to evaluate these test propositions in a truth–tracking fashion as long as the person continues to understand the test propositions m–ly (i.e., determinately). If too much misunderstanding or too much incomplete understanding of background concepts were to arise, however, that fact would flip the person out of his m–understanding (i.e., determinate understanding) of the test propositions. Thereupon, the truth–tracking character of the intuitions *vis-à-vis* the test propositions would lapse. How much is too much misunderstanding? How much is too much incomplete understanding? Radical holism threatens at this point because we do not know of a principled way to draw the line expressly and perhaps we never will. The proposed formulation —in terms of modes m— does the job automatically without our having to draw the line expressly. After all, given the truth of realism, there is a fact of the matter: too much misunderstanding of background concepts and/or too much incomplete understanding of background concepts —*whatever that amount turns to be* (we do not need to know)— would force x's understanding of p out of mode m. By quantifying over modes m of understanding we are able, without circularity, to invoke such facts of the matter in the analysis. And we can do so without invoking the analytic/synthetic distinction.[25] This is the first of our automatic labor–saving devices.

b. A priori stability. There is, however, an obvious objection to this analysis, namely, that it relies unacceptably on the subjunctive 'would'. The problems that result resemble those which often arise when one uses counterfactuals in a philosophical analysis. First, the

[25] I believe that the analytic/synthetic distinction would not, in any case, serve to draw the line in the right way. See my "Analyticity" (1998).

analysis directs us toward the intuitions x would have which *imply* an answer to p. What intuitions are these? Well, they are intuitions which x would have in response to specific question he might put to himself. But exactly what questions are those? The analysis is silent about this. Second, x's cognitive conditions (intelligence, attentiveness, memory, constancy) will greatly affect the intuitions x would have (in response to the questions he puts to himself). Indeed, if the questions are difficult and the level of the cognitive conditions low relative to them, x's intuitions could be prone to error, or x just might have no intuitions at all regarding them. Third, the value of subjunctive statements can shift relative to "possible worlds". One reason is that the laws (e.g., psychological laws) can vary from "world" to "world". But we are venturing an analysis, something that should be "world-neutral". For all these reasons, our use of subjunctive is unsatisfactory.

The solution is to retreat to a certain ordinary modal notion free of subjunctives. I will call this modal notion "*a priori* stability". I represent it thus: $\diamond x \vdash_m \pm p$. Read $\diamond x \vdash_m \pm p$ as follows:

> it is possible for x (or a counterpart of x in a qualitatively equivalent epistemic situation[26] to go through an intuition–driven process in which x stably settles $\pm p$ understood m–ly.

When this purely modal notion is substituted for the offending subjunctive in the 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,
>
> $\pm p$ is true iff $\diamond x \vdash_m \pm p$.

The next step is to get clear about the notion of *a priori* stability.

The best way to understand this notion is to begin with an informal characterization of the indicated intuition–driven process. At every point in this process, x is to understand the test proposition

[26] More precisely, this notion of qualitative epistemic counterpart is to be understood anti–individualistically: x and y are qualitative epistemic counterparts iff, for some whole population C and some whole population C', there is a one–one map f from C onto C' such that, for all u in C, u and $f(u)$ are in qualitatively the same epistemic situation and $y = f(x)$. Thus, arthritis–guy and tharthritis–guy are not qualitative epistemic counterparts. But water–guy on earth and twater–guy on twin–earth are. It is understood here, and elsewhere, that the populations C and C' are to be entire populations, not local groups such as those supporting dialects.

p m-ly. At the outset of the process, x gathers intuitions regarding examples (actual and hypothetical) and *prima facie* plausible principles which seem to x to be relevant to whether p is true. Then, x seeks the best theoretical systematization of these intuitions. Next, x tests the resulting systematization —and its consequences ("theorems")— against further intuitions. The entire process is then repeated. Throughout, x seeks to expunge the potentially corrupting influence of *doxa*. At each stage (the best theoretical systematization of) x's previous intuitions might suggest new families of cases which might shed further light. In the course of this, x's intuitions might be "educated". It might also be that the acquisition of new concepts (recall the conceptually deficient tribe in our earlier example) would lead to significant new results. This kind of growth in x's conceptual repertory is to be pursued repeatedly.[27] At any given stage, x's best theoretical systematization of elicited intuitions might purport to settle, one way or the other, whether p is true.[28] At some later stage, however, the best theoretical systematization of x's intuitions might settle this question the other way. But, eventually, the process might stabilize on a single answer. That is, no matter how the process is continued after that —for example, no matter how x's conceptual repertory is enlarged and no matter what new cases are considered— the same answer is always reached. Suppose this kind of stability is reached.[29] Despite this initial stability, there might be another way to destabilize the answer. Suppose that throughout the process x's cognitive conditions (intelligence, attentiveness, memory, constancy, etc.) were of a certain quality. But surely it is at least metaphysically possible that x's cognitive conditions be better (recall the cognitively deficient tribe in our earlier example).[30] Conceivably, if x's cognitive conditions are better, however, the process does not

