Linguistic Understanding and Knowledge of Truth-conditions: Problems for the Epistemic Determination Argument

Abstract: What do you know when you know what a sentence means? According to some theories, understanding a sentence is, in part, knowing its truth-conditions. Dorit Bar-On, Claire Horisk, and William Lycan have defended such theories on the grounds of an "epistemic determination argument" ("EDA"). That argument turns on the ideas (a) that understanding a sentence, along with knowledge of the non-linguistic facts, suffices to know its truth-value, and (b) that being able to determine a sentence's truth-value given knowledge of the non-linguistic facts is knowing its truth-conditions. I argue that the EDA withstands the objections recently raised by Daniel Cohnitz and Jaan Kangilaski, but fails for other reasons. It equivocates between a fine-grained and a coarse grained conception of "facts."

I. Introduction

Linguistic understanding is a cognitive achievement. Understanding a sentence is knowing what it means, and that is certainly knowing *something*. But what do you know when you understand a sentence? Theories of understanding fall into two main categories, which reflect two main kinds of theories of linguistic meaning.

According to "truth-conditional" theories of understanding, understanding a sentence involves, at least, knowing its "truth-conditions" (i.e., how things would have to be for the sentence to be true and how they would have to be for it to be false) and grasping how those conditions derive from the sentence's structure and the meanings of its parts. So, according to such a theory, your understanding of 'Cats purr' is your grasp of it as a representation that is true if cats purr and false if they do not.

Truth-conditional theories of understanding are intuitively appealing. It is hard to see how someone could understand a sentence, such as 'Some pelagic fish are ovoviviparous' without having an idea how a world in which that sentence is true differs from one in which it is false. The theories do face some hard cases, though. Consider Hilary Putnam's famous ignorance of the difference between beeches and elms. Surely Putnam can understand 'That tree is a beech' without having a clear idea how a world in which the sentence is true differs from one in which the tree in question is an elm rather than a beech.

Other hard cases come from particular subject matters, such as ethics and aesthetics. Consider 'Gauguin was a terrible man and a wonderful painter'. That sentence's truth-value is controversial. Reasonable people, who understand the sentence and agree about the facts of Gauguin's life and work, still disagree about whether it is true. They disagree about the conditions under which someone is a terrible person

or a wonderful painter. If understanding a sentence involves knowing its truth-conditions, such disagreement is puzzling.

Use-theories of understanding are the main alternatives to truth-conditional theories. Though use-theories vary in their details and their emphases, they generally share the idea that understanding a sentence involves grasping its place in a socially instituted communicative practice of making, justifying, challenging, and reasoning with assertions.

On a use-theory, your understanding of 'Cats purr' is a practical competence or grasp of the sentence's place in the socially instituted practice of speaking English. You understand the sentence to the extent you understand what circumstances would warrant its utterance, and what further considerations might defeat that warrant.

Use-theories are also intuitively appealing. It is hard to credit me with understanding 'Cats purr' as a sentence of English if I have no idea when it is appropriate or inappropriate for someone to assert it and I cannot reason with it. Use-theories also have problems, though. Assertions can be warranted without being true. If I understand what warrants an assertion, but I have no idea what it would take for the assertion to be true, it still seems as though I fail to understand the meaning of the sentence.

Use-theories have further disadvantages. People can fake their ways through conversations, saying the right things at the right times, without really understanding what they are talking about. Use-theories have scant resources for distinguishing between people who know what they are talking about and good fakers.

This paper criticizes one particular argument meant to support truth-conditional theories of understanding, the *Epistemic Determination Argument* (Bar-On et al 2000; Lycan 2010). I will call it "EDA". That argument depends on the following two principles:

(E-Det) If you know a sentence's meaning and you are omniscient as regards nonlinguistic fact, then you know the sentence's truth value.

(KTC) To know enough to assign a sentence a truth value given knowledge of all the nonlinguistic facts is to know a truth-condition.

Drawing on cases described by Timothy Williamson (Williamson 2006), Daniel Cohnitz and Jaan Kangilaski (Cohnitz & Kangilaski 2013) have argued that (E-Det) has counterexamples. Those alleged counterexamples fail to undermine (E-Det), but their failure, though, highlights a deeper problem with EDA. We can think of "facts" in either a coarse-grained or a fine-grained way. If facts are coarse-grained, (E-Det)

is false, but if they are fine-grained, (KTC) is false. In neither case, then, is EDA sound. Furthermore, I will argue, a natural reformulation of EDA in terms of knowledge of propositions, rather than knowledge of facts, still fails to avoid the problem.

II. The Epistemic Determination Argument

Dorit Bar-on, Claire Horisk, and William Lycan (Bar-On et al 2000) offer two "determination" arguments for truth-conditional theories of meaning. One is metaphysical. It aims to show that sentence meanings are at least partly constituted by truth-conditions. The other is epistemological. It aims to show that knowing the meaning of a sentence is at least partly a matter of knowing its truth-conditions.

The metaphysical determination argument is not my focus here. Suffice it to say that, if that argument is sound and understanding a sentence is (at least) knowing its meaning, then understanding a sentence is (at least) knowing its truth-conditions. My focus is on EDA, the *epistemic* determination argument. The question is how well that argument supports truth-conditional theories of understanding, irrespective of what other support might be available for them.

EDA is based on the idea that knowledge of sentence meanings and knowledge of the state of the world jointly suffice to guarantee knowledge of truth-values. The argument is as follows (Bar-On et al 2000, p. 19):

(E-Det)   If you know a sentence's meaning and you are omniscient as regards nonlinguistic fact, then you know the sentence's truth value.

