

Draft of 4/9/17

Further revisions pending;

Comments welcome

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Understanding, Self-Evidence, and Justification

Abstract

Self-evidence is widely taken to be a status that marks propositions as capable of being justifiedly believed (and known) on the basis of understanding them. This paper explicates and defends that view. The paper shows that the broadly linguistic kind of understanding implied by basic semantic comprehension of a formulation of a self-evident proposition does not entail being justified in believing that proposition; that the kind of understanding adequate to yield such justification is multi-dimensional; and that there are many variables partly constitutive of such understanding—all having philosophical interest in themselves—that a theory of self-evidence must account for. The paper also shows why self-evident propositions need not be obvious, need not be unprovable, and, far from being beyond dispute, can be a subject of rational disagreement. The concluding section shows how knowledge of self-evident propositions is possible even if, on the one hand, their elements are abstract and causally inert and, on the other, beliefs constituting knowledge must meet both causal and reliability conditions connected with their truthmakers.

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Understanding, Self-Evidence, and Justification

The notion of understanding is crucial for any plausible account of the self-evident. The self-evident is also plausibly considered an important case of the a priori and, on my view, it is the basic case of the a priori, in the sense that the other cases are understandable in relation to it.¹ In any event, the need to explicate self-evidence is among the many good reasons we have for producing an account of understanding propositions. Here it must be emphasized that an adequate account need not yield a definition, in the usual sense implying semantic equivalence between the definiens and definiendum. Given how rich and how close to being conceptually basic the notion of understanding is, an account of it that is both simple and significantly illuminating may be beyond reach. My aim here is an explicative theoretical account that facilitates philosophical work in which the concepts of understanding, justification, and self-evidence are central.

¹ This is argued in “Self-Evidence,” *Philosophical Perspectives* (1999) and *Epistemology* 3rd ed. (London and NY: Routledge, 2010). A basic idea is that what is self-evidently entailed by a self-evident proposition is (in my terminology) broadly a priori; once this is understood, provability on the basis of self-evident entailments may also be included as an a priori status—being ultimately a priori, in my terminology. The significance of the distinction between the broadly a priori and the ultimately a priori depends on the point that, unlike entailment itself, self-evident entailment is not transitive. For related recent work on the a priori, some of which treats self-evidence in particular, see Paul Boghossian and Christopher Peacocke, eds., *New Essays on the A Priori* (Oxford: Clarendon Press, 2000) and Albert Casullo and Joshua Thurow, eds., *The A Priori in Philosophy* (Oxford: Oxford University Press, 2013).

I. The Concept of Self-evidence

In speaking of the self-evident, I presuppose the approximate correctness of an account previously offered:

Self-evidence: Self-evident propositions are truths meeting two conditions:

- (a) in virtue of adequately understanding them, one has justification for believing them (which does not entail that all who adequately understand them *do* believe them); and (b) believing them on the basis of adequately understanding them entails knowing them.²

In explicating this account, I have made various points to clarify adequate understanding—which I also call *comprehensional adequacy*—but much remains to be said about it. This is the kind of understanding adequate to serve as a basis for useful philosophical analysis, but that description yields a desideratum rather than a definition.

Skepticism about the clarity of the concept of self-evidence is not uncommon. If the self-evident is taken to be “self-justifying,” such skepticism is understandable; but I make no use of that notion and think of self-evident propositions as those evident in themselves—not in the sense that their *being evident* is evident, but in the sense that their *truth* is evident “in” them and so need not be seen via premises. My aim is in part to reduce the motivation for skepticism about the existence and significance of certain kinds of self-evident propositions.

² This account derives from work of mine in the 1980s but first published in some detail in my “Intuition, Pluralism, and the Foundations of Ethics,” in Walter Sinnott-Armstrong and Mark Timmons, eds., *Moral Knowledge?* (Oxford: Oxford University Press, 1996) and later in *Epistemology* and “Self-Evidence,” both cited in note 1.

A further source of skepticism is suggested by the question how anything can be self-evident, at least non-trivially so, when all the philosophically interesting cases of presumptively self-evident propositions are subject to disagreements between rational persons who seem to understand the propositions in question. I have dealt with this issue elsewhere,³ and here my main concern is to clarify the right kind of understanding, the kind philosophers need for explicating self-evidence in propositions and anyone needs for believing self-evident propositions on a basis that entails justification for believing them and enables us to know them. One way to describe such justification is to call it

Self-evidential justification: the kind of justification one has for believing a self-evident proposition on the basis of adequately understanding it.⁴

This contrasts with justification for such a proposition on the basis of premises or testimony.

It is natural here to wonder how, in relation to the self-evident, understanding is connected with intuition. A preliminary point is that although both ‘understanding’ and ‘intuition’ have dispositional and occurrent uses, philosophers most commonly speak of understanding in reference to dispositional cases of it and (in epistemology, at least) of intuition in relation to episodic (hence

³ My most recent treatment of this issue is in “Intuition and Its Place in Ethics,” J-APA 1, 1 (2015).

⁴ It must be granted that the relevant kind of understanding may genetically depend on experience for its development, but this role does not imply an evidential dependence of experience (at least perceptual or introspective experience) for self-evidential justification. For an attempt to show that presumptive self-evidential justification depends on experience in a way that undermines the distinction between the a priori, as not *evidentially* depending on experience, and the a posteriori, see Timothy Williamson, e.g. *The Philosophy of Philosophy* (Malden, MA: Blackwell, 2007). For a critique of Williamson’s case see Joshua Thurow, “Understanding to the Rescue,” in preparation.

occurrent) cases of that. Much that we understand we do not have in mind, whereas I have an occurrent understanding of that very point as I consider it. Similarly, I have, dispositionally, many intuitions in memory, including the intuition that having justification for a proposition is possible when it is *not* before my mind; but, as I now consider this proposition, I have an occurrent intuition of its truth. (Section IV will say more about intuition.)

With these points in mind, we should ask what kind of understanding of a self-evident proposition is adequate in the relevant sense: such that, in virtue of having it, we are justified in believing the proposition.⁵ Suppose *p* is self-evident and that I consider it with the relevant kind of understanding. Then I am occurrently justified in believing it and, as a rational person, will *tend* to believe it, even if I do not (as I have argued is possible⁶). Where the understanding is occurrent, in a sense entailing that one has *p* in mind in a kind of clear view, it also tends to produce an intuition, but it need not. This may occur where I do not believe *p* or (as will be illustrated shortly) even where I do. Intuition that *p*, then, does not, at least by itself, ground self-evidential justification in every case.

This is not to deny an intimate relation between occurrent justification and intuition. At least when occurrent, intuition can yield such justification, and occurrent understanding of a self-evident proposition—as with seeing how it is true—tends to yield intuition with that proposition as content. I am taking occurrent understanding of a proposition to be analogous to perceiving a structured

⁵ This is cautiously expressed because I do not want to rule out that there can be something else (surely related to understanding) in virtue of which self-evidential justification might occur; and I also want to leave open transitivity, so that if adequate understanding is possessed in virtue of a further element, then self-evidential justification might be possessed in virtue of that. If, e.g., occurrent intuition can justify such a belief, it might yield self-evidential justification only if it is itself in some way based on adequately understanding *p*.

⁶ Most recently in “Intuition and Its Place in Ethics.”

object. I take occurrently intuiting a proposition to require occurrently understanding it and to be a cognitive (though not necessarily doxastic) attitude toward it, but one not possible without some degree of understanding of it, much as perceptual belief is not possible without some perceptual basis, even if rather faint. Cognitive intuition that p, then, may be a basis for believing a self-evident proposition whether or not it is a basis of self-evidential justification for believing it.

The centrality of understanding for a philosophical account of self-evidence

The notion of understanding a proposition is important in its own right, but if the proposed account of the self-evident is sound, it is also important that we have an informative account of understanding a self-evident proposition and indeed of adequacy of such understanding. I have in mind adequacy at the level of good comprehension, the kind of comprehension appropriate both to having a clear sense of the truth of p and to that sense being sufficiently stable to tend to survive reflection on p. ('Comprehension' is a near synonym of 'understanding' so I make no pretense that it provides more than limited help.) We could speak of full understanding here, but I want to leave open the possibility of comprehensional adequacy that, even if it cannot have certain defects, is expandable.