[27]Perhaps, as a nomological necessity, one's conceptual repertory cannot increase beyond a certain point. No matter, we are talking about metaphysical possibility. Moreover, it does not matter that it be the very same individual who carries on the process. Anyone would do as long as the person is a qualitative epistemic counterpart of x.

[28]Or it might deem the question to have no a definite answer; see note 24.

[29]It is not required that the theoretical systematization be a recursively specified (or specifiable) theory. It might instead be a body of beliefs such that the associated body of intuitions would serve to justify those beliefs.

[30]Perhaps, as a nomological necessity, one's cognitive conditions cannot increase beyond a certain level. No matter, we are talking about metaphysical possibility here. Moreover, it does not matter that it be the very same individual whose cognitive conditions improve. It could be anyone as long as that person is a qualitative epistemic counterpart of x.

stabilize, or if it does, it stabilizes on a different answer.[31] Even so, perhaps there is a still higher level of cognitive conditions such that, once that level is reached, the process always stabilizes, and it always stabilizes on the same answer. That is, no further improvement in the cognitive conditions produces an instability.[32] In this event, the indicated answer is *a priori stable.*[33]

Strictly speaking, the entire informal characterization of the intuition–driven process plays only a heuristic role. The strictly correct, and most neutral, way to characterize *a priori* stability is simply to quantify over the processes x might go through in an attempt to settle p using intuitions as the evidential base. At some level of cognitive conditions (which ensures x's rationality) and equipped with some appropriate conceptual repertory (which ensures that x is able to think of the right things to do —e.g., gather evidence, form theories, etc.), x will eventually do the right thing. For heuristic purposes, however, it will be helpful to continue to think in terms of the informal characterization.

With remarks in mind I offer the following definition:

$$x \vdash_m \pm p \text{ iff}_{\text{def}} (\exists l)(\exists c)(x\, l\, c \models_m \pm p \;\&\; \Box(\forall l' > l)(\forall c' > c)\; x\, l'\, c' \models_m \pm p).$$

Using the informal characterization, we would read the right–hand side as follows: for cognitive conditions of some level l and 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 (or p is not true) and all the while x understands p m–ly, and (2) necessarily, for cognitive conditions of any level l' greater than l and any conceptual

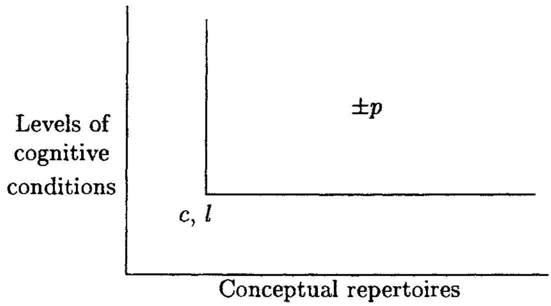
[31]An analogy will help. Maybe, to begin with, x has a mistaken intuition regarding the Barber Paradox: maybe has an intuition that there could be someone who shaves everyone who does not shave himself and who shaves no one else. But, if x's intelligence were to increase, x might be able to intuit straight off that such a barber is impossible.

[32]We do not take a stand on the question of the possibility of infinitary intelligence on the part of x (or counterparts of x). If this were possible, so be it. In that case, however, we would have to adjust our understanding of what would be the best theoretical systematization of x's intuitions. For example, it almost certainly would not be recursive. But it would presumably need to have various other standard theoretical virtues —consistency, explanatoriness, ontological economy, etc.

[33]For a sufficiently elementary test proposition p (e.g., red = red), *a priori* stability might be easy to achieve. We need not judge this question.

repertory c' which properly 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 affirms that p is true (or p is not true).[34]

A diagram can be helpful here.