(E2)   Therefore, knowing a sentence's meaning is at least knowing enough to assign the sentence a truth-value given omniscience about the nonlinguistic facts. [from (E-Det)]

(KTC)   To know enough to assign a sentence a truth-value given omniscience about nonlinguistic facts is to know a truth-condition.

(E4)   Therefore, knowing a meaning is at least knowing a truth-condition. [from (E2), (KTC)]

"Meanings" might be whatever you know when you know what a sentence means. If so, EDA has both metaphysical and epistemological implications. If meanings are what you know when you know what a sentence means, and knowing a meaning is at least knowing a truth-condition, then meanings must be at least truth-conditions. Likewise, if knowing a meaning did not involve knowing a truth-condition, that would count against a truth-conditional conception of meaning. Truth-conditional theories of understanding go hand-in-hand with truth-conditional theories of meaning.

EDA is intended to support truth-conditional theories of meaning, as against the various sorts of use theories, such as those of Brandom (Brandom 1994), Horwich

(Horwich 1998), and Wittgenstein (Wittgenstein 1973). Thus, its crucial premises have to strike a delicate balance. On the one hand, they cannot just assert that knowing a meaning is knowing a truth-condition; that would beg the question. On the other hand, the premises must be substantial enough ultimately to support the conclusion (E4).

Cohnitz and Kangilaski argue that EDA fails. They try to show that a modest and plausible use-theory of meaning is consistent with rejecting (E-Det). Given that theory, they think, (E-Det) has counterexamples, which I will call "CK counterexamples." Consequently, they argue, either EDA is unsound because (E-Det) is false, or it begs the question against a plausible, non-truth-conditional theory of understanding. The CK counterexamples don't work, but they help point the way to EDA's real problem.

III. The CK Counterexamples

Cohnitz and Kangilaski consider what they call "social use" theories of meaning. According to such theories, the meaning of an expression depends on socially instantiated patterns of usage (p. 231). Because the patterns of usage are socially instantiated, an individual's deviant usage can qualify as incorrect or mistaken, even if it is stable and uniform. As a speaker of English, if I try to communicate the truth that my house is similar to others on the block by saying 'My house is not very unique', then what I have said is false, even if it accords with my idiosyncratic ways

of using 'unique' or my (false) belief that uniqueness is a matter of degree. Cohnitz and Kangilaski argue that (E-Det) cannot avoid certain counterexamples without begging the question against this non-truth-conditional theory of meaning.

The CK counterexamples derive from cases Timothy Williamson (Williamson 2006) uses to attack a certain epistemic conception of analyticity. Williamson introduces two characters, Peter and Stephen, with some unusual ideas about logic and foxes.

Peter thinks sentences of the form 'All F are G' entail sentences of the form 'Some individuals are F'. In the jargon, he thinks A-type sentences have existential import. Moreover, Peter thinks there are no vixens, and there never have been. Rather, a conspiracy has misled people into thinking there are vixens. Peter thus believes 'All vixens are vixens' is false.

Stephen thinks contemporary foxes have some ancestors that are borderline vixens. Those ancestors are not quite foxy enough to be definite foxes, but they are not quite unfoxy enough to be definite non-foxes. Stephen also holds that a claim such as 'x is a vixen' has no truth-value when x is a borderline vixen, that $p \rightarrow q$ has no truth-value when neither p nor q has one, and that sentences of the form $(x)(Fx \rightarrow Gx)$ have truth-values only when all their instances have truth-values. Consequently, Stephen thinks 'All vixens are vixens' lacks a truth-value.

Neither Peter nor Stephen thinks 'All vixens are vixens' is true. Williamson insists, however, that they understand the sentence as well as anyone (Williamson 2006, pp. 12-14). Moreover, 'All vixens are vixens' means the same thing in Stephen or Peter's mouth as it does in any other English speaker's, thanks to the social use theory of meaning. Their deviant notions about vixens and logic do not alter the sentence's meaning, and they do not constitute failures of Peter and Stephen to understand the sentence. The case of Stephen and Peter shows that merely knowing what a logically true sentence means does not suffice for knowing it is true. If "analytic" truths are sentences whose truth one automatically recognizes upon understanding their meanings, Williamson contends, then there just aren't any analytic truths. (Or, more modestly, 'All vixens are vixens' is not among them.)

Cohnitz and Kangilaski think Peter and Stephen are also counterexamples to (E-Det), on its most plausible interpretation. As it stands, of course, they clearly are not. Neither Peter nor Stephen is omniscient with respect to the nonlinguistic facts, and both have some unusual factual beliefs about vixens. That may not be serious problem. Peter would deny 'All unicorns are unicorns', on the basis of his knowledge that there are no unicorns. Likewise, if Stephen is wrong about the existence of borderline vixens, then substitute some other category that does have borderline cases (e.g., bald people, heaps, gray things, or furniture) and Stephen would count as the relevant sentence of the form 'All F are F' as untrue.

The above characterization is not precisely as Cohnitz and Kangilaski present their counterexamples. Following Lycan (2010), they recognize that (E-Det)'s appeal to omniscience about nonlinguistic fact doesn't adequately express the intuition (E-Det) is meant to express. As stated, (E-Det) has easy counterexamples in sentences that are themselves about linguistic matters. Lycan's example is ''Die' is both a noun and a verb'. Even if you know the meaning of that sentence, no amount of *nonlinguistic* knowledge would enable you to know its truth-value.