Adequate understanding is an admittedly vague notion, but it can be clarified in terms of the examples and points proposed in what follows. We might work toward an account of adequate understanding by first considering some main kinds of cases of self-evidence. To be sure, even if we have a good account of adequate understanding, we may still lack an account of the basis relation that holds between an adequate understanding and a belief of p such that, if p is self-evident, then, in virtue of that understanding, the belief constitutes knowledge. I take this basis relation to be a causal sustaining relation and to differ from the inferential relation

characteristic of one belief's being based on another, as is usual with premise-based beliefs. A belief that is self-evidentially justified at a given time is non-inferential at that time, but this does not imply that inference has no role in understanding a self-evident proposition or that the proposition in question cannot also be known inferentially. It will help us to consider some types of self-evidence and explore how understanding figures in those.

It is natural to begin with cases that may be conceived as “definitional,” where the kind of definition in question meets a very high standard—synonymy of the definiens with definiendum. (Some might take real definition to be more relevant here, but I cannot pursue that possibility.) Thus, if ‘triangle’ is definable as (meaning) ‘three-sided plane figure’, then the proposition we express by ‘All triangles are three sided’ is self-evident. The same kind of case can be made for the proposition that all vixens are female and for similar analytic propositions.

On the proposed account of self-evidence, we must countenance some cases that appear synthetic, say the proposition that nothing is round and square. The syntheticity of this has been challenged, but I do not believe the proposition can be shown to be either analytic or empirical. If *roundness* were analyzable as, say, being conceptually equivalent to a conjunction of negatively described shapes one of which is *non-squareness*, the proposition would be analytic; but even if an equivalence is obtainable in this way, such a conjunctive account fails as an analysis (even on the dubious supposition that non-squareness constitutes a shape).

Normative propositions are a different kind of case. Intuitionists in ethics and in epistemology have argued for the self-evidence of some of these, especially for the moral case. Ross thought it self-evident that if one promises to do something, one has a “prima facie duty” to do it.⁷ Like Moore, Prichard, and many earlier philosophers, Ross took the self-evident to be unprovable, though not in

⁷ See W. D. Ross, *The Right and the Good* (Oxford: Oxford University Press, 1930), p. 29.

need of proof, and he represented the self-evidence of the everyday moral principles he formulated as like that of a mathematical axiom or a form of inference.⁸

Self-evident formal truths must also be considered. If, with the unprovability claim in mind, one considers logical truths, one can readily evaluate that claim. That it is not the case that p and $not-p$ is self-evident, but this seems unprovable if provability implies the existence of premises that are “epistemically prior” to what they prove. By contrast, consider the proposition that if p entails q , and q entails r , and r entails s , and s is false, then p is false. It is clearly provable in some standard systems. For some provable self-evident propositions, there are epistemically prior premises. Granted, even such apparently rock-solid formal propositions can be questioned, but they have enough credibility to be elements useful in both everyday reflection and standard modern logic, and I here presuppose their self-evidence and, at least in some such cases, their provability.

It may not have escaped notice that the account of self-evidence is not relativized. But at least since Aquinas we have had a distinction between self-evidence simpliciter and self-evidence *for* a particular person. It should be clear how, on my account, there can be propositions plausibly called self-evident for S and not for another person, i.e., they exhibit

Relativized self-evidence: p is self-evident *for* S if and only if (1) p is self-evident simpliciter and (2) S adequately understands p .

Consider the proposition that first cousins share a pair of grandparents. There are people who, at least for a time, do not even see this as true (relativity to time

⁸ Ross called the moral principles he considered self-evident “self-evident just as a mathematical axiom, or a rule of inference, is evident” (1930: 29).

should also come into the epistemology of the self-evident and is considered below). This is because some people do not adequately understand it. For many of these, however, it would be wrong to say that they do not understand it at all. Some of them can understand it even at a high enough level to enable immediate correct translation into a language they know equally well. The minimal case of such translational understanding I call *mere semantic comprehension*.

Relativization can bear on all three kinds of case (and likely others): adequately understanding, mere semantic comprehension, and the range of cases lying between these.

Within the category of self-evidence for a person, we may distinguish between mediate and immediate self-evidence. What is immediately self-evident for me at time *t* is such that, upon considering it in the light of adequate understanding at *t*, it is self-evident for me at *t*. A proposition that is mediately self-evident for me is one that is not immediately self-evident for me but is such that normally, upon reflection (possibly requiring reasoning)—but without dependence on a premise for *p* or new information from an external source such as testimony or reading—I will adequately understand it. Much will be said about adequacy of understanding and, by implication, about possible routes to it through reflection on the proposition in question. The main reason for introducing the notions of relativized and mediate self-evidence is to indicate how to understand Aquinas's distinction and, especially, how to resist the common idea that what is self-evident is also obvious.

Understanding and imagination

We have seen that reflection on a proposition may be required for adequately understanding it. Is imagination also required for adequate understanding? It may seem so. Consider the proposition that *it is possible for a man to be both father and*

grandfather of the same person. To see the truth of this, most people must consider the relations of grandparenting and parenting. They must then avoid being trapped by the normally applicable proposition that parents do not beget children with their own children. Once we realize this is contingent, we can see that if a man begets a child by his daughter, he is both its father (by virtue of that fact) and grandfather (through being father of the child's mother). There may be some luck involved where a person who has the concepts in question realizes this possibility that is so easily obscured by the normal no-incest presupposition. Whether or not luck sometimes figures in such cases, it need not. The deeper question is whether imagination is required. I do not mean imagination of the minimal sort needed to image (or somehow characterize) an instance of a concept of a simple kind, but rather the sort that tends to indicate some creativity. Doubtless a person of imagination may see how the proposition—call it *the incestuous proposition*—is true more readily than one lacking imagination. But I am supposing that imagination is not normally needed for seeing an obvious consequence of what one believes, where the only bar to this is a false assumption.

These considerations suggest that understanding a self-evident proposition is achievable without exercising imagination, at least in the sense in which that implies something not entailed by an exercise of intellect. The distinction between the “faculties” of intellect and imagination is not sharp, and my view does not require denying that some cases of understanding manifest some degree of imagination. But I take the rough “sufficiency of intellect” view just suggested to be plausible for the clear cases of comprehensional adequacy regarding self-evident propositions. The view cannot be established apart from an adequate account of imagination, but perhaps what has been said will suffice here.

One point on which the incestuous proposition is instructive is this: what is discovered using one's imagination can be a matter of luck—of an

epistemologically significant kind. This is the kind such that, even if one believes something only by good luck—as where one happens to remember Sophocles’ *Oedipus Rex* on considering the incestuous proposition—the belief may still constitute knowledge.

A second point pertinent here is this: where one believes a self-evident proposition only by an exercise of imagination that does not manifest one’s understanding of the proposition, one may not have self-evidential justification for the belief. Again our example is instructive. Suppose one came to see that *p* is true simply by happening to imagine the incestuous case, as where one sees the relevant possibility by accidentally learning of an instance reported in a medical journal. This route to belief or knowledge apparently need not reflect or expand one’s antecedent understanding of *p*. It may come from simply taking what is actual to be possible. That is consistent with merely seeing *that* *p* is true and not *how* it is. Roughly, the idea is that an adequate understanding of a proposition is an intellectual matter and concerns what one can see by an appropriate, if extended, exercise of intellect. This does not imply that imagination does not require or manifest intellect or that it cannot enable one to see more than one otherwise would—it can and often does. But the self-evident is a kind of truth accessible to the intellect. What is accessible only to the intellect *and* the imagination may be provable and thereby a priori, but that is a different point.

It should be granted that adequacy of understanding does require something that may imply some degree of imagination: a grasp of generality. Understanding of a proposition is not implied just by familiarity with an instance of a property or relation that figures in it, say (for fatherhood) of a particular man’s being father of a particular child, where one understands this biologically. One must see (or at least dispositionally understand) that *any* man filling this role is father of the child. Suppose, then, that a grasp of generality entails ability to imagine instances one has

never observed or conceived. Still, this ability need only imply minimal imagination. Perhaps a recognitional ability suffices: one might be able to recognize instances one could not antecedently imagine, and the requisite degree of that ability need not imply imagination. Compare comprehendingly thinking of a triangle in the abstract: one must in some way grasp that it is an enclosure with three sides, can be of any size, and can have any angles within the appropriate range; but one need not be able to *picture* an instance, even if one could not have *acquired* the concept without exposure to some instance and even if one could recognize a suitable range of instances.