The idea is that, after x achieves c, l, the theoretical systematizations of x's intuitions always yield the same verdict on p as long as p is m–understood throughout. That is, as long as p is m–understood, p always gets settled the same way throughout the region to the northeast of c, l.

Return now to the analysis:

> determinateness = the mode m of understanding such that, necessarily, for all x and property–identities p which x understands m–ly,
>
> $$\text{True } \pm p \text{ iff } \diamond x \vdash_m \pm p.$$

The biconditional divides into two parts:

$$\text{True } \pm p \rightarrow \diamond x \vdash_m \pm p$$

and

$$\text{True } \pm p \leftarrow \diamond x \vdash_m \pm p.$$

The former is a *completeness* property: for every m–understood property–identity p, if $\pm p$ is true, it is possible for x to settle with *a priori* stability that $\pm p$ is true, all the while understanding p m–ly.

[34]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 definitely greater than l.

The latter is a *correctness* (or soundness) property: if it is possible for x to settle with *a priori* stability that $\pm p$ is true, all the while understanding p m–ly, then $\pm p$ is true. The completeness property tells us about the potential *quantity* of x's intuitions, given that x m–understands p: it is possible for x to have enough intuitions to reach *a priori* stability regarding the question of p's truth, given that x m–understands p. And the correctness property tells us about the potential *quality* of x's intuitions, given that x m–understands p: it is possible for x to get into a situation such that from then on x's intuitions yield only the truth regarding p, given that x m–understands p. 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.

The notion of *a priori* stability is another example of the sort of automatic labor–saving device mentioned at the outset. Many property–identity questions are significant philosophical questions in their own right. On several approaches to the problem of concept possession, those questions must be answered *before* the analysis can be formulated. For this reason, these approaches put success out of our reach, perhaps indefinitely. By contrast, on our approach we include, in the analysis itself, quantification over those very intuition–driven processes whereby such questions might eventually be answered (if only by persons in cognitive conditions superior to ours). The idea is that, by speaking in a general way about *a priori* stable answers, we obtain the *benefit* of having answers without actually having to obtain the answers ourselves. Short of some such automatic labor–saving device, I am afraid that the analysis of determinate concept possession would have to await another era.

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 $\ulcorner A \urcorner$, all expressions of the form $\ulcorner$the property of being an x such that $A\urcorner$ denote properties no matter how *ad hoc* and irrelevant $\ulcorner A \urcorner$'s subclauses might be. On this view, for example, the following would be true if God exists:

(i) The property of being a tomato = the property of being a tomato and such that God exists.

And the following would be true if God does not exist:

(ii) The property of being a tomato = the property of being a tomato and such that God does not exist.

Thus, if both (1) and (2) hold and the above analysis contains no further qualification on test propositions *p*, the completeness clause in the analysis would require that it be possible to settle *a priori* whether God exists or not. Although there is a tradition supporting this possibility —namely, *a priori* existence proofs and *a priori* nonexistence proofs— such proofs are controversial, to say the least. Of course, if God does exist, the possibility of someone (i.e., God) settling the question *a priori* would be realized. In fact, God would presumably know this intuitively. But, if God does not exist, the question could well be open as far as *a priori* considerations are concerned. It is this prospect that is disturbing. Because of it, it is desirable to have a way to restrict the property–identities *p*. There are four cogent ways to do this. The first is to invoke a logical theory on which conditions (1) or (2) or both fail and on which (i) and (ii) can therefore be denied without taking a stand on God's existence. There are some interesting arguments supporting certain logical theories of this variety. The second way is to accept (1) and (2) but to adopt an enriched logical theory which is able to mark the distinction between property–identities which are *ad hoc* in the indicated way and those which are not. There are already at least two elegant examples of this sort of theory in the literature —Michael Dunn's application of relevance logic and Kit Fine's logic for the notion of essence.[35] The third way is to formulate an analysis, in terms already available to us, of the indicated notion of *ad hoc*–ness. After all, nearly every philosopher, at some point or other, has a need for marking a distinction quite like the one we need to solve the current problem. The fourth way is simply to take the indicated notion of *ad-hoc*–ness as primitive, at least provisionally. There would be no threat of circularity in doing so: this notion does not presuppose the notion of determinate understanding, which we are trying to analyze. Surely, one of these four ways is successful.

