One Dogma of Millianism
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> My concern [...] will be with the contrast between different lessons that different philosophers think should be learned from the story Kripke told. The account of the phenomena, and of the apparatus used to describe them, that I want to defend (and to attribute to Kripke) can be seen as a variation on, and development of, the skeptical lesson about a priori knowledge and truth taught by Quine.
> - Robert Stalnaker (2001: 188-9)

Millians about proper names hold that names such as "Hesperus" and "Phosphorus" contribute their referents to the semantic processing of sentences that contain them, and nothing more.[1] Many Millians -- *standard Millians*, as we shall call them[2] -- infer that the proposition that Hesperus is Hesperus is identical to the proposition that Hesperus is Phosphorus.[3] This has led prominent standard Millians to endorse the following argument:

1. The proposition that Hesperus is Hesperus is identical to the proposition that Hesperus is Phosphorus.
2. The proposition that Hesperus is Hesperus is knowable apriori.

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[1] Many contemporary Millians also endorse the view that propositions (the semantic values of declarative sentences) are structured complexes composed of objects and properties (e.g., Kaplan 1989: 494-6). A simple version of the view would have it that the proposition that Hesperus is Hesperus is the ordered triple <Hesperus, the identity relation, Hesperus>. There may be semantic theories that hold that a particular term is directly referential (in that its semantic value is not a description), but still deny that the term's semantic value is just its referent (see e.g. McDowell 1977). We will not discuss such theories explicitly, but (as we point out below) to the extent that they are motivated by Kripkean epistemic arguments against descriptivism, many of our arguments will apply to them.

[2] Standard Millians include Bave (2008), Braun (2002), Crawford (2004), Fodor (1990), Frances (1998), Kaplan (1989), McKay (1979), Millikan (1993), Salmon (1986, 1991), Sider and Braun (2006), Soames (2002, 2003, 2005), and Thau (2002). Kripke himself is a difficult case. He is ambivalent about the identity of the proposition that Hesperus is Hesperus and the proposition that Hesperus is Phosphorus. In the preface to *Naming and Necessity*, he resists labelling his own view as "Millian" precisely because he sees Millianism as having standard Millianism as a consequence:

> Some critics of my doctrines, and some sympathizers, seem to have read them as asserting, or at least implying, a doctrine of the universal substitutivity of proper names. This can be taken as saying that a sentence with 'Cicero' in it expresses the same 'proposition' as the corresponding one with 'Tully', that to believe the proposition expressed by the one is to believe the proposition expressed by the other, or that they are equivalent for all semantic purposes. Russell does seem to have held such a view for 'logically proper names', and it seems congenial to a purely 'Millian' picture of naming, where only the referent of the name contributes to what is expressed. But I (and for all I know, even Mill) never intended to go so far. My view that the English sentence 'Hesperus is Phosphorus' could sometimes be used to raise an empirical issue while 'Hesperus is Hesperus' could not shows that I do not treat the sentences as completely interchangeable. Further, it indicates that the mode of fixing the reference is relevant to our epistemic attitude toward the sentences expressed. How this relates to the question what 'propositions' are expressed by these sentences, whether these 'propositions' are objects of knowledge and belief, and in general, how to treat names in epistemic contexts, are vexing questions. I have no 'official doctrine' concerning them, and in fact I am unsure that the apparatus of 'propositions' does not break down in this area. Hence, I sidestepped such questions; no firm doctrine regarding the point should be read into my words. (1980, pp. 20-1)

Since Kripke is a proponent of the epistemic argument against descriptivism, most of our arguments will apply to him. But since he is not determinately a standard Millian, the argument in section IV may not apply.

[3] Standard Millianism is entailed by Millianism in conjunction with plausible assumptions. In particular, the expression "the proposition that Hesperus is Phosphorus" results from the substitution of "Phosphorus" for "Hesperus" in "the proposition that Hesperus is Hesperus." Seemingly, there are no relevant unpronounced elements in the syntax. So, assuming the theses of *semantic innocence* – the principle that names have the same semantic values whether they occur inside of or outside of a "that"-clause – and *compositionality* – the thesis that the semantic value of a "that"-clause is derived compositionally from its syntax and the meanings of its constituents – it follows from Millianism that "the proposition that Hesperus is Hesperus" has the same semantic value as "the proposition that Hesperus is Phosphorus"; in particular, the two expressions refer to the same entity.