The mere seeing of an instance of a concept, even in a sense that entails some kind of understanding of what one sees, does not entail understanding that concept. Such seeing does not assure a grasp of generality, though that might begin with a kind of seeing. Here and elsewhere, imagination may assist in achieving a sense of generality but does not guarantee that. I do not deny that possession of imagination is required for *certain* kinds of understanding, say of poetry or even philosophical metaphor. Nor do I deny that an *exercise* of imagination might be needed for adequate understanding of a self-evident proposition, *p*, to yield actually believing it. Justification for believing *p* at a time imagination “yields” adequate (occurrent) understanding of it would be occurrent justification. That understanding might also be manifested in an occurrent intuition that *p*.

II. Major Elements in the Understanding of Propositions

With Section I in mind, we might now explore the variables essential for an account of the nature and degree of understanding of the intellectual kind in question. The aim here is in part to achieve a kind of second-order understanding. We cannot achieve a good account of adequate understanding (comprehensional adequacy) without seeing the phenomenon in its major varieties. We might speak

here of comprehensional variables to refer to those we must explore to explicate adequate understanding.

Constitutive dimensions of adequate understanding of the self-evident

Many variables figure in determining how well someone understands a concept or proposition, so some of what is said here applies to understanding of propositions in general, not just to understanding self-evident ones. Given that concepts are apparently essential constituents of propositions—at least of propositions that are good candidates for self-evidence—both concepts and propositions will be considered.⁹ The main focus, however, will be on understanding self-evident propositions.

Recognitional range

Consider first the range of cases someone who understands a self-evident proposition (at the level of comprehensional adequacy) must take to instantiate it or in some sense illustrate it, in the way that an animal that is both a fox and female instantiates the proposition that all vixens are female.¹⁰ The crucial cases in this range are such that one must see some relation between or among the proposition's constituent concepts: a relation that both accounts for its truth and is such that seeing it inclines a rational person to believe it. One can see, in a certain non-inferential, apprehensional way, *how* it is true. This is often simply a matter of seeing a truth-sufficing relation between the concepts figuring in the proposition.

⁹ I do not take concepts to be the only candidates for a constitutive role here, and my overall view makes room for (among other things) universals to be constituents.

¹⁰ This raises the question of how to construe abstract singular propositions, such as *4 is even*. Presumably in these cases concrete quadruples serve as a kind of instance, and of course divisibility by 2 without remainder is a property instantiated by many numbers.

Consider the proposition that all vixens are female, which is like many other propositions. The relation underlying its truth is formal (e.g. that everything that is F and G is F); seeing the relation does not require using definitions, though *exhibiting* it may. Adequately understanding the relation should be manifested in also seeing that *young* vixens are female, and so forth for similar modifiers.

A different kind of formal self-evident truth is that if p entails q, and q entails r, then p entails r. Here adequate understanding should lead to readily seeing instances of it as such. By contrast, that nothing is round and square seems virtually as clearly self-evident, but is apparently not analytic or formal.¹¹ For these two cases, comprehensional adequacy would lead us to expect a tendency to endorse inferences in the indicated pattern of entailment and to accept propositions constituted by affirmations of the mutual exclusion relation between roundness and squareness. Taking the truth to depend on the size of the figures, for example, and so rejecting an instance of the proposition that nothing is round and square applied to huge circles, would tend to indicate at best defective understanding.

The normative realm has apparently self-evident propositions that are highly substantive but also not analytic, e.g. such epistemic principles as

The visual principle: If one has a clear and steadfast visual impression as of something F before one, then (at least given concepts adequate for

¹¹ The nature of analytic truth and reasons for denying that this truth is analytic are discussed in the chs of my *Epistemology* devoted to the a priori. For other examples of apparently non-analytic self-evident propositions, see the diverse group indicated by Earl Conee in “Self-Support,” *Philosophy and Phenomenological Research* (2010). The term ‘self-support’ should not be taken to imply his considering self-evident propositions self-supporting; he takes support (as I do) to be asymmetrical.

believing there is something F there), one has prima facie justification for believing this.

The self-evidence of such normative propositions is controversial, and the reasons for this may be in part why they need not figure in the recognitional range—or at least in the *acknowledgment range*—of the self-evident for everyone who adequately understands them.¹²

The sense of rejectability

This variable is related to recognitional range. My counting a circle I'm shown as round indicates little about my understanding of the proposition that nothing is round and square if I also count as round an octagon or any polygon with eight or more sides (visible to me). Given an understanding of the concept of a circle, one should reject these descriptions of circles and deny that what satisfies them is circular. The phenomenon illustrated here is conceptual rejectability. Propositional rejectability—applying to propositions as candidates for equivalence with a self-evident proposition—is wider and also important. Suppose someone considers the epistemic principle just stated and does not see that we must reject a candidate for equivalence in which 'may assert it', or even 'may believe it' replaces the prima facie justification clause. This would tend to show inadequate understanding, likely centered on the notion of what constitutes justification.

Adequate understanding of the visual principle should lead at least to withholding the suggested substitutes for it; but disbelieving them would tend to

¹² This matter will be explored later in relation to disagreement on the self-evident, but it is appropriate to say here that adequate understanding of self-evident propositions can be manifested in patterns of inference that apparently reveal a tendency to recognize them in the appropriate way. Such patterns are discussed in some detail in "Intuition and Its Place in Ethics," cited in note 4.

show more about the adequacy of the understanding of the principle. In cases like this, disbelief, as believing a negation, tends to imply better understanding of the proposition in question than merely withholding, if only because it usually comes from apparently seeing why p is false, or from understanding an objection to it. Withholding may reflect mere abstention from taking p to be true. (The relevant kind of withholding is not the sort that may result from skepticism due to reflection, since that may reflect good understanding—in certain skeptics, even comprehensional adequacy would not assure belief.)

Explicative capacity

In people who, like well-trained teachers, are normally able in some way to articulate their understanding, explicating a proposition tends to indicate much about degree of understanding of it. Done well, explication normally implies adequate understanding. One kind of explication is provision of an analysis, but requiring this as a condition of adequate understanding would be over-demanding. The main plausible requirement here is a kind of potentially explanatory insight, even if it is just a matter of seeing how the proposition is true, say by apprehending the inclusion relation between being a vixen and being female.

Ability to give a range of examples that illustrate the truth in question—something expected of good students conversant with a concept or proposition—is also central for adequate understanding, and it is normally accompanied by an ability both to rule out “look-alikes” and, often, to indicate why they are only that. (Adequacy need not carry an ability to eliminate certain virtually identical twins, and I will return to the difficult question of just how good an understanding must be in order to be philosophically useful in relation to self-evidence and related notions.) One would expect explication to proceed partly in terms of the kinds of

examples we have cited, e.g. analytic versus synthetic cases, depending on the target proposition.

With readily definable concepts, such as being a circle, we might expect a description that corresponds to the definatory elements; with concepts such as obligatoriness, which are indefinable or definable using only highly complex concepts, we might expect only a certain way of citing paradigm cases. Comprehensional adequacy with respect to the proposition that nothing is round and square might imply only an ability to illustrate, in some appropriate way, being a certain kind of uniform closed curve, being closed and quadrangular, and the incompatibility between them. Drawing rough approximations of the shapes in question might suffice, given appropriate comment on these illustrative properties, to manifest adequate understanding.

By contrast, understanding the self-evident sufficiency of promising for prima facie obligation is more difficult to achieve. It cannot come from awareness of approximate “definitionally” sufficient conditions for the several crucial concepts (such definitional descriptions are apparently unavailable); nor is there any analogue of producing a simple illustration that characteristically manifests comprehensional adequacy. Even producing a narrative example would require special features to show adequate understanding of these rich concepts. For describing explicative capacity we might perhaps speak of *basic* kinds of examples appropriate to explication of the proposition in question. If so, I do not want to take the few kinds cited above as the only ones there are.

Logical comprehension

This variable is connected with those so far considered, but is nonetheless distinct. Particularly important is recognition of entailments and non-entailments. Suppose Jones purported to see that if p or q holds and p is false, then q holds. If Jones

thought it follows that if p or q holds and p is true, then q is false, this would strongly count against adequacy of understanding of the self-evident conditional. To be sure, if Jones is queried and indicates taking the ‘or’ to be exclusive, we might then try some other “test,” but it is significant that we might properly see further testing as necessary.