c. Accommodating scientific essentialism. There is, nonetheless, a serious problem with the completeness clause in the above analysis of determinateness —namely, scientific essentialism (SE). This is the doctrine that there are necessary truths that are essentially *a posteriori*. For example, the property of being water = the property of being H_2O. The argument consists of two steps. First, pro–SE intuitions supporting the property–identity are elicited. (In all known cases, these intuitions either are or can be reworked into twin–earth style intuitions.) Second, it is shown that there is a cer-

[35]Michael Dunn, "Relevant Predication 2: Intrinsic Properties and Internal Relations" (1990). Kit Fine, "Essence and Modality" (1994).

tain rephrasal strategy that can be used to deflate the force of our anti–SE intuitions but not our pro–SE intuitions and, in addition, that there is no rephrasal strategy which has the opposite effect. If both steps succeed (as I believe they do), we have a straightforward counterexample to the analysis.

Plainly, the completeness clause in the analysis goes too far. Something weaker is needed. To see what it is, let us begin informally. Consider the following truisms: two is a number; qualities are properties; a gram is a quantity; water is a stuff; etc. These truisms serve to identify the general categories of the relevant items. For the moment I will take the liberty of using the part/whole metaphor in connection with concepts. Let us separate the "parts" (i.e., entailments) of a concept into two classes —the categorial "parts" and the non–categorial "parts". These "parts" are just certain properties which are entailed by the property corresponding to the concept. For example, the property that corresponds to the *concept* of being water is the *property* of being water. The property of being water entails the property of being a stuff (i.e., necessarily, whatever has the former property has the latter). I will say that the latter property is a categorial "part" of the concept of being water. (I believe that there are many others.) Similarly, the property of being water entails the property of containing hydrogen. I will say that the latter property is a noncategorial "part" of the concept of being water. (Again, there are others.)

The fact that the property of being a stuff is a categorial "part" of the concept of being water is manifested in two ways (corresponding to the two steps in SE arguments). First, in a standard twin–earth set–up, the property of being water$_{\text{twin earth}}$ is the property on twin–earth which is the counterpart of the property of being water on earth. Like the latter, the former also entails the property of being a stuff. That is, necessarily, water$_{\text{twin earth}}$ is a stuff. Second, consider the proposition that water is a stuff. In the mental life of twin–earthlings, the proposition that water$_{\text{twin earth}}$ is a stuff is the counterpart of this proposition. Thus, the indicated categorial "part" of the concept of being water shows up in the thought of twin–earthlings in the same way it does in our thought. My view is that, when the notion of a categorial "part" of a concept is suitably defined, truths about the categorial "parts" of a concept are immune to scientific essentialism and, instead, are open to *a priori* discovery. By contrast, consider a noncategorial "part" of the concept of being water, say, the property of containing hydrogen. It is guaranteed to have none of these features. It certainly is subject to SE and off–limits to *a priori* discovery.

How does this bear on the analysis of determinateness? The idea is that the completeness clause should be weakened so that it does not require that it be possible to settle with *a priori* stability every m–understood property–identity p. Instead, the completeness clause should only require that it be possible to settle with *a priori* stability those property entailments which are categorial "parts" of the associated concepts.[36]

I believe that the appropriate notion of the categorial "parts" will have to be far more robust than the above simple examples indicate. (See below for the reasons.) You might disagree; you might even think that the notion should be less robust. How robust does it in fact need to be? Well, it must include everything that needs to be available to determinate possessors of the target concept. How much is that? We could try to spell out an answer by studying various families of representative cases and, then, looking for a generalization. But this path threatens to be another one of those huge philosophical projects which we cannot hope to finish in the foreseeable future. What is needed, therefore, is one of our automatic labor–saving devices that achieves the benefit of having the answer without our actually having to produce it. I know of two such devices that do the job. The one I will present here has the advantage of being readily applicable; that is, the resulting class of test propositions p will be immediately identifiable. So, when *we* are in the role of x, we will know what sort of thing would need to be done *vis–à–vis* trying to establish our own determinate understanding.[37]

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[36]One worry is that this proposal might have to presuppose the possibility of infinitary intelligence. This would be so if it turned out that there is no clear way to draw the line between those entailed properties over which a determinate possessor should have a possible *a priori* command and other entailed properties. Plausibly, this worry could be met in a way akin to the way the analogous problem is dealt with in the case of property identities. See the closing paragraph of the previous subsection.