Conclusion A: Therefore, the proposition that Hesperus is Phosphorus is knowable apriori.[4]

Thus Scott Soames writes, "[I]f a and b are proper names, and the sentence **a=b** is true, then it semantically expresses the same proposition as the sentence **a=a**. But then since the latter proposition is surely knowable a priori, so is the former" (2002: 236).[5]

This radical conclusion threatens traditional conceptions of the distinction between the apriori and the aposteriori. This is hardly surprising, since (as we will show) the arguments with which Millians typically defend their position, specifically the epistemic arguments developed by Kripke (1980) and Putnam (1975), should be seen as a special case of Quine's arguments for empiricism. We will therefore conclude that the Millian would do better to defend Conclusion B:[6]

1*. The proposition that Hesperus is Hesperus is identical to the proposition that Hesperus is Phosphorus

2*. The proposition that Hesperus is Phosphorus is knowable only aposteriori.

Conclusion B: Therefore, the proposition that Hesperus is Hesperus is knowable only aposteriori.

Some philosophers accept the Kripke and Putnam arguments against descriptivism and Fregeanism, but deny that these lead to standard Millianism.[7] The considerations we raise should still be of interest to such philosophers, since most of them could be applied to anyone who accepts the Kripke-Putnam arguments in their full generality. (The discussion of logical truths in section IV is the main exception, because it appeals to views distinctive of the standard Millian.)

We will begin by explaining the relation between the Kripke-Putnam arguments and the broader Quinean arguments. We then turn to various strategies for resisting these arguments; we show that standard Millians cannot appeal to any of them.

I

Let *empiricism* be the view that no truths are knowable apriori. We maintain that the arguments usually offered for standard Millianism – specifically the standard epistemic arguments

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[4] An anonymous referee observes that it would be misleading to present the standard Millian as maintaining that Conclusion A is believed only on the basis of an argument. After all, by the standard Millian's lights, anyone who believes that it is apriori that Hesperus is Hesperus thereby believes Conclusion A. (Similarly, it would be misleading to present the standard Millian as believing that the proposition that Hesperus is Hesperus is identical to the proposition that Hesperus is Phosphorus only on the basis of an argument from Millianism, since this just is the belief that the proposition that Hesperus is Hesperus is identical to the proposition that Hesperus is Hesperus.) But the fact that Millians have advanced such arguments is not puzzling once we note the following two facts. First, the Millian must allow for a sense in which already believed propositions can be "learned" or "discovered" on the basis of further evidence. For example, the Millian will hold that everyone who knows of Hesperus and has basic logical competence believes that Hesperus is Phosphorus; nonetheless, they must give an account of the sort of discovery that was made on the basis of astronomical observation. (This might involve, for example, coming to reject the proposition that Hesperus is not Phosphorus, and coming to believe that Hesperus is Hesperus under a new mode of presentation.) And second, we often advance arguments for conclusions that we already believe, in order to provide further support for those beliefs.

[5] Similarly, Nathan Salmon writes, "[T]he separate, nonlinguistic fact that if Hesperus exists then it is Phosphorus is just the fact that if Venus exists then it is it, and this fact (proposition, 'thought', piece of cognitive information) is fully knowable, with complete certainty, by reason alone" (1986: 137).

[6] As far as we know, no Millian has endorsed this argument. But there have been some near misses. Thus Kai-Yee Wong (1991) defends the Kripkean claim that the proposition that Hesperus is Phosphorus is necessary aposteriori against Salmon, but does not draw the conclusion that the proposition that Hesperus is Hesperus is likewise aposteriori. (In later work, Wong (1996) defends a relativised notion of apriority. We will return to this notion in section V below.) Similarly, Howard Wettstein (1989: 33) defends the view that instances of "Hesperus is Hesperus" are not always trivial, but ultimately concedes that they sometimes are. See Salmon 1991 for discussion.

[7] We address two such views – the hidden indexical view of e.g. Crimmins and Perry (1989), and Putnam's (1975) view that the meanings of natural kind terms involve "stereotypes" – below.

as they are presented in Kripke and Putnam – naturally lead to empiricism. These arguments purport to show that certain candidate apriori truths are in fact aposteriori.[8] We begin with a brief outline.

Kripke's epistemic arguments purport to undermine descriptivism as follows.[9] Consider some proper name **n**.[10] Descriptivism about proper names entails (i) that there is some definite description, **the F**, which is synonymous with **n**, and (ii) that the sentence **if there is a unique F, then n is the F** expresses a truth knowable apriori. Suppose that the name "Gödel" is taken to be synonymous with "the person who proved the incompleteness of arithmetic". Then given (ii), the description theorist is committed to the claim that it is knowable apriori that Gödel proved the incompleteness of arithmetic, if anyone did. But Kripke responds that it is an empirical question whether Gödel developed the proof. To establish this, Kripke describes scenarios (that cannot be ruled our apriori) in which we come to revise our belief that he developed the proof. For instance, we may learn that Gödel stole the proof from Schmidt, who disappeared under mysterious circumstances just prior to the proof's publication.