The case may be more complicated. Recall the proposition that if p entails q , and q entails r , and r entails s , and s is false, then p is false. Suppose someone is given time for reflection on the antecedent and denies the consequent. This strongly suggests inadequate understanding of the proposition, and to conclude otherwise would require special explanation. Granted, as in other cases, withholding is not normally as informative regarding kind or degree of understanding as is disbelieving. Also relevant to determining degree of logical comprehension are certain analogies. Suppose we provide a set-theoretic analogy for the conditional. We note how set-theoretic inclusion is analogous to entailment, and we then draw concentric circles with the smallest, the p circle inside the q one, the q circle inside the r one, and r one inside the s circle. We then draw an x outside the S one and note that it is outside the p circle. If this does not help S to see the truth of the conditional, that provides evidence of lacking adequate understanding of at least some essential element in that proposition.

Confirmational sensitivity

We have seen that the relation of logical comprehension—especially recognition of entailments and non-entailments—is important in accounting for understanding of the self-evident. Confirmational sensitivity is a kindred phenomenon. To be sure, for the self-evident what counts as confirmation is less clear than for many other kinds of proposition (especially empirical generalizations). But philosophy itself presents some cases. Indeed, is not a presumptive and intuitive instance of a

philosophical claim broadly confirmatory, whereas a presumptive and intuitive counterexample is broadly disconfirmatory? Related to this, intuitive induction, as illustrated by Ross following Aristotle, works by a kind of (non-enumerative) confirmation: by a kind of ascent from particularity to generality. (Ross's main example concerns counting matches, joining disparate pairs, and recounting, as a way to come to understand that $2 + 2 = 4$.) Intuitive induction may occur through a certain kind of apprehension of a single instance or may require more such apprehensions than some cases of enumerative induction require for justification of the relevant generalization.

For another illustration, consider a counterpart of the visual principle stated above. Suppose someone who affirms it fails to see that it can be questioned for cases of artificial light. If, with red light on white paper I am viewing, I have an impression as of red paper, will I have any justification for believing there is something red before me? The proponent of the principle should see this as needing comment—it may appear disconfirmatory, in the epistemic sense of constituting a challenge to my justification. Adequate understanding of the principle, however, would yield a sense that *prima facie* justification is defeasible. Now consider confirmation. Suppose someone in the circumstances described said, to a person who wanted red paper, that there is a piece of red paper right here on the table and then was chidingly corrected by somebody who knew of the red lighting. An apposite reply is 'I'm sorry—I had no inkling that there was red lighting'. *Rejecting* the reply as irrelevant or inapposite would tend to show some deficiency in understanding the principle—though (for reasons to emerge shortly) we cannot rule out a different possibility: adequate understanding combined with philosophical disagreement.

Discriminative acuity

A high degree of satisfaction of the variables so far described suggests a high degree of sensitivity to differences between p and propositions one might call near-equivalents. But this acuity is apparently not reducible to any of the other variables that tend to indicate degree of understanding of a self-evident proposition.

Consider the generalization that altruistic people as such tend to do good deeds toward others, which, given a natural reading of ‘tendency’, seems self-evident. Could someone adequately understand this without ability to see that the converse is not entailed, say by recognizing that doing good deeds can be self-interestedly motivated? I believe not—at least if we think in terms of reactivity to concrete cases described in detail. Seeing the truth of this tendency proposition would likely lead one to deny that altruistic people as such tend to do good deeds that are self-interestedly motivated. Someone who understands altruism should see that doing a good deed toward someone solely in order to advance one’s income is uncharacteristic of altruism. What should occur here is discrimination of altruistic deeds from merely beneficent ones. Such discrimination of differences is correlated (though imperfectly) with ability to clarify them in different ways, from exemplification to explanation. Here we may compare the instructor’s ways of explaining with the novice’s; they differ, but both are relevant. Instructors tend to be better at explaining differences even of a kind novices may notice with equal acuity.

Related to the capacity to distinguish self-evident propositions from near-equivalents, there is the capacity to see a difference between the equivalence of propositions and their identities. Consider the proposition that (1) All justifiably believable propositions are rationally believable propositions. This seems self-evidently equivalent to (2) All non-(rationally-believable-propositions) are non-(justifiably-believable-propositions). Now imagine asking a student who sees these points, and has learned to assess the usual kinds of confirming instances for such

universal propositions as (1), to consider, as a supporting instance of (1), a piece of white paper, which, as a non-proposition, is obviously a referent of both predicative terms in (2). Here we would expect at least doubt regarding whether the paper instantiates (1) and related hesitation concerning whether the contrapositive of p is the same proposition. If the student finds no ground for hesitation here, we should suspect a lack of discriminative acuity or some other comprehensional failure (the case may also illustrate a deficiency in confirmational sensitivity).¹³

Translational capacity

This capacity comes in degrees and is one kind of indication of adequate understanding. Imagine children asking their parents, or students of a foreign language asking their teachers, what a sentence means. Capacity to answer such questions correctly or at least plausibly for a self-evident proposition is an element in understanding of the self-evident, at least for those who, like native speakers of rich natural languages, have the conceptual sophistication to translate the relevant sentences intralinguistically. (Intralinguistic translation seems to be the more comprehensionally significant kind.) Translational capacity may be hypothetical given the possibility that the person is monolingual and knows only a language lacking any translation of the sentence in question. We have seen, however, that *mere* translational capacity does not imply adequate understanding—even where it

¹³ This is of course an a priori counterpart of the paradox of the ravens. Plainly, adequately understanding (1) does not imply an ability to explain *why* a piece of white paper does not appear to confirm it, or to approximate a Bayesian account of how confirmation should be understood here; but we would expect an ability to respond differently to instances p and those of its contrapositive and a readiness to treat (2) as “saying” something different from (1).

implies a level of understanding from which, by reflection, someone might progress to adequate understanding.

Adequate understanding goes beyond even good semantic comprehension. It also goes beyond the ability to supply a logical equivalent, as might be illustrated by the case of contraposition as apparently affecting confirmational range. For certain tricky cases, however, that ability might indicate adequacy of understanding, e.g. where the easy translation a good computer would do induces ambiguity and the person can supply two or more different translations that are each at least approximately correct and together well exhibit the two or more meanings. Vagueness is a different thing. A good translation need not (for every kind of expression figuring it in) preserve exactly the same degree of vagueness as the target sentence; but the further a translation is from preservation of vagueness, the less likely it is to be correct or (more to the point here) to reveal adequate understanding.

Readiness to meet objections

For philosophers, degree of understanding is prominently associated with this variable, but it figures in degree of understanding quite generally. If, objecting to the promissory principle, someone says that one could have an obligation to do the opposite of what is promised, ‘prima facie’ has likely not been understood. Or suppose someone asks, regarding a person lauded as generous, ‘If he’s generous, why does he give nothing to charity?’ The reply, ‘He gives a lot of time and energy to helping the sick’ would suggest significant understanding of a predication of generosity, and denying its relevance would show some lack of understanding.

Granted, in meeting objections, there is no sharp distinction between the role of understanding and that of imagination. Exercising imagination, moreover, often tends to enhance one’s justification, providing one with more justification than one

previously had. Given non-imaginative reflection in responding to an objection, there may be only a slight chance that one will find, e.g., a new premise, whereas imaginatively seeking premises to shore up a proposition objected to often expands one's evidence base. By contrast, if someone objects to 'She prefers the company of men to that of women' (said of a middle-aged woman) with 'No—she likes the company of girls as much as that of boys', there has likely been misunderstanding detectable with little imagination. This is not to imply that it is self-evident that boys are not men or that girls are not women, but in the intended context these propositions are properly taken to be close enough to that status to make the example appropriate for illustrating the kind of readiness to meet objections that is normally implied by adequate understanding of the self-evident.

Accessibility to occurrent thought

Given that the paradigms of the self-evident are formulable in sentences one can easily entertain without relying on memory, as one may have to with a long formulation, it is natural to take a kind of entertainability of propositions as an element in adequate understanding of them. But a self-evident proposition can be such that a normal person who can read it comprehendingly yet not hold it before the mind in a single "mental breath" can adequately understand it by (at least) all the criteria above. In that case the proposition, for that person, would not pass the test just described, which we associate with paradigms of the self-evident—call it *thinkability* for short (it will be relative to the capacities of different thinkers, but we need not discuss that separately). The thinkability of p is its being entertainable in toto at a single time—not necessarily instantaneously, to be sure, but in the "present," in the sense entailing no dependence on memory. Thinkability does not seem to be a strict requirement for adequate understanding. Let me explain.