[37]The second method (discussed in *Philosophical Limits of Science*) is to implement a notion which I call *modal stability*: a proposition p is modally stable iff, necessarily, for any proposition p' and any pair of populations C and C' whose epistemic situations are qualitatively identical, if p' in C' is the qualitative epistemic counterpart of p in C, then p and p' have the same modal value (necessary, impossible, contingent). The idea is to restrict the test propositions p in the analysis to modally stable propositions of the following sort: the property of being F entails the property of being A. It is required further that, associated with this sort of property–entailment proposition p, there must be a non–*ad–hoc* property–identity proposition q of the following sort: for some B, the property of being F = the property of being A & B. The intention is that q is to be the sort of non–*ad–hoc* test property–identity proposition discussed at the close of

The idea is to build the analysis so that the following holds for arbitrary test property–identities p. It should be possible that any determinate possessor be able to settle with *a priori* stability whether there is some property–identity p' which is an *epistemic counterpart* of p which is true (false, or neither) —whichever is in fact the case for p itself. For example, the following are epistemic counterparts: (1) the proposition that the property of being water = the property of being a stuff constituted of H_2O and (2) the proposition that the property of being $\text{water}_{\text{twin earth}}$ = the property of being a stuff constituted of $\text{H}_{\text{twin earth}}\, 2_{\text{twin earth}} \text{O}_{\text{twin earth}}$. Of course, this example deals with just one relevant property–identity p. Determinate possession requires the analogous possibility for every m–understood property–identity concerning the property of being water. Taken together, these possibilities serve to ensure the sort of command of the categorial "parts" of the target concepts that are necessary for possessing it determinately.

We thus arrive at the following revised analysis:

> determinateness = the mode m of understanding such that, necessarily, for all x and property–identities p m–understood by x,
>
> (a) True $\pm p \leftarrow \diamond x \vdash_m \pm p$
>
> (b) True $\pm p \rightarrow \diamond x \vdash_m (\exists p' \in CP(p))$ True $\pm p'$.

The restricted quantifier '$(\exists p' \in CP(p))$' is to be read as follows: for some p' which is a qualitative epistemic counterpart of p. And the notion of a qualitative epistemic counterpart is defined thus:

> p' is a qualitative epistemic counterpart of p iff_{def} it is possible that, for some population C, it is possible that, for some population C', C' is in qualitatively the same epistemic situation as C and p' in C' is the counterpart of p in C.

In symbols:

> $p' \in CP(p)$ iff_{def} $\diamond(\exists C) \diamond (\exists C')C'$ is in qualitatively the same epistemic situation as C and p' in C' is the counterpart of p in C.

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the previous section; if it is, p then inherits from q an associated non–*ad–hoc*–ness. In our metaphorical vocabulary, the property of being A plays the role of a test categorial "part" of the concept of being F, and the property of being B tags along either in the role of a noncategorial "part" or in the role of an additional categorial "part".

This revised analysis solves the problem associated with the categorial "parts" of our concepts.

Before proceeding, 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 proposition p' and any pair of populations C and C' whose epistemic situations are qualitatively identical, if p' in C' is the qualitative epistemic counterpart of p in C, then $p = p'$.[38] (There is of course an analogous notion of a *semantically stable concept*. 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".) Thus, if p is a semantically stable proposition, the qualified completeness clause (b) in the revised analysis entails the unqualified completeness clause (b) from the earlier analysis:

(b) True $\pm p \rightarrow \diamond x \vdash_m \pm p$ (for property–identity p).

This fact is significant philosophically. For most of the central propositions in the *a priori* disciplines —logic, mathematics, and philosophy— are semantically stable and, therefore, are immune to scientific essentialism. (This theme is explored further in the paper just mentioned and in *Philosophical Limits of Science.*)

Return now to the question, posed above, of how robust the categorial "parts" of our concepts must be. In the case of our semantically stable concepts, the answer is now clear —very robust. What about our semantically unstable concepts? These are the concepts for which scientific essentialism holds: for example, natural–kind concepts such as the concept of being water, the concept of being gold, etc. Semantic instability has to do with the effects of the external environment. An expression is semantically unstable iff the external environment makes some contribution to its meaning. Some people think that the categorial "parts" of such concepts are quite anemic, perhaps even vacuous. But there is good reason to think that this view is mistaken.