Putnam offers related arguments concerning general terms.[11] One might think that our judgments that cats are animals and that pencils are artifacts made for writing are apriori. Putnam, however, imagines empirical information that would lead us to revise these judgments. He imagines discovering that all of the things around us previously called "cats" are in fact robots. Putnam suggests that this would lead us to revise our view that cats are animals, and therefore should undermine our confidence that the word "cat" is definitionally equivalent to, say, "animal with characteristics A, B and C" (1975: 243, 267). Putnam similarly suggests that learning that all of the things around us which we had previously called "pencils" are in fact animals would lead us to revise our view that that pencils are artifacts made for writing (1975: 242). He even suggests that learning that all of the things around us which we had previously called "pediatricians" are in fact Martian spies would lead us to revise our view that pediatricians are doctors specializing in the care of children (1975: 244). These arguments play a crucial role in the defense of Millianism since they purportedly rule out alternative views of meaning (see e.g. Salmon 1986: 74).

More generally, the arguments aim to show that for some term or predicate **T**, the proposition expressed by sentence **Θ(T)** is not knowable apriori. They do this by showing that our belief in the proposition is empirically defeasible. Thus, they presuppose that empirical defeasibility is a mark of the aposteriori.

This interpretation of the epistemic arguments is echoed by standard Millians. Thus, Scott Soames writes:

> In this example, Kripke imagines our belief that Gödel discovered the incompleteness theorem being proven false by historical scholarship that reveals that he stole it from Schmidt. Of course, Kripke is not saying that any such thing really happened, or even that we don't know that it didn't. *The point is that we don't know this a priori*. Rather, our knowledge that it was Gödel who proved the theorem (if anyone did) rests on, and is justified by, empirical evidence, and so is not a priori. (Soames 2005: 18-19, emphasis added)

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[8] There are other versions of the epistemic argument that purport to show only that, say, one can believe that Hesperus is bright without believing that the morning star is bright. We appeal to the versions of the epistemic argument that crucially depend upon claims concerning apriority.

[9] These arguments are discussed in Soames 2002, ch. 2; 2005, ch. 2.

[10] We use bold terms rather than corner quotes.

[11] Putnam phrases his discussion in terms of "analyticity" and "epistemic necessity", but it is clear that epistemic necessity in Putnam's sense amounts to apriority in the sense at issue here.

Soames uses the claim that we do not know apriori that Gödel discovered the incompleteness theorem in an argument against descriptivism. But to establish the aposteriority of this proposition, Soames appeals to the fact that possible empirical information – historical scholarship – could lead us to revise our judgment. Thus, Soames must be presupposing that the empirical defeasibility of a belief entails that the belief is justified only aposteriori. Soames and other standard Millians who make similar use of epistemic arguments are therefore committed to the empirical indefeasiblity of beliefs known apriori.

It is our contention that these arguments – in the hands of the Millian – generalize to the conclusion that no belief is knowable apriori. That is, no one who accepts these arguments as they stand, and the typical Millian interpretation of their results, is in a position to reject a more general Quinean argument from defeasibility. Specifically:

P1. Necessarily, if a token belief constitutes apriori knowledge, then it is indefeasible in the face of empirical evidence.

P2. Necessarily, every token belief is defeasible in the face of empirical evidence.[12]

Conclusion C: Nothing is knowable apriori.

It is our contention that the arguments against descriptivism depend on P1, and that the Millian's understanding of these arguments makes it impossible to resist P2.

Many contemporary philosophers will be ready to object to P1. These philosophers believe that apriority and empirical defeasibility are compatible. On this view, a belief can be warranted apriori even if further experience could make it rational to abandon the belief (see e.g. Casullo 2003). Thus, the fact that empirical information might undermine the warrant for one's belief that 2+3=5 – say, the information that expert mathematicians reject this proposition – does not show that this token belief is aposteriori. To the contrary, these philosophers say that the belief is warranted without reference to any empirical information, but that this apriori warrant can be defeated by empirical results.