Can adequate understanding of a self-evident proposition depend on memory? I believe so, but the dependence must be such as to permit, say, comparison with similar propositions, seeing entailments, and other achievements just described. Consider a multi-element conjunction that is not otherwise complicated. We might say of such cases that one can have them occurrently *in mind* even if not *before the mind* at that time—focally in the eye of consciousness. A related case is that of a multi-premise proof such that one cannot focally entertain the entire proof but has it in active memory in a way that empowers one to write it out on demand.

This kind of case confirms the hypothesis that the connection between adequacy of understanding and thinkability is only contingent. This may not hold for the (phenomenal) *sense* of understanding; that is (perhaps necessarily) tied to thinkability. The point is important since, when we lack the sense of something where we expect to have it, we tend to think we do not have it at all. The sense of understanding by its very nature tends to diminish with distance from thinkability. Perhaps the same holds for degree of understanding itself, but it would not follow that every case of adequate understanding requires thinkability.

These reflections do suggest an apparently necessary condition for comprehensional adequacy: *entertainability*, in the broad sense of *considerability*, the ability to have the proposition *in mind*—even if not *before the mind*—in a way that enables one to have the kinds of intellectual relations to it indicated so far. Take an example. You are asked to consider this: If A entails B, B entails C, and so forth through <Y entails Z>, and yet not-Z, then not-A. Even if I cannot have this twenty-eight-element proposition before my mind (focally entertaining it), I can consider it under a simple description that enables me to write it out on demand. A similar point applies to certain proofs, though with proofs a greater dependence on memory readily emerges. The point is that there are kinds of

encapsulations that permit my account of the self-evident to include many cases with a considerable degree of complexity of certain kinds. Some uses of ‘entertain’ apparently extend to considerability as I represent it, but there is a narrower sense of ‘entertain’ in which entertaining p requires having the thought that p focally in mind. This sense is too narrow to yield a condition for adequate understanding. Just as one can consider a painting without having its entirety in focus but with an overall visual sense of it, one can consider a proposition without having it fully before the mind as the content of a single thought but with a grasp of it that enables such things as discriminating it from near equivalents. What we cannot consider we cannot understand; but we can understand more than we can have focally before the mind.

Adequate understanding of a self-evident proposition, then, requires an ability to consider it with a certain degree of clarity and, accordingly, with a kind of recognition of its essential elements. Some propositions, however, are, for some people, more readily considered than others; and a fairly high degree of readiness to consider a self-evident proposition may, as a matter of contingent fact, often be necessary for a high degree of satisfaction of the other comprehensional variables we have explored that determine adequacy of understanding of that proposition. In any case, considerability of p for S comes in degrees, as does the clarity with which S considers p.

Degrees of understanding

So far, I have been exploring constitutive elements that figure essentially in degree of understanding. Contingent elements are also significant, but they are both too numerous and too far from philosophical centrality for our topic to be a main concern here. Rapidity of responsiveness, for instance, might often be a

significant contingent measure. We are often impressed by it, and many teachers like to nurture it in their students. Still, it is only contingently related to degree of understanding. A slow uptake may indicate deliberateness, and a depth of understanding may make speed uncomfortable. The slow often understand deeply, the quick can merely seem profound. Adequacy and depth are of course near equivalents here.

As in other cases, the comparative notion can help with the primary one. One case here is intrapersonal: understanding p better than one did before, yielding the question of what accounts for the improvement. There is also interpersonal comparison. It helps to consider both comparative notions. Here is a first pass at clarification by way of principles applicable to individuals:

Intrapersonal understanding of a self-evident proposition: Where p is self-evident, a person, S , understands p better than before if and only if, other things equal, S more extensively satisfies, in an overall way, the nine comprehensional variables.

Similarly we might affirm, for interpersonal comparisons:

Interpersonal understanding of a self-evident proposition: Where p is self-evident, a person, S understands p better than does another person, S_1 , if and only if, other things equal, S more extensively satisfies, in an overall way, the nine comprehensional variables.

Consider, for instance, how these formulations apply to readiness to meet objections and to the range and number seen to be relevant—or disconfirmatory. We commonly judge even ourselves in relation to these variables. We can also

look in a more positive direction—toward how well one marshals supporting considerations. A related idea regarding the interpersonal case is that S understands a self-evident proposition, *p*, better than does *S*₁ if, after a certain period and intensity of reflection on the part of both, S sees the truth of *p* and *S*₁ does not. I am inclined, however, to consider this speed variable both a contingent “measure” and, even if often useful, less important than the other variables.

Another illustration may help. Consider the proposition that *If X killed Y, then Y is dead*.¹⁴ This proposition is a good example of one that is intuitive but at least not clearly self-evident (though apparently a priori true if it is true). It is intuitive in normally evoking, on comprehending consideration, the sense of non-inferential credibility, and it has this property at least in part because the common kinds of cases by which the term ‘killing’ is learned are such that learners become aware of killings only when they are also aware of the deaths they produce. But consider this—and here I shift from what might be called a “top-down” mode of appraisal to a kind of “bottom-up” mode. You see X inject in Y a fatal dose of a poison that kills in a short time and for which you know there is no antidote. Is it wrong to react with ‘My God, X killed Y!’? Do you not see the act that is the killing? If you leave the scene before the death and are asked immediately if X killed Y, as X threatened to do, would you not say ‘yes’? Suppose there is no miracle and the poisoner died just after the injection. Did you not see the killing?

On this view, killing is constituted by an act that in a certain (non-wayward) way causes death, and the reluctance to call the poisoning a killing before the death

¹³ This has been called “as clear and obvious as anything” by Joshua Thurow in “Experiential Defeaters and A Priori Justification,” *Philosophical Quarterly* 56, 225 (2006), 596-602, p. 601. I believe I now understand this proposition better than I have before and better than some who are bilingual and affirm it with an understanding of it (expressed in English) easily good enough to translate it into another language in which they know as well as English. Just how puzzling the issue is may be seen from Judith Jarvis Thomson’s “The Time of a Killing,” *Journal of Philosophy* 68, 5 (1971), 115-132,

is epistemic—it may be plausibly thought that we don’t know “for certain” that an act is a killing until the victim dies.¹⁵ Supporting this view is the point that since killing is at least in part doing something that causes death, and since a causative event can *have* occurred before the effect occurs—at least where it brings about the latter by a certain kind of causal chain, the causative act can be completed before the death occurs. This argument is not self-evidently sound, but it should nonetheless be apparent that the claim in question is not clearly self-evident.

Do we now have an account of comprehensional adequacy? Suppose we take each of the nine variables as a criterion for understanding a self-evident proposition, in the sense of a consideration partly constitutive of such understanding. Suppose further that we take minimal satisfaction of each criterion to be satisfaction at or above the level implied by mere semantic comprehension. Satisfaction at this level seems roughly equivalent to the intellectual relation normally implied by the ability, for a bilingual person, to translate, with at least rough correctness, the relevant sentence from one of the languages to the other (I assume a person with minimal understanding of p could not fail to satisfy one or more of the variables *at all* regarding p, though this is not self-evident.)¹⁶ On these assumptions, we can perhaps say this, vague though it is:

Comprehensional adequacy: A person, S, adequately understands a self-evident proposition, p, if and only if, in relation to p, S at least

¹⁵ Killing may be overdetermined, and when poisoning works to produce death just when natural causes also do, we might hesitate to say unqualifiedly that the poison killed the victim. As to a case where someone is fatally shot before the poison produces death, there we should say that the fatal does *would* have killed.