The reason is that there are patterns in our twin–earth intuitions that would defy explanation if the categorial "parts" of our semantically unstable concepts were not quite robust. Here is an example taken from "Philosophical Limits of Scientific Essentialism" (a range of others are given there as well). You and I have a vivid twin–earth

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[38] Semantically stable propositions form a proper subclass of the modally stable propositions (just characterized).

intuition for water: if all and only water here on earth is composed of H_2O, then on a twin earth a stuff which has all the macroscopic properties of water (drinkable, thirst–quenching, etc.) but which is composed of XYZ ($\neq H_2O$) would *not* qualify as water. But you and I lack the corresponding twin–earth intuition for drink; indeed, we have the contrary intuition: even if all and only drink on earth is composed of certain specific hydrocarbons ABC, on a twin earth a stuff which has all the macroscopic properties of drink (potable, thirst–quenching, etc.) but which is composed of UVW ($\neq$ ABC) *would* nonetheless qualify as drink. What accounts for the difference?

No doubt the answer begins with the fact that water is a compositional stuff whereas drink is a functional stuff (drink is *for* drinking and quenching thirst).[39] But how does the compositional/functional distinction help to explain the curious asymmetry in our intuitions? The answer is that the associated properties *somehow* figure in the categorial "parts" of the respective concepts, the concept of being water and the concept of being drink. The simplest way would be that the property of being a compositional stuff is straight–away a categorial "part" of the concept of being water and, as such, could be known *a priori* (via our intuitions) to be the ontological category of water. But this would be too hasty.

To see why, notice that we have a wealth of other twin–earth intuitions which go against this idea. Here are a few illustrative examples. If [like jade] all and only water here on earth falls into two (or twenty) distinct kinds whose instances, respectively, are samples of UVW and XYZ, then on a twin earth a stuff whose instances are composed of XYZ *would* qualify as a *kind* of water. If [like live coral or caviar] all and only water here on earth is composed entirely of certain micro–organisms, then on a twin earth a stuff which contains no micro–organisms whatsoever but which nevertheless contains the same chemicals as those found in samples of water on earth would *not* qualify as water.[40] If every disjoint pair of samples of water here on earth have different microstructural compositions but they nevertheless have uniform macroscopic properties, then on a twin earth a stuff which has those same macroscopic properties *would* qualify as water. And so on.

[39] I introduced this puzzle and the compositional–stuff/functional–stuff distinction in "Philosophical Limits of Scientific Essentialism".

[40] Analogy: Suppose that you kill the live coral, crush the result, and reconfigure the remaining powder into a rock–like "reefs". Now synthesize a chemically equivalent rock–like material and configure it into "reefs" on twin earth. Is it coral? So what about "live water"?

Further interesting phenomena emerge when we explore twin–earth intuitions involving other semantically unstable concepts. For example, twin–earth intuitions concerning drink have a pattern of their own, which is distinctively different from that of these various twin–earth intuitions concerning water. (Like the concept of arthritis, I take it that the concept of drink has some semantic instability.)

If we continue this sort of survey, it emerges that our concepts fall into types, members of which display similar sorts of patterns. The explanation of this typology is that the respective concepts share something robust —namely, substantive categorial "parts". (Should we be worried that we cannot, within our current philosophical theories, readily say exactly what these categorial "parts" are? Not at all. For we know that they are needed to explain a robust phenomenon.[41] We are thus led to the following conclusion: categorial mastery is a necessary condition for the determinate possession of our concepts, and from one type of concept to another there are robust differences in what the requisite categorial mastery consists in.

d. Accommodating anti–individualism. By weakening the completeness clause (b) to avoid clashing with scientific essentialism, we have created a predictable problem having to do with the non–categorial "parts" of our concepts. Suppose x is in command of nothing but the categorial "parts" 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 would certainly not possess these concepts determinately. A symptom of his incomplete mastery 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 would arise if x were too often to classify beeches as elms —and/or conversely.

[41] Personally, I believe that in the case of concepts like the concept of being water the underlying categorial property is equivalent to a conjunction of default conditionals. The property of being a compositional stuff figures prominently in some of those conditionals, but other categorial properties figure with equal prominence in others. The categorial is conditional.

Even if vagueness and other pathologies infects these conjunctions of default conditionals, that does not undermine the prospect of a neat general typology for the indicated categorial "parts". After all, various semantically stable properties (maybe even justice or knowledge) can be like this, too; that should not lead us to think that they are not Forms.