Lycan thinks such counterexamples are easy to handle by reformulating EDA type-theoretically. There are sentences about nonlinguistic reality, sentences about those sentences, sentences about *those* sentences, and so on up the hierarchy. It is not, strictly speaking, *nonlinguistic* omniscience that matters, but rather omniscience as regards the facts lower in the hierarchy than a given sentence (Lycan 2010, p. 101).

Cohnitz and Kangilaski think Lycan's move is more complicated than the intuitions behind (E-Det) require. They suppose that, for any given sentence,
there is some range of facts relevant to its truth or falsity, the sentence's "satisfaction facts." A sentence's satisfaction facts may or may not be linguistic. In the case of 'Squash balls float', they are not. In the case of ''Die' is both a noun and a verb', they are. As Cohnitz and Kangilaski reconstruct it, (E-Det) says that someone who knows the meaning of a sentence and also its satisfaction facts is guaranteed to know its truth-value.

Cohnitz and Kangilaski assume logical truths, such as 'All vixens are vixens', have a *null* set of satisfaction facts. That maneuver lets them treat Peter and Stephen as counterexamples to the reconstructed (E-Det); the characters trivially know all the satisfaction facts of 'All vixens are vixens' because there are no satisfaction facts to know. Nevertheless, the CK counterexamples fail to undermine (E-Det).

IV. Why the CK Counterexamples Do Not Work

On pain of begging the question, (E-Det) must be understood in a way that could be acceptable to someone who endorses a social use theory of meaning. At the same time, an *opponent* of EDA should not construe it in a way that would be unacceptable to someone who accepts a *truth-conditional* theory of meaning. Any supposed counterexamples to (E-Det) must allow as much ground to the truth-conditionalist as possible, without giving up the game entirely.

Peter and Stephen supposedly know the meaning of 'All vixens are vixens' without knowing its truth-value. A truth-conditionalist can grant that much without giving up (E-Det), she need only count the fact that all vixens are vixens as *nonlinguistic*. In that case, Peter and Stephen can't be counterexamples to (E-Det) because they don't know all the nonlinguistic facts. They do not even *believe*, much less *know,* that all vixens are vixens.

The truth-conditionalist can defend her treatment of the fact that all vixens are vixens as nonlinguistic. First, there appears to be nothing in either truth-conditionalism or the social use theory of meaning that *requires* it to be considered linguistic. It is not a fact about words, or about their relationship to the world. So, it seems to beg no questions to count it as nonlinguistic. Furthermore, for each vixen, the fact that it is a vixen is clearly nonlinguistic, as is the fact that those are all the vixens there are. It would be reasonable to count a generalization of nonlinguistic facts concerning the sex and species of various animals as itself nonlinguistic.

An opponent of EDA might want to cut off this line of response by appealing to a variant Peter case, using 'All unicorns are unicorns'. There being no unicorns, there is no such nonlinguistic fact as the fact that any particular unicorn is a unicorn. And if there is no such nonlinguistic fact, we can't see 'All unicorns are unicorns' as a nontrivial generalization about those facts.

But suppose Peter does know all the nonlinguistic facts. He knows, of each *non-unicorn*, that it is not a unicorn. He thus knows of each individual, *x*, that *x* is a unicorn if *x* is a unicorn. He also knows that those are all the individuals there are. So, he knows that, for every *x*, *x* is a unicorn if *x* is a unicorn. That is, he knows that all unicorns are unicorns. His failure to know that all unicorns are unicorns is inconsistent with his knowing all the nonlinguistic facts.

Peter is logically deviant, though. Even given knowledge, of each individual x, that x is a unicorn if x is a unicorn, and given knowledge that those are all the individuals there are, he won't infer that all unicorns are unicorns. He won't make that inference because he thinks it is invalid. It requires another premise, to the effect that there are some unicorns, and Peter knows there aren't any. Peter will conclude that 'All unicorns are unicorns' is false.

Peter is either right or wrong about logic. If he is right about logic, then he is also right about the truth-value of 'All unicorns are unicorns', and he knows all the nonlinguistic facts. If he is wrong about logic, then he does not know all the nonlinguistic facts because his deviance keeps him from knowing that all unicorns are unicorns. Either way, he is not a counterexample to (E-Det).

Stephen is not a counterexample either. Let us substitute the clearly vague predicate (with actual borderline cases), '_ is a bald person', for the more controversially vague '_ is a vixen'. Let $B(x,y)$ be the relation that obtains between x and y iff the following condition holds:

y is a bald person if x is a bald person

For any given x and y, the fact that $B(x,y)$ appears not be linguistic. Suppose Stephen is wrong about the logic of vagueness. Then everything in the universe bears the relation B to itself—$B(x,x)$ holds for all values of x. In particular, there will be a borderline bald person, b, such that (1) $B(b,b)$, (2) Stephen does not believe $B(b,b)$, and hence (3) Stephen does not know $B(b,b)$.

In English, the case is this. Suppose Bob is a borderline case of baldness, and Stephen is wrong about the logic of vagueness. *Being bald if Bob is* is a nonlinguistic property, and it is a property that Bob has. It is a nonlinguistic fact about Bob that he has the property of being bald if Bob is bald. That is a fact that Stephen does not believe to obtain, and so it is a fact Stephen does not know. So, if Stephen is wrong about the logic of vagueness, there are nonlinguistic facts that Stephen does not know.

Now suppose Stephen is right about the logic of vagueness. Then he is also right in believing 'All bald persons are bald persons' is neither true nor false; he knows the sentence's truth-value after all. So, either Stephen isn't omniscient about the nonlinguistic facts, or he is omniscient about them and also knows the truth-value of 'All bald persons are bald persons'. Either way, he is not a counterexample to (E-Det).