¹⁶ One qualification here is that the person must be translating in the “normal way”—it would not do to have the person brain manipulated so as to provide, even if ignorant of one or both languages, what a translating computer dictates is the translation.

minimally satisfies each of the nine criteria of recognitional range, the sense of rejectability, explicative capacity, logical comprehension, confirmational sensitivity, discriminative acuity, translational capacity, readiness to meet objections, and considerability.¹⁷

Interpreting this, we might perhaps say that (at least for self-evident propositions) understanding is minimally adequate where all nine are satisfied at least minimally. (We might better take minimal satisfaction to be just above the level expectable given mere semantic comprehension of a formulation of p; I leave this open.) We can also describe maximality insofar as we can see what would constitute the highest degree in each category. Perhaps only minds with certain infinite capacities could achieve this. Still, we have roughly specifiable end points between which to locate adequacy. It might help to think of it as a kind of mastery of the concepts figuring essentially in the proposition in question. It lies somewhere between the low comprehensional level of the beginner and the high level of the consummate expert.

Here we must remember that the account of self-evidence presupposes the concepts of justification and knowledge. These have vagueness of their own, but once we have an account of understanding and see how to ascertain its (approximate) degree, we can appeal to those concepts—indispensable in epistemology in any case—to help in determining whether an understanding is adequate. If we take justification (justifiedness) as internal and suppose that it is in

¹⁷ In what we might call normal cases of comprehensional adequacy, many of the criteria will be satisfied at a higher level, but we should probably allow for the possibility that minimality throughout suffices in special cases. Perhaps we should also allow for a high level of satisfaction of some criteria to offset a failure of minimal satisfaction of at least one. I doubt this, but the vagueness of the relevant notions suggests this should be left open.

principle connected with a potential process of justification, we have two dimensions of appraisal for it. If we take knowledge to be partly constituted by reliable grounding, this gives a different anchor for the proposed account of self-evidence.

Barriers to understanding

An account of adequate understanding can be enhanced by considering some of the factors that prevent it or tend to reduce one's degree of understanding. Here are some instructive examples.

Biassing background beliefs may obscure one's understanding, making it defective and certainly inadequate. Consider the proposition that if parental consent is required for a child's surgery, then either a man or a woman must give it. This may seem self-evident to many people. Don't we tend to presuppose that a child's parents are a mother and father, with most people (at this writing) presupposing that a person's mother is female and father male? But does the notion of a parent entail having sex (or even gender)? And can't a transgendered person have changed in sex while remaining the same in parentage? Are sex or gender essential to being a person who plays the parenting role—perhaps socially as well as biologically—in a way that guarantees remaining the child's parent?

We certainly tend to presuppose, moreover, that a person's grandparent is not also that person's parent—and may be disposed to believe this if the thought comes to mind. Similarly, someone might be at least disposed to believe that *parent of* is intransitive. Few people have even considered this question, but my experience discussing relevant cases suggests that there is a common tendency to agree that if, e.g., Tom is the father of Addie, and she is the mother of Carl, then Tom is not the father of Carl. A technical example would be the proposition that

infinite sets are equinumerous, which might seem true on the assumption that any infinity of elements can be placed in one-to-one correspondence with the integers.

To be sure, for the incestuous proposition, as for many plausibly considered self-evident, it is not easy to say what kind of mastery of the constituent concepts is required for an adequate understanding of the proposition. Take those of being a father, being a grandfather, and being a person's child. Do these require having concepts such as producing offspring by fertilization through male-female intercourse? And if, as with a technology of the future, this concept of parenthood is not required, does it nonetheless suffice? It presumably will suffice (given the concept of a grandparent) if there is a presupposition that biologically normal fertile male and female human beings can jointly reproduce, and this does seem a normal presupposition even on the part of people who cannot initially see the truth of the incestuous proposition. However, must one see, on perhaps long reflection, that the relation *parent of* is not intransitive to have an adequate understanding of the key terms in the incestuous proposition? I am inclined to say so, given that no more than ordinary reflection on what constitutes a parent and child of the person is needed. We can of course regard the incestuous proposition as, for most people, only mediately self-evident, but this is consistent with treating it as self-evident simpliciter.

A quite different bias that can block philosophical understanding of the self-evident is suggested by the idea, expressed by Moore and Ross among others, that the self-evident is unprovable. At that rate, it could not be self-evident that if p entails q , and q entails r , and r is false, then p is false.¹⁸ Granted, for some people it

¹⁸ Moore and Ross might note that the proposition is not a good candidate for an axiom in a formal system, but meeting that condition is not required for self-evidence. It may be considered so given the functions axioms are often taken to play, such as being somehow epistemically ultimate, as with Aristotle's indemonstrables. See, e.g., *Posterior Analytics* 72b.

is only mediately self-evident. I am not taking non-inferentiality to rule out internal inferences (those using premises following from the self-evident proposition itself or from some constituent proposition in it), so am allowing that adequate understanding may in some cases be achievable only through drawing inferences.

III. Some Epistemological Implications

The main epistemological contribution this paper aims at is to enhance the account of self-evidence sketched at the beginning with a view to clarifying how it bears on knowledge and justification. The main ontological contribution it aims at is to show how, if self-evident propositions (at least those that are not purely formal) are conceived as (in rough terms) expressing relations of abstract entities, then knowledge of the self-evident can be seen to be like knowledge of many ordinary empirical propositions in being a case in which the belief constituting knowledge is reliably connected to its truthmaker. This section brings out the relevance of the account of self-evidence to the theory of disagreement; Section IV concerns related ontological issues.

Contrary to the common view that the self-evident is obvious, it is possible for people to have a rational disagreement on a self-evident proposition: one person rationally believes p while the other rationally disbelieves it or withholds believing it. Here it is essential to see that even adequately understanding a proposition and considering it with such understanding does not entail believing it, though, in rational persons, it at least commonly tends to yield both intuition and belief. One reason neither belief nor intuition is entailed is that the effect of some biasing background belief can obscure one's understanding, thus making it defective. Don't most people tend, for instance, to presuppose that one's parents are blood relatives? This shows how a rational person may (if temporarily) deny a

self-evident proposition owing to inadequately understanding it, e.g. that (given adoption) a mother need not be a blood relative of her children,.

A philosophically important case of rational disagreement on a self-evident proposition occurs where both parties adequately understand it and are thereby justified in believing it, yet one believes it and the other disbelieves it. Such a disagreement may be considered rational because the negative view might be supported by plausible though unsound arguments—arguments just good enough to prevent the disbelief from being irrational.¹⁹ On the assumption that some philosophical theses are self-evident, their being rationally disputed makes them an important source of possible examples of precisely what I am describing. What this paper shows is both how biasing considerations can lead to denying something self-evident and also how appeal to the dimensions of understanding introduced here can be a route to achieving agreement.

These points do not imply that self-evidential justification is indefeasible. Self-evidential justification is defeasible because comprehensional adequacy is vulnerable. How it is vulnerable—say to confusion or misleading argumentation—is clear given the many variables that determine it. Many factors, including philosophical discussion, can impair it. If, however, S adequately understands a self-evident proposition, then S is justified in believing it and capable of knowing it, even if, on the basis of plausible but unsound arguments, S disbelieves it at the time.

Related to the disagreement issue is another question the account of self-evidence raises. How *unobvious* can the self-evident be to those with enough understanding to translate a formulation of it? More broadly, given semantic

¹⁹ In, e.g., “Intuition and Its Place of Intuition in Ethics” I have indicated in more detail how such a disagreement might occur, cited an apparent case in ethical theory, and indicated one way to approach resolution, but there is no need here to bring in the details.

comprehension of a self-evident proposition, what more is required for adequate understanding? Recall the incestuous proposition, which, without seeing its truth, someone could understand well enough to translate it. It might be so far from obvious for such a person as to make disbelieving it at least minimally rational. We need a theory of rationally believing, and of having justification, that leaves open their not entailing, and even being at quite a distance from, occurrent justification, which is (roughly) justification for p at t where, at t , S has *in mind* (in the right, adequately comprehending way) some justifying element, e.g. an understanding of the right kind. (Thus, an occurrent justified belief is not thereby occurrently justified, and an occurrent justification for believing p does not entail believing it occurrently—or at all, as with “refusal to believe.”)

IV. The Apprehension of Abstract Entities

The main epistemological points in this paper are supported by a certain account of the ontological commitments of the theory of self-evidence and understanding presented here. Ontologically, understanding as I’ve explicated it might be argued to be explicable without positing abstracta. But suppose, as seems more plausible, that the concepts that must be understood in the relevant cases of understanding are abstract and that their relations are what grounds the truth of the propositions in question.