What is needed for determinate possession is that x's web of belief be improved in appropriate ways. But what in what ways? The problem is that a huge (perhaps infinite) variety of quite different sorts of improvements would suffice. Can we say what is common to them? Once again, we are confronted with a challenge pretty much as difficult as the challenge of analyzing determinate concept possession itself. Indeed, there might be no stateable *direct* characterization of the sort of web of belief needed for determinateness. To solve our problem, we need another one of our automatic labor–saving devices which provides the benefit of a solution without our actually having to produce one. The idea of *truth–absorption* does the job.

Here is the idea. People who determinately possess their concepts can absorb ever more true beliefs without switching out of their determinate possession. Consider, by contrast, people who while having a categorial mastery of their concepts are nonetheless suffering from some form of indeterminateness. They cannot absorb ever more truths without switching out of their deficient modes of understanding, coming thereby to possess their concepts determinately.

Thus, we arrive at the following:

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

(a) True $\pm p \leftarrow \diamond x \vdash_m \pm p$

(b.i) True $\pm p \rightarrow \diamond x \vdash_m (\exists p' \in CP(p))$ True $\pm p'$ (for property–identity p)

(b.ii) True $\pm p \rightarrow \diamond x$ believes $\pm p$ m–ly (for p believable by x).[42]

(Incidentally, maybe 'believes' should be strengthened to 'rationally believes' and p restricted to propositions which x can rationally believe. Remember: rational belief can be based on the testimony of a trusted informant —an "empirical oracle", if you will.)

In this analysis the completeness property divides into two components —(b.i) which deals with the categorial "parts" and (b.ii) which deals with the noncategorial "parts". So the analysis has this form:

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

(a) correctness

[42] Because there is no evident problem with the correctness clause but only the completeness clauses, we impose the restrictions on test propositions only there.

(b) completeness
  (i) categorial mastery
  (ii) noncategorial mastery.

But this raises a question. Once (b.ii) is added, is (b.i) really needed? That is, given the truth-absorption clause, is a separate categorial-mastery clause really needed?

Suppose, on the one hand, that the truth-absorption clause does not entail the categorial-mastery clause. Then, it must be possible that x should absorb any number of relevant truths involving a certain concept (e.g., the concept of being water) and yet not be able (even as metaphysical possibility) to settle with *a priori* stability relevant test questions (e.g., whether there is a true epistemic counterpart of the proposition that the property of being water = the property of being a compositional stuff whose instances are composed of H_2O). That is, it must be possible that x should come to believe any number of relevant truths concerning water and yet not be able (even as metaphysical possibility) to have the twin-earth style water intuitions of the sort that would settle the question. If it really were metaphysically *impossible* for x[43] to have such intuitions about water, would you want to say that x determinately possesses the concept of being water? Certainly not. So, on the assumption that the truth-absorption clause does not entail the categorial-mastery clause, we have no choice but to include the categorial-mastery clause in the analysis.

Suppose, on the other hand, that the truth-absorption clause does entail the categorial-mastery clause. Then the latter is not needed to make the analysis *acceptable*. But the analysis would still have the *implications* it would have if the completeness clause had been explicitly included. This is the conclusion I will need for the closing section. I suspect, however, that there are counterexamples to this entailment. My reason derives from a point raised in section 1, namely, the relative independence of intuition and belief. The idea is that x might acquire rote beliefs (based on texts he trusts) without those beliefs finding their way into his intuitions.[44] We already know that (from the Liar-Paradox case) that belief and intuition can be independent. The idea is that x's rote beliefs might co-exist with gaps or mistakes in x's categorial intuitions. In this case, we would

[43]And every counterpart of x in a qualitatively identical epistemic situation.

[44]To get a tight match-up with intuitions, beliefs need to be of a very special sort. What sort? Well, the sort that are based evidentially on (suitably processed) intuitions!

not want to say that x determinately possesses the relevant concepts; rather, he incompletely understands or misunderstands one or more of them. So we have an example in which x would have truth-absorption without categorial mastery (for m = incomplete understanding or m = misunderstanding).