This shows the CK counterexamples do not work against the original formulation of (E-Det), which cites omniscience about nonlinguistic fact. It would also show that they are not counterexamples to Lycan's type-theoretic reformulation of (E-Det). Cohnitz and Kangilaski, however, think we have strong independent reason to prefer a different formulation, which cites knowledge of the "satisfaction facts" for a

sentence, rather than knowledge of all the nonlinguistic facts. Their counterexamples do not work against the revised (E-Det) either.

Cohnitz and Kangilaski never make it clear what "satisfaction facts" are supposed to be. Their argument turns on the idea that logical truths, such as 'All unicorns are unicorns' *have no* satisfaction facts. But a defender of (E-Det) can easily reject that view. Presumably, the satisfaction facts for a sentence will have something to do with the distribution of properties the sentence mentions to individuals quantified over or referred to by name, along with some specification of a universe of discourse. The satisfaction facts for 'Quentin is a badger' involve whether or not Quentin has the property of being a badger. The satisfaction facts for 'All badgers are marsupials' would include the distribution, among all individuals, of the property of *being an x such that x is a marsupial if x is a badger*, as well as the fact that those are all the individuals there are*.

A defender of (E-Det) can plausibly maintain that 'All unicorns are unicorns' has satisfaction facts, which include the facts concerning the distribution among all individuals of the property *being an x such that x is a unicorn if x is a unicorn*, along with the fact that those are all the individuals there are. If Peter knows the satisfaction facts for 'All unicorns are unicorns', then he knows that, for every individual x, x is a unicorn if x is a unicorn. Someone who knows that, yet denies that 'All unicorns are unicorns' is true, must be adopting a deviant interpretation of the universal quantifier (or an interpretation of 'all' as something other than a universal

quantifier). If Peter is wrong about what the quantifier means, he does not know the meaning of 'All unicorns are unicorns' after all. If, on the other hand, he is right about it, then he knows the sentence's truth-value after all. In neither case does he know the sentence's meaning without knowing its truth-value.

The moves in response to Stephen's case are similar. The satisfaction facts for 'All bald persons are bald persons' include the distribution of *being an x such that x is a bald person if x is a bald person* among the individuals in the universe and, ultimately, of baldness and personhood. If Stephen knows, of each individual, whether it has those properties, and he knows those are all the individuals there are, then he knows whether each individual *x* is such that *x* is a bald person if *x* is a bald person, and that suffices for knowing whether 'All bald persons are bald persons' is true, barring a failure to understand the meaning of the universal quantifier.

As Williamson points out, there is a potential problem with reasoning such as that above. One might want to leave it open that Stephen and Peter can *understand* the universal quantifier while denying the logical equivalence of 'All unicorns are unicorns' with 'Every individual *x* is such that *x* is a unicorn if *x* is a unicorn' (or the correlative sentences about vixens or bald people). A critic of (E-Det) could claim it begs the question in favor of truth-conditional theories of understanding to suppose understanding 'All *A* are *B*' requires seeing its equivalence with the classical universally quantified conditional. Williamson himself gives an argument for the

conclusion that Stephen and Peter understand the quantifier even while doubting 'All vixens are vixens'. Here is what he says:

> Peter and Stephen learned English in the normal way. They acquired their non-standard views as adults. At least before that, nothing in their use of English suggested semantic deviation. ... By ordinary standards, Peter and Stephen understand ['All vixens are vixens'] perfectly well. Although their rejection of [it] might on first acquaintance give an observer a defeasible reason to deny they understood it, any such reason is defeated by closer observation of them. They genuinely doubt that every vixen is a vixen. Peter and Stephen are not marginal cases of understanding: their linguistic competence is far more secure than that of young children or native speakers of other languages who are in the process of learning English. ... The understanding [Peter and Stephen] lack is logical, not semantic. Their attitudes to ['All vixens are vixens'] manifest only some deviant patterns of belief. (2006, pp. 13–4)

Williamson's points are fair, but they are also committed to the idea that there is a point of substantive disagreement between such deviants and Peter and Stephen, on the one hand, and classical logicians on the other. If such disagreement is substantive (and not simply a difference in meaning), then there is presumably some fact of the matter—something we could be right or wrong about—concerning whether all F could be G when, as in the Peter case, there are no F's, or when, as in

the Stephen case, there are borderline *F*'s and *G*'s. It doesn't beg the question against use theories of understanding to count those disputed facts among the satisfaction facts for 'All unicorns are unicorns' and its ilk.

The CK counterexamples seem to require an uncomfortable juxtaposition of views. On the one hand, they require substantive disagreement as to the correctness of classical logic. There must be a fact of the matter about which deviants and classical logicians disagree. On the other hand, the counterexamples require that there are no satisfaction facts for classical logical truths. Otherwise, Peter and Stephen would not know all the satisfaction facts for 'All vixens are vixens' after all. It is hard to see how we could have it both ways, so that there are no satisfaction facts 'All vixens are vixens' and yet there can be substantive disagreement as to whether it is true.

In Cohnitz and Kangilaski's presentation, Peter and Stephen trivially know all the satisfaction facts for 'All vixens are vixens'—there are none to know. Unfortunately, that means there is no room for them to have a substantive disagreement with classical logicians. Their disagreement is merely a verbal disagreement as to the meaning of 'All vixens are vixens'. If Peter and Stephen are right, then they do know the sentence's truth-value after all. If they are wrong, then they do not know the meaning of the sentence. Right or wrong, Peter and Stephen aren't counterexamples to (E-Det).