A perceptualist conception of the ontology of the self-evident

Suppose, then, that we conceive a priori knowledge of the self-evident on analogy with perceptual knowledge. Empiricists will want to know how the facts in question can causally yield the purported knowledge. So might anyone who takes knowledge that p to depend on some reliable connection between, on the one hand, the fact that p and, on the other hand, any individual belief that p constituting

knowledge that p . The rough idea is that knowledge seems subject to a causal reliability condition, roughly

A causal reliability condition: A belief constituting knowledge must be reliably *fact-based* in some causal if indirect way.

Given the conception of the a priori I have sketched, what can be said to the objection that my view of self-evidential knowledge precludes its meeting this condition?

In addition to leaving open—at the outset, at least—the possibility of a contingent self-evident truth, my account is moderate in not requiring any special faculty for knowing the self-evident. Proponents of an external causal condition on all knowledge might deny this. Suppose, for instance, that to know a proposition, one must be causally affected by (or at least causally connected with) some object(s) it is about. Then it might be argued that knowledge can be grounded in understanding a proposition only if some abstract entity, such as a constituent in that proposition, causally affects the mind.

Such a causal condition is not necessary for a priori knowledge, even conceived, as it is here, “perceptionally.” What kind of causal condition might be required? Let me approach this gradually. I assume that apprehension of abstract entities is like perception of concrete ones in not being intrinsically doxastic. One need not have beliefs about the apprehended entity. This is consistent with holding that to understand abstract entities *is* in part to be in some kind of contact with them. Such contact presumably manifests a basic capacity of the mind, not peculiar to some special mental faculty, whether the capacity is in some sense causal or not. Here are some important similarities to physical perception.

First, apprehensional knowledge of abstract entities is direct in being non-inferential, as in ordinary perceptual knowledge, and no inference is needed for formation of beliefs about the apprehended entity. Second, and related to this, apprehension has both *de re* and *de dicto* forms. In the *de re* case, it has a phenomenology in which acquaintance with the relevant object, such as the concept of a circle, is an element, and it also entails a discriminative sensitivity to the kinds of elements we noted in considering how understanding figures in justification for believing self-evident propositions.²⁰ In the *de dicto* case, occurrently believing a self-evident proposition on the basis of understanding the abstract entities it is about commonly has the same kind of sense of presented truth that is often experienced in having an (occurrent) perceptual belief.

Two further points, related to those made so far, are also important. One is that apprehension exhibits both referential and propositional factivity, as does ordinary seeing: if you apprehend a concept, say that of triangularity, there is such a concept, and if you apprehend *that* triangularity entails three-sidedness, then it does. Another point is that apprehension may, like ordinary seeing, be aspectual—as where you might apprehend a relation *as* necessary—and here the property in question may or not belong to the apprehended entity. This makes way for a kind of fallibility, as illustrated by the possibility of uncritically identifying a proposition with its contrapositive. It is important to see that none of these points implies that a belief can constitute a priori knowledge without meeting *any* causal condition.

²⁰ This approach may well be consistent with that of Elijah Chudnoff, (*First Book*) e.g. in chs 4 and 7 of his wide-ranging and valuable *Intuition* (Oxford: Oxford University Press, 2013), though the two approaches are very different. In part following Edmund Husserl, he sketches an account of how relations among abstract elements are apprehended. See especially Husserl's treatment of "presentive consciousness" in ch 2 of *Ideas Pertaining to a Pure Phenomenology and to Phenomenological Philosophy* (The Hague: Martinus Nijhoff, 1982), F. Kersten trans.

A fifth point concerns the presentational aspect of apprehension. This opens the way for a further similarity between apprehension and physical perception. In apprehension, as in perception, we instantiate phenomenal properties: those that can enable us to characterize physical objects in the perceptual case and those that can enable us to characterize abstract ones in the apprehensional case, e.g. for plane figures, enclosing an infinite number of points. In both cases, acquaintance with instances of the concepts in question seems crucial, and in the abstract cases the instances may be considered a kind of *guise*. Different size circles, e.g., are guises in which the concept can be presented to us—and imaginatively or physically represented in diagrams. For normative propositions, agents and act-types may figure in the guises, as in reflections on the concept of promising.

What makes the causal condition on knowledge plausible may be more than its apparent application to all empirical knowledge. Perhaps the requirement is best conceived as a special case of the wider requirement that knowledge must be based on something appropriately connected with that in virtue of which a belief constituting that knowledge is true. We might call this the *external requirement on knowledge* provided we note that *self-knowledge* (which includes knowledge of one's mental states) can be based on something not external to the *mind* but only to the belief in question. If the properties and relations of abstract entities are external to the mind, knowledge of self-evident propositions meets the external requirement. On the other hand, because those properties and relations are *accessible* to the mind, justification, conceived on epistemologically internalist lines, is also possible for self-evident propositions. The proposed characterization of self-evidence thus connects it with both internal and external epistemological requirements; and in the light of the previous sketch of adequate understanding as a ground of justification and knowledge, it should be clear how, for self-evident propositions, both are possible on the basis of internally accessible grounds.

A further point can be made here. Suppose that understanding of abstract entities and their relations—say, of circles and spaces and of the inclusion relation between them—does entail a kind of direct contact with them, indeed, a kind such that these entities form an essential part of the very content of that understanding. These entities play an indispensable, if indirect, role in sustaining beliefs that are justified a priori or constitute a priori knowledge. These beliefs have understanding as a causal sustaining ground, and the relevant understanding in a sense contains—by virtue of embodying a direct apprehension of—the abstract entities that ground the truths known. The causal basis of such beliefs, then, guarantees the presence of their truthmakers.²¹ Through this apprehensional causal grounding of the beliefs, they are *reliably* connected to the facts they represent.

Given that the relevant causal sustaining relation is explanatory, the understanding also *explains* why the self-evidentially justified belief is held. This is a kind of sustaining relation between psychological elements that are not themselves events. *Reaching* an occurrent understanding, however, is an event and may yield an occurrent intuition with the self-evident proposition as content. Indeed, simply having an occurrent understanding may yield an occurrent intuition with this content. This intuition, as an occurrent conscious element embodying a phenomenal sense of truth or at least of non-inferential credibility, can similarly explain the event of belief-formation.

²¹ One could say here, as John Bengson does in his detailed and nuanced study of apprehension, that the truthmaker is a constituent in the apprehension. This perhaps need yield no difference in what propositions are considered self-evident. See his “Grasping the Third Realm,” forthcoming in Tamar Szabo Gendler and John Hawthorne, eds., *Oxford Studies in Epistemology* (vol.). I prefer the relational view in part because I take apprehension to be capable of different degrees of clarity in the way perception is, and this seems best explained on the view that the object apprehended is not itself a constituent in the apprehension but rather something to which access may, as with perception, be better or worse and have varying degrees of clarity.

Comprehensional events of a related kind may yield knowledge of a self-evident proposition. Consider having a sudden insight, e.g. realizing the possibility that a man could produce a grandchild with his daughter, and thereby seeing how the incestuous proposition is true. This apprehensional event may be a case of knowledge-acquisition (and will be if the belief in question is based on, and not just caused by, the occurrent adequate understanding of a self-evident proposition).²²

There is also a kind of *normative* explanation where adequate understanding of a self-evident proposition is that in virtue of which one is justified in believing it. This understanding explains, *non-causally* and in what seems an a priori way, why the person is justified in believing the proposition. It does this in part because it guarantees comprehensional access to abstract entities whose nature or relations account for the truth of that proposition. Such access, as enabling understanding the essential elements in the proposition, makes possible in principle the person's *justifying* the proposition by an appropriate manifestation of the understanding.