Why, then, do improvements in the web of belief suffice to eliminate indeterminateness in the usual beech/elm cases? The reason is that (given the truth of scientific essentialism) 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 when there are *a priori* intuitions, they prevail.

e. ***Determinateness as the genus of jointly correct and complete modes.*** There remains a refinement which might need to be made in our analysis. We have identified determinateness as *the* mode m of understanding that has both the completeness and correctness properties. I believe that there is not just one mode m like this. Here is an easy example (though I am not committed to it): if there is a relation of acquaintance like that posited in traditional epistemology, there is presumably an associated mode of understanding (i.e., x understands y acquaintedly or through acquaintance). If there are such modes of understanding, they would be species of a genus, and that genus would be the general mode of understanding, determinateness.

To accommodate this possibility, we should revise the analysis one last time:

> determinateness = the genus of modes m of understanding such that, necessarily, for all x and all p m-understood by x,
>
> (a) True $\pm p \leftarrow \diamond x \vdash_m \pm p$
>
> (b.i) True $\pm p \rightarrow \diamond x \vdash_m (\exists p' \in CP(p))$ True $\pm p'$ (for property-identity p)
>
> (b.ii) True $\pm p \rightarrow \diamond x$ believes $\pm p$ m-ly (for p believable by x).

Should it turn out that there are no species of determinateness, this analysis would still be acceptable assuming that it is taken the right way.[45]

[45] I.e., determinateness $=_{\text{def}}$ the mode m of understanding such that, for each mode m' of understanding which entails m, m' satisfies the rest of the analysis. Of course, these modes m' need to be "natural" modes of understanding.

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

> x determinately possesses a given concept iff$_{\text{def}}$ x determinately understands a proposition which has that concept as a conceptual content.

We have ventured an analysis of determinate understanding. As noted at the end of section 5, the analysis is compatible with the idea that determinateness might come in degrees, achieved to a greater or lesser extent. What the analysis is aimed at is the notion of completely determinate understanding. If you find yourself questioning the analysis on some point or other, perhaps the explanation is that you have in mind examples involving something less than completely determinate understanding.

The following is an illustration. Suppose you question whether it is metaphysically possible to reach *a priori* stable answers to certain difficult mathematical property–identities. The analysis does not take a stand on whether you are right. Rather the analysis tells us what we should say *if* you are right. Namely, *if* it is metaphysically *impossible* to reach *a priori* stable answers to such mathematical questions, the right thing to say is that the questions themselves are not determinately understood. Conceivably, such a thing might arise in connection with the continuum hypothesis, for example. If *a priori* stable answers are really metaphysically impossible, the right thing to say is that the concept of being a set or the concept of set–membership is not determinately understood, not completely. Perhaps the understanding is always dancing around a cloud of relevant concepts, never permanently coming to rest on any one of them. Although such a thing would be intellectually disturbing, it would not be intolerable.

At this point it would be useful to show how various candidate counterexamples are handled by the analysis and to show how the analysis might be simplified if certain background theses about the completeness and correctness properties hold. I plan to do these things on another occasion.

7 Conclusion

I will close with a brief word about the three applications of the analysis of concept possession which I mentioned at the outset. First, the analysis promises to provide the basis for an account of *a priori* knowledge. Specifically, the correctness property provides the basis of an explanation of the reliability of our *a priori* intuitions and, in turn, our *a priori* knowledge itself. And the completeness property provides the basis of an explanation of the scope of our *a priori* intuitions and, in turn, our *a priori* knowledge. Furthermore, I believe that, taken together, these properties imply a qualified autonomy and authority for logic, mathematics, and philosophy *vis-à-vis* empirical science.

Second, recall Benacerraf's question concerning mathematical truth: What explains the reliability of our mathematical knowledge given that causal explanations (modeled on sense perception) are unsuccessful? Again, the correctness property promises to provide the basis for an answer.

Third, the completeness property, together with the correctness property, promises to provide the basis for a solution to the Wittgenstein–Kripke puzzle concerning rule–following. Rule–following is an intuition–driven activity. The completeness property ensures that people who understand the question at issue (e.g., What is 1000+2?) and whose cognitive conditions are relevantly good cannot fail to have intuitions bearing on the question. And the correctness property ensures that those intuitions (at least when processed) must settle the question correctly.

This holds for quite novel questions beyond our present conceptual repertory, as in case of the conceptually deficient tribe discussed earlier. Of course, we are not always in fact able to "keep on going". Just as certain questions were beyond the present cognitive level of the cognitively deficient tribe in our example, so certain hard questions which would amount to following a rule are beyond our own present cognitive level. But this should not lead us to think that we do not *understand* them.

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