On the other hand, if Peter and Stephen *do* have a substantive disagreement with classical logicians, then there is some fact of the matter in dispute. If they are right, then they know that fact and also the truth-value of 'All vixens are vixens'. If they are wrong, then they do *not* know that fact, and so there is a satisfaction fact for 'All vixens are vixens' that they do not know. Either way, they are not counterexamples to (E-Det).

Counterexamples to (E-Det) would be cases in which someone really does understand the meaning of a sentence, and really does know all the nonlinguistic/satisfaction facts, and yet gets the truth-value of the sentence wrong anyway. They should not readily be treated as involving ignorance of meaning or ignorance of any nonlinguistic or satisfaction facts. The failure of the CK counterexamples demonstrates the importance of these requirements.

Given one conception of facts, (E-Det) has such counterexamples, but that is not the whole problem for EDA. The whole problem is a dilemma. If facts are coarse-grained, (E-Det) has counterexamples. If they are fine-grained, (KTC) is false. EDA needs (E-Det) and (KTC) both to be true on the same conception of facts. That, I will argue, is impossible.

V. New Problems for (E-Det) and (KTC)

As formulated, (E-Det) treats knowledge as a relation between a knowing subject and "facts"—nonlinguistic facts in the original version, and satisfaction facts in Cohnitz and Kangilaski's revised version. The notion of a fact, though, is obscure. We can think of facts as either *coarse-grained* or *fine-grained.*

If facts are coarse-grained, their identities don't depend on how they are described. The fact that Superman is bulletproof is the very same fact as the fact that Clark Kent is bulletproof. The fact that some woodchucks eat chickpeas is the very same fact as the fact that some groundhogs eat garbanzos.

'Lois knows that Superman is bulletproof' appears not to imply 'Lois knows Clark Kent is bulletproof', since Lois can know Superman is bulletproof without even believing Clark Kent is. Likewise, 'Lois knows some woodchucks eat chickpeas' appears not to imply 'Lois knows some groundhogs eat garbanzos', even though, on the coarse-grained view of facts, the fact that some woodchucks eat chickpeas *is* the fact that some groundhogs eat garbanzos. On the coarse-grained conception of facts, though, there is a sense in which knowing that Superman is bulletproof does suffice for knowing that Clark Kent is bulletproof. Both are knowledge of the same fact, albeit under different descriptions or modes of presentation. If Lois knows Superman is bulletproof but doesn't know Clark is, she knows that fact *as* the fact that Superman is bulletproof, but she doesn't know it *as* the fact that Clark Kent is.

If facts are fine-grained, their identities depend on how they are described. The fine-grained fact that Superman is bulletproof is not the same as the fine-grained fact that Clark Kent is bulletproof, and the fine-grained fact that some woodchucks eat chickpeas is not the same as the fine-grained fact that some groundhogs eat garbanzos. If Lois knows that Superman is bulletproof and also that Clark Kent is bulletproof, then she knows two different fine-grained facts, not one fact in two different ways. When I learned, at a very late age, that some woodchucks eat chickpeas, even though I already knew that some groundhogs eat garbanzos, I didn't learn an old fact in a new way. I learned an entirely new fine-grained fact.

Suppose facts are coarse-grained. Lois knows that Superman is bulletproof, but she does not believe Clark Kent is bulletproof. (We can imagine she is neutral on the question.) She thus knows the coarse-grained fact that Clark Kent is bulletproof, but not *as* the fact that Clark Kent is bulletproof. Some inferential knowledge is thus unavailable to her. She knows Superman is bulletproof, and she knows Clark Kent's name rhymes with 'park tent', but she can't justifiably infer that someone whose name rhymes with 'park tent' is bulletproof. She knows the fact that Clark Kent is bulletproof, but not in the right way to ground knowledge that 'Clark Kent is bulletproof' is true.

Maybe it is hard to imagine Lois knowing all the nonlinguistic facts without knowing enough to figure out that Clark Kent is Superman's alter ego, and thus that Clark Kent is bulletproof. If she knows all the nonlinguistic facts, she should be able to

trace Superman's movements in such a way, for example, that it becomes overwhelmingly evident that he is Clark Kent. You might worry, on these grounds, that a Lois omniscient as regards nonlinguistic fact would not only know the fact that Clark Kent is bulletproof, but she would inevitably also know it as the fact that Clark Kent is bulletproof, and not only as the fact that Superman is.

If those are your worries, then we can vary the example. Lois might know all the nonlinguistic facts, but know very few of them as *groundhog* facts or as *garbanzo* facts. She does not know that 'groundhog' is a word for woodchucks, and she does not know that 'garbanzo' is a word for chickpeas. Those are linguistic facts; her ignorance of them is perfectly consistent with her nonlinguistic omniscience. Likewise, Lois's nonlinguistic omniscience requires her to know, of each groundhog that it is a groundhog, but in each case perhaps she knows it only as the fact that a certain woodchuck is a woodchuck. Lois can know all the nonlinguistic facts, including the fact that some woodchucks eat chickpeas, without knowing the truth-value of 'Some groundhogs eat garbanzos'. She knows the right facts, but not in the right ways to make the inference.

If facts are coarse-grained, (E-Det) is false. You can know all the nonlinguistic facts, without being able to infer the truth-values of all the sentences you understand. You might know all the nonlinguistic Clark Kent facts only as Superman facts, or all the nonlinguistic groundhog facts only as woodchuck facts. Your knowledge of groundhogs *qua* groundhogs and garbanzos *qua* garbanzos might be insufficient for

you to know the truth value of 'Some groundhogs eat garbanzos', even though you

understand that sentence as well as any English speaker who is aware that there are

groundhogs but whose regional dialect calls the local *M. monax* only "woodchuck"

(or "land beaver").