The relevant kind of understanding is in some sense conceptual (and in that way different from perception as such), but it is not reducible to understanding terms in any particular language. The conceptual knowledge in question may, however, be reached *through* linguistic understanding and perhaps even through a certain kind of mental imaging; but it is not constituted by understanding any particular language (and arguably not essentially linguistic at all) or by mental imaging. Moreover, the knowledge based on adequate understanding is not

²² May we posit a causal sustaining relation between relational phenomena such as understanding an abstract entity and believing a proposition in which it figures, where one relatum is abstract? I believe so. Both understanding and believing are in an overall way temporal and (arguably) in some way spatial. That the mind has direct access to abstract entities does not entail that its *accessing* them is not spatiotemporal in an appropriate way. In any case, the same kind of question about causality seems at least as important for the constitution view.

groundable in a definition of any linguistic expressions and need not be groundable through the kind of analysis of concepts that (apparently) enables us to reduce the proposition that all vixens are female to the formal truth that all female foxes are female. No parallel analysis is available for the concepts central for substantive a priori truths, such as the concepts of a circle, of redness, and, arguably, of moral obligation.²³

This view of apprehension does not entail that abstract entities have causal power. They do not play a direct causal role in producing or sustaining justified self-evidential beliefs. But they do play an essential role in what is a causal basis of such beliefs: they are essential objects of the kind of understanding that plays a direct grounding role in which it does the ordinary causal work of producing or sustaining belief. The indirect causal role of abstract entities—a role they play as essential in the understanding that causally grounds the relevant knowledge—can guarantee true belief as well as can any ordinary causal role played by physical phenomena; and it is the need for a reliable basis of truth that chiefly motivates the causal requirement in the first place.

Despite all the analogies to ordinary perception now sketched, one may wonder how the apprehensional conception of knowledge of self-evident truths captures the presentational element in the former. One natural answer is suggested by a developmental perspective: we might think of the concrete things on which intuitive induction works as guises in which abstract entities present themselves. Consider drawing a triangle to represent “any triangle” and thereby learning that, say, any enclosed angle must be smaller than 180 degrees. The object is concrete, yet its representational function is general. But note that sounds and other perceptibles do not invite the same picture; sounds are presented only to hearing

²³ The possibility of reduction of such normative concepts (and properties) as obligatoriness is critically considered in my *Moral Perception* (Princeton: Princeton University Press, 2013).

and do not even presuppose space, at least in the way triangles do. Nonetheless, the pitch A 440, presented pianistically, may still be a basis for recognition of the same pitch represented by a violin. With notions like entailment, which are not instantiated by concrete entities, we may still take linguistic representations—whether in writing or in thought—to be or at least to elicit kinds of presentations. A reasonable conclusion here is that for apprehension, as for ordinary perception, the objects are phenomenally presented in multiple ways, and in *both* cases an understanding of something abstract (such as properties) is needed for presentational occurrences to ground knowledge.

Must abstract entities be presented to us by concrete guises in order for us to understand them adequately? This could be developmentally normal in human life; but even if it is, philosophical dialectic seems to show that we can think, conceptually, and in an abstract way, about, say, the concepts of knowledge and obligation. Suppose, moreover, that a perfect duplicate of me has all the understanding I have of the abstract. At the first moment of his creation, he will not have encountered anything. Understanding, then, does not entail *prior* acquaintance with any object.

If this ontic picture is on the right track, we also have a way of *both* extending a version of reliabilism to the a priori and saving a causal reliability condition on belief as a condition for its constituting knowledge—an epistemic success condition, where ‘epistemic’ is understood as pertaining to knowledge and not taken to concern justification as well. Let me sketch further how the extension works for knowledge and, on the basis of what we can see there, for justification.

Apriority and necessity

I here assume that self-evident propositions and indeed a priori propositions in general are necessary. If there are exceptions, as Kripke and others have argued,²⁴ we may take my points to hold for those cases that are necessary, which surely include the paradigms and at least many cases of logical, mathematical, normative, and philosophical propositions. I also assume that self-evident propositions are constituted by abstract entities and their truth is determined by the relations of those entities. If we take understanding to be a kind of direct apprehension (where this has both occurrent and dispositional forms), we can treat adequate understanding analogously to the way we treat adequate sense-perception in the case of seeing. You see an object adequately relative to obtaining knowledge of a proposition about it when your sensory representation includes the properties and relations crucial for the truth of the proposition. To see that a figure is (approximately) pentagonal, e.g., we must see each side and the five straight lines together with their relation of contiguity and the five equal angles at their joints. To see the truth of the proposition that first cousins share a pair of grandparents, one must apprehend the concepts and relations *child of*, *sibling of*, *parent of*, and *grandparent of* and also apprehend at least the entailment between *being a child of a child of* and *being a grandchild of*. Such apprehension is a major element in adequate understanding, and when adequate understanding is occurrent, as where one comprehendingly considers the proposition in question, it tends to yield an intuition whose content is the self-evident proposition.

Now where believing a self-evident proposition is based on an adequate understanding that is in direct contact with the truthmakers for the proposition, the belief is reliably grounded. There is no room, as it were, for a wayward causal

²⁴ I refer to Saul Kripke's widely discussed meter bar case in *Naming and Necessity*, in which the contingency of 'the length of the Meter Bar [in Paris] is one meter is treated as both a priori and contingent.

chain between the truthmakers and the belief, which is non-inferentially based on a psychological state “containing” them. Now suppose one assumes that abstract entities (at least the kind in question regarding a priori knowledge) have all their properties (monadic and relational) essentially and is thereby committed to

A constancy assumption regarding abstracta: The relations of abstract entities are constant across all possible worlds.²⁵

This assumption would explain why the a priori (if solely about abstracta) is also necessary, but the overall theory of self-evidence I am defending apparently does not *require* the constancy assumption. It also does not imply that when one does adequately understand a self-evident proposition that *is* necessary, one must also grasp its necessity—though *disbelieving* that it is necessary might suggest an inadequacy in one’s understanding of it. Self-evident propositions can be accounted for roughly as I propose even if they are not only adequately understandable without exercising the concept of necessity but are also not taken to be necessary.

The case of self-evidential justification is similar, but we must remember that being justified *in* believing *p* does not entail believing it—this non-compelling character of self-evidential justification is what above all explains the possibility of rational disagreement on the self-evident. Positively speaking, we might hold something close to the following:

²⁵ I am assuming that the self-evident is the base case of the a priori and that entailment (the relation linking the self-evident to the remaining a priori propositions, preserves both truth and modality. What is entailed by a necessary axiom is therefore itself necessary.

Epistemological presentationalism: Much as (given sufficient understanding of the relevant propositions) we are justified in believing perceptible propositions sensorily represented to us, we are justified in believing a priori propositions apprehensionally presented to us.

In the occurrent cases of self-evidentially justified belief, a kind of intuition is normally parallel to a sensory seeming.²⁶ One may wonder why in such cases, understanding-based justified belief that *p* apparently entails knowing that *p*. Given the apprehensional relation that a belief *based on* adequately understanding *p* bears to its truthmakers, this should be no surprise. But the question whether this entailment holds is strictly speaking neutral with respect to the necessity of the self-evident or the a priori in general.

Self-evidence cannot be accounted for without appeal to the notion of understanding the kind of proposition in question. But not just any kind of understanding will suffice. It is very difficult to specify what kind is adequate. This paper seeks to indicate the main variables that determine what constitutes comprehensional adequacy. Even when we have these variables in clear view, however, there is no quantitative measure of adequacy. It may help to call the comprehensional adequacy in question a kind of *intellectual mastery* of the relevant concepts. This mastery admits of degrees and connects understanding with degrees of justification, but some vagueness in the account of

²⁶ Only normally because skepticism or disbelief can prevent its formation. A philosopher who rejects a self-evident principle is not likely to have an intuitive seeming that favors it; but it does not follow from this that the philosopher does not adequately understand the proposition. Similarly, if, in a skeptical moment, I denied seeing something that is in plain view, it would not follow that I do not see it quite clearly.

comprehension adequacy remains. I have shown, however, that the vagueness we cannot eliminate is appropriate to that of 'self-evident' and does not prevent the account from yielding a good intuitive sense of what kind of understanding goes with the sort of consideration of self-evident propositions that tends to yield justification and knowledge. The proposed account of adequate understanding also helps in explicating understanding in empirical cases, such as those of generalizations in science. In both cases, the variables constitutive of understanding apparently correspond to some of the dimensions of possible clarification and explication of the propositions in question—perhaps indeed of propositions in general. Regarding the broad notion of the a priori, if the self-evident is indeed the basic case of the a priori and is to be explicated as I have proposed, we can see that the more generous our notion of adequate understanding, the wider the a priori can be taken to be and the more substantive we may consider it. We need not, but may, consider it a realm of necessity. Conceived as I propose, the a priori may be plausibly taken to extend to certain normative truths and to many propositions of philosophy itself. Whether or not one so conceives the a priori, the points that have emerged here may help in appraising the power of reason and, implicitly, that of philosophical reflection.²⁷

²⁷ Acknowledgments