To avoid such problems, (E-Det) needs a fine-grained conception of facts. On that

conception, if you know all the nonlinguistic facts, you must know *both* that

Superman is bulletproof *and* that Clark Kent is bulletproof, and you must know *both*

that some woodchucks eat chickpeas *and* that some groundhogs eat garbanzos (and

that some whistle pigs gobble gram), for those are all different facts. Such an

omniscient person would know all she needs to know the truth-value of 'Clark Kent

is bulletproof' or 'Some groundhogs eat garbanzos'.

But what does Lois know in knowing the fine-grained fact that Clark Kent is

bulletproof? It is not the fine-grained fact that Superman is impermeable to

gunshots. Nor is it the fine-grained fact that Diana's favorite reporter has her least

favorite superpower, even if Clark is Diana's favorite reporter and being bulletproof

is her least favorite property. It is, apparently, that Clark Kent — *so described* — has

the property of being bulletproof —*so described*. That is, it comes down to knowing

that 'Clark Kent is bulletproof' aptly characterizes how things are. That is, it comes

down to knowing that 'Clark Kent is bulletproof' is true.

We can say similar things about woodchucks and groundhogs. For Lois to know the fine-grained fact that some groundhogs eat garbanzos, she has to know that some groundhogs *so described* eat garbanzos *so described*. And that is just knowing that 'Some groundhogs eat garbanzos' is true.

Knowing a fine-grained fact is grasping the aptness of a description of the world. Knowing all the fine-grained facts is grasping the aptness of all the descriptions of the world. Grasping the aptness of a description of the world is knowing a truth-value. So, if you know all the fine-grained facts, you know all the truth-values. (E-Det) comes out true, but its mention of knowing a sentence's meaning is redundant. It is equivalent to (E-Det*), if facts are fine-grained:[1]

> (E-Det*)   If S is a sentence, and you are omniscient as regards fine-
>
> grained, nonlinguistic fact, then you know S's truth-value.

(E-Det*), in turn, implies the following:

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[1] Is there a fine-grained fact that *algunas marmotas comen garbanzos*, in addition to the fact that some woodchucks eat chickpeas? It seems there must be. '*Algunas marmotas comen garbanzos*' is equally well translated into English by 'Some woodchucks eat chickpeas' and 'Some groundhogs eat garbanzos'. If the fine-grained fact that *algunas marmotas comen garbanzos* is the same as the fine-grained fact expressed by its English translation, then the transitivity of identity would give us the unwanted result that the fine-grained fact that some groundhogs eat garbanzos is the same as the fine-grained fact that some woodchucks eat chickpeas. This suggests that someone who knows all the fine-grained facts has to know all languages.

(E-Det**)   If S is a sentence, and you know how many letters S contains,

and you are omniscient as regards fine-grained, nonlinguistic

fact, then you know S's truth-value.

Consequently, if EDA is sound then so is this argument, NEDA (for *Numerical* EDA).

(E-Det**)   If you know how many letters a sentence contains, and you are

omniscient as regards fine-grained, nonlinguistic fact, then you

know that sentence's truth-value.

(E2**)   Therefore, knowing how many letters a sentence contains is at

least knowing enough to assign the sentence a truth value

given omniscience about the fine-grained nonlinguistic facts.

(KTC)   To know enough to assign a sentence a truth-value given

omniscience about the fine-grained nonlinguistic facts is to

know a truth-condition.

(E4**)   Therefore, knowing how many letters a sentence contains is at

least knowing a truth-condition.

(E4**) is absurd. Given the fine-grained conception of facts, (KTC) is the only

possible culprit. Knowing enough to assign a sentence a truth-value given

omniscience about *fine-grained* nonlinguistic facts is not knowing a truth-condition.

Knowing a truth-condition must be something far stronger than that.

The Cohnitz-Kangilaksi move to knowledge of satisfaction facts, instead of omniscience about nonlinguistic fact, does not avoid the problem. Presumably, the satisfaction facts for 'Clark Kent is bulletproof' would include either (a) the fact that Clark Kent is bulletproof or (b) the facts that Clark Kent is Superman and Superman is bulletproof. If facts are coarse-grained, Lois could know (a) and (b), but not in the right way to infer the truth-value of 'Clark Kent is bulletproof'. So (E-Det) fails. On the other hand, if facts are fine-grained, Lois's knowledge of (a) or (b) alone suffices for her to know the truth-value of 'Clark Kent is bulletproof', no additional knowledge of meaning required. The move from omniscience to knowledge of satisfaction facts does not help EDA.

In response to a different worry, aimed at the metaphysical determination argument, Lycan (2010, n. 18) makes a move that could be tempting to the truth-conditionalist. The metaphysical determination argument includes an inference from

(M-Det)   A sentence's meaning taken together with a totality of fact
             determines the sentence's truth-value.

to

(M2)   A sentence-meaning is *at least* a function from possible worlds to
       truth-values.

The inference, Lycan admits, is not strictly valid:

The move from [(M-Det)] to [(M2)] is not strictly valid. A brick taken

together with a possible world determines the brick's color (if any) at that

world, but we should not conclude that a brick is at least a function from

worlds to colors. (A brick is not any type of function, not even one with a

concrete appendage.)—Right; I think I must swallow that. Rather, I should

say, [(M2)] is merely the obvious explanation of [(M-Det)], given that the

sentence meanings we are talking about are abstract entities in the first place.

(Lycan 2010, n. 18)

Let us suppose Lycan is right about this, in the case of the metaphysical

determination argument.[2] The analogous move in the case of EDA would be along

these lines: Knowledge of a sentence's meaning along with knowledge of fine-

grained nonlinguistic fact suffices for knowledge of the sentence's truth value. The

obvious explanation of that is that, in knowing a sentence's meaning, one knows its

truth-conditions.

The move does not work because the supposedly "obvious" explanation is beaten

out by a better explanation: Knowing the sentence's meaning *and* the fine-grained

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[2] Lycan may not be right. *Maybe* (M2) is the obvious explanation of (M-Det), but that
would be so only if the totality of fact doesn't already suffice to determine the truth-
value of any given sentence. The trouble with bricks is not that they are concrete.
The trouble with bricks is that any given possible world selection *already* suffices to
determine their colors; being "given" the brick is redundant. What Lycan really
needs is not an assurance that meanings are sufficiently abstract for us to infer that
they are functions, in light of (M-Det). What he needs is an assurance that the
totality of fact (M-Det) cites is not sufficient in itself to determine a sentence's truth-
value, before we raise any questions of meaning at all.

facts suffices for knowing its truth-value because knowing the fine-grained facts *alone* suffices for knowing the sentence's truth-value. The explanation is not that knowing meanings is knowing truth-conditions, but that knowledge of fine-grained facts delivers knowledge of truth-values.

Another possible move for the defender of EDA would be this: In knowing a fine-grained fact, one knows the world is aptly described in a certain way. To have the relevant kind of knowledge that the world is aptly described a certain way, though, one must understand the difference between that description's being apt or inapt. That is, one must know the description's truth-conditions. So, the fine-grained conception of facts is not problematic for the truth-conditional account of understanding.

Such a move is less helpful than it might initially appear. Knowing the fine-grained facts requires understanding their descriptions and knowing their truth-*values*, but it begs the question against a use theory of understanding to insist that understanding the facts' descriptions requires knowing their truth-*conditions*. Further, even if knowing the fine-grained facts did require knowing their descriptions' truth-conditions, it would be unhelpful to EDA. That argument aims to show, *on the grounds of (KTC)*, that knowing enough to assign a truth-value given

knowledge of the fine-grained facts is knowing a truth-condition. If knowledge of truth-conditions is built into knowledge of fine-grained facts, (KTC) is incorrect. [3]

VI. Propositional Knowledge to the Rescue?

EDA faces a dilemma. If facts are coarse-grained, (E-Det) is false. If they are fine-grained, (KTC) is false. The problem could be an artifact of EDA's formulation in terms of *factual*, rather than *propositional* knowledge. It is thus worth considering what happens when we reformulate EDA into PEDA, *Propositional* EDA:

> (P-E-Det)   If you know a sentence's meaning, and you know all the true
>
> nonlinguistic propositions, then you know the sentence's truth-
>
> value.

---

[3] A proponent of EDA might try splitting the difference between coarse-grained and fine-grained facts, by casting the argument in terms of *knowing coarse-grained facts under appropriate modes of presentation*. Then (E-Det) might hold up; if you know what a sentence means, and you know the relevant facts under the appropriate mode of presentation, then you know the sentence's truth value. The problems here are similar to the problems that arise on the fine-grained conception of facts. We have to interpret (KTC) as saying that knowing enough to assign a sentence a truth value *given knowledge of the relevant coarse-grained facts under the relevant modes of presentation* is knowing a truth-condition. But the "relevant mode of presentation" in this case is just a presentation of the fact *as relevant to the truth-value of the sentence*. But everyone trivially knows enough to assign any sentence a truth value given knowledge of the relevant facts presented as appropriately relevant to that sentence's truth value, no knowledge of meaning required. Like the move to fine-grained facts, the move to coarse-grained facts under modes of presentation saves (E-Det) at the expense of (KTC).

(PE2)   Therefore, knowing a sentence's meaning is at least knowing

enough to assign the sentence a truth-value given knowledge

of all the true nonlinguistic propositions. [from (P-E-Det)]

(PKTC)   To know enough to assign a sentence a truth-value given

knowledge of all the true nonlinguistic propositions is to know

a truth-condition.

(PE4)   Therefore, knowing a meaning is at least knowing a truth-

condition. [from (PE2), (PE3)]

If you know all the true nonlinguistic propositions, then for any true, nonlinguistic

proposition *<p>*, you know that *p*. By "nonlinguistic proposition," we can mean

either a proposition concerning nonlinguistic objects and properties, a proposition

lower in Lycan's type-hierarchy than the given sentence, or a proposition whose

truth or falsity suffices for the truth or falsity of the given sentence (a la Cohnitz and

Kangilaski's "satisfaction facts").

(P-E-Det) is plausible because, if I know the meaning of a sentence, then,

presumably, there is a proposition, *<p>*, such that I know the sentence means that *p*.

If I also know that *p* (or that not-*p*), how could I fail to know the sentence's truth-

value?

Promising as it might appear, this move is bound either to beg the question or falsify

(PKTC). According to (PKTC), if you knew enough to assign a sentence a truth-value,

given knowledge of the true nonlinguistic propositions, then you would know the sentence's truth-conditions. That supposedly sufficient condition is too weak, though. If I know a sentence expresses a certain proposition, and I know that proposition's truth-value, I can assign the sentence a truth-value, regardless of whether I know the truth-*conditions* of the sentence or the proposition. Why should knowing that *S* expresses *<p>*, and knowing *<p>*'s truth-*value*, guarantee knowledge of S's truth-*conditions*?

On some views, propositions *are* truth-conditions. It would beg the question against non-truth-conditional theories of understanding to appeal to such a view in this case. If propositions are truth-conditions, and understanding a sentence is knowing what proposition it expresses, then it follows trivially that understanding a sentence is knowing its truth-conditions. To avoid begging the question, a defender of PEDA should work from a different direction. Rather than supposing that propositions *are* truth-conditions, she should suppose they are abstract entities that *have* truth-conditions.[4] The truth-value of a sentence matches the truth-value of the proposition it expresses, and so the truth-conditions of a sentence must match the truth-conditions of the proposition it expresses. So, we can restate our question: Why should knowing a proposition's truth-*value,* and knowing that a certain sentence expresses that proposition, suffice for one to know the proposition's truth-*conditions*?

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[4] Of course, it might well turn out that propositions have truth-conditions by way of *being* truth-conditions, but in these dialectical circumstances, neither side should prejudge that issue.

One possible answer is that you cannot know that *p* (or know that not-*p*) without knowing *<p>*'s truth-conditions. This is plausible, but it is too weak. It is consistent with the possibility of knowing that *S* means *<p>* while neither knowing that *p* nor knowing *<p>*'s truth conditions. Suppose that is the situation you are in: You know that *S* means *<p>*, but you don't know *<p>*'s truth-conditions. Still, *if* you knew that *p*, you would be in a position to assign a truth-value to *S*. So, by (PKTC), you would qualify as knowing *S*'s truth-conditions, by virtue of knowing that *S* means *<p>*, even though you don't know what *<p>*'s truth-conditions are!

Consider this case. Suppose I know that *<p>* is Colin's favorite proposition, but I don't know what worldly conditions would be required for *<p>* to be true or false. I also know, let us suppose, that '*Algunos pescados son pelágicos*' expresses that proposition. On the present proposal, knowing that *p* requires knowing the truth-conditions of *<p>*. So, if I knew that *p*, I would know the truth-conditions of *<p>* and thus I'd be in a position to assign a truth-value to the sentence. PKTC would then say that I know the sentence's truth-conditions, despite having no idea how the world would have to be for the sentence to be true or false.

The natural reply is that you cannot know *S* means *<p>*, in the relevant sense, without already knowing *<p>*'s truth-conditions. A bad version of this reply begs the question: You have to know *<p>*'s truth-conditions to know *S* means *<p>* because knowing *S* means *<p>* is a matter of knowing what *S*'s truth-conditions are.

There is a better version of the reply. To know that *S* means that *p*, in the sense relevant to linguistic understanding, you must *grasp the proposition* that p, but grasping a proposition consists, at least, in grasping its truth-conditions. The defender of PEDA then needs an argument for the claim that grasping a proposition requires grasping its truth-conditions.

Here is where trouble arises. Though there may be a better argument out there somewhere, the best one I know is this: If you grasp <*p*>, and you know all the object-level facts, then you know <*p*>'s truth value. So, grasping <*p*> is at least knowing enough to assign it a truth-value given knowledge of the object-level facts. But knowing that much is grasping <*p*>'s truth-conditions. So, grasping <*p*> is at least grasping <*p*>'s truth-conditions.

That argument should sound familiar. It is just EDA, transposed into the key of "grasping propositions" rather than "understanding sentences." It suffers the same problems as the original EDA. If facts are coarse-grained, its first premise is false. If facts are fine-grained, then knowing enough to assign a proposition a truth-value given knowledge of the fine-grained facts is not the same as knowing a truth-condition. Although we could forestall the difficulties for EDA by moving from knowledge of facts to knowledge of propositions, no such move is available here. If you grasp <*p*>, and you know all the object-level propositions (including *p* or its denial), then you know <*p*>'s truth-value. That's correct. But knowing enough to

assign *<p>* a truth-value given knowledge whether *p* is not plausibly knowing *<p>*'s

truth-conditions.

VII. Conclusion

The Epistemic Determination Argument aims to show that understanding a

sentence involves knowing its truth-conditions. If the argument were sound, it

would give us insights into the cognitive achievement of linguistic understanding

and, perhaps, into the nature of meaning itself. Although there are satisfactory

answers to the objections Cohnitz and Kangilaski raise to EDA, it still faces a

dilemma. If we think of facts as coarse-grained, then (E-Det) is false. If we think of

them as fine-grained, (KTC) is false. Either way, the argument is unsound.

Recourse to knowledge of propositions, rather than knowledge of facts, is no help to

the truth-conditionalist. There are at least two competing styles of account of what

is involved in grasping a proposition. One style is truth-conditionalist: grasping a

proposition involves grasping its truth conditions. Another is fairly labeled

"inferentialist": grasping a proposition is grasping its place in a network of

inferences and appreciating how it can function as premise and conclusion in

reasoning.[5] A truth-conditionalist about understanding could seek support from a

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[5] Bourget (2015) considers four theories of what "grasping" a proposition is,
including an inferentialist theory and a theory that accounts for grasping in terms of
having phenomenal experiences with that proposition as their content (the view he
defends). Interestingly, none of the views he considers is explicitly truth-conditional,

truth-conditional theory of grasping propositions, but an argument is still needed to favor that theory over an inferentialist account. The most obvious candidate is just a repetition of EDA, and it suffers all EDA's original problems.

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and his discussion includes some cases in which a one *knows that p* without grasping the proposition that *p* (pp. 3-8).