Whether or not this view of apriori knowledge is correct on its own terms, it is unavailable to the Millian who endorses the epistemic arguments we outlined above. The belief that Gödel discovered the incompleteness theorem, formed by an agent introduced to the name "Gödel" in a logic class as a designator of the first person to prove the incompleteness of arithmetic, has typical traits associated with apriority. (For instance, this belief is very easy to justify without doing a lot of empirical investigation to warrant it.) So typical descriptivists felt themselves to be on pretty firm ground in claiming that it is apriori.[13] It would be unprincipled or worse for the Millian to appeal to defeasibility as a mark of the empirical polemically to attack the descriptivist, but then to resist it in other cases. Essentially the Millian would be saying to the descriptivist: defeasibility is compatible with apriority for me, but not for thee. So unless the Millian can point to some features of the descriptivists' putative apriorities that would make this move unavailable, it seems that the standard epistemic arguments require P1.

II

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[12] We are setting aside the (putative) possibility of beings like Leibniz's god, for whom empirical evidence is irrelevant. The argument will go through for beings whose intelligence is qualitatively like ours, even if idealised with respect to memory, time, reasoning ability, and so forth.

[13] On one view, the belief that expert mathematicians reject a certain mathematical proposition might constitute a defeater for that proposition, but the absence of such a belief (or the belief that expert mathematicians do not reject that proposition) need not play a role in justifying one's belief in the proposition; instead, the absence of the defeater enables a purely apriori justification to do its work. The descriptivist could hold similarly that the belief that Gödel stole the incompleteness theorem from Schmidt would constitute a defeater for the claim that Gödel discovered the theorem, but that absence of such a belief (or the belief that Gödel did not steal the theorem) does not play a justificatory role; instead, it merely enables a purely apriori justification to do its work.

This brings us to P2, the claim that the warrant for any token belief can be undermined by empirical evidence -- in Quine's words, that "no statement is immune to revision" (1951: 43). To justify this claim, Quine cited cases in which scientific statements formerly taken to be definitional of terms such as "simultaneity", "straight line", and so on were justifiably revised in light of empirical evidence.[14] Quine also offers very schematic arguments for P2. Consider, for instance, the following passage.

> Suppose a scientist introduces a new term, for a certain substance or force. He introduces it by an act either of legislative definition or of legislative postulation. Progressing, he evolves hypotheses regarding further traits of the named substance or force. Suppose now that some such eventual hypothesis, well attested, identifies this substance or force with one named by a complex term built up of other portions of his scientific vocabulary. We all know that this new identity will figure in the ensuing developments quite on a par with the identity which first came of the act of legislative definition, if any, or on par with the law which first came of the act of legislative postulation. Revisions in the course of further progress, can touch any of these affirmations equally. (Quine 1954: 1931)

Quine imagines that an expression **F** is introduced by a meaning-defining stipulation expressed by the sentence **Θ(F)**. Quine argues that over the course of scientific theorizing the expression **F** acquires epistemic connections to other expressions. As other claims about **F** acquire prominence in scientific practice, the original definition **Θ(F)** may be abandoned.

We deny that one may use the examples from Kripke and Putnam as part of an argument to establish Millianism, but at the same time reject the Quinean generalization of these cases (i.e., P2). That would require agreeing that many seemingly apriori truths (such as that pencils are artifacts made for writing) are in fact subject to revision on the basis of empirical information, but rejecting other instances of the argument. But we do not see any principled place to draw the line between truths that are subject to revision and those that are not. As Quine argues, "Empirical facts might lead us to change even our logical views: revision even of the logical law of the excluded middle has been proposed as a means of simplifying quantum mechanics; and what difference is there in principle between such a shift and the shift whereby Kepler superseded Ptolemy, or Einstein Newton, or Darwin Aristotle" (1951: 43; see also Putnam 1968). And importantly, the standard Millian's semantic commitments prevent her from adopting the most popular responses to Quine (as we will show in sections III-V, below).

The epistemic arguments deployed by the Millian show that a variety of seemingly apriori truths are in fact defeasible in light of empirical evidence. Empirical evidence might undermine the warrant for our belief that Gödel discovered the incompleteness theorem, even though our introduction to the term "Gödel" came by learning this fact about its referent. Our firmly held beliefs that cats are animals or that pediatricians are doctors could similarly be undermined by empirical evidence. Related cases due to Burge (1979) – which also figure in Millian arguments – provide a number of similar cases of revision on the basis of further empirical information. For instance, an agent in our community who believes that she could have arthritis in her thigh would, upon being corrected by a doctor, revise her belief. Nonetheless, the agent still believes, of arthritis, that it can occur in the thigh. As we understand this case, the reverse is also possible (Burge 1979: 112); testimony from a doctor would lead many of us in the actual world to conclude that we could have arthritis in the thigh after all. Many of our beliefs about arthritis could be overturned by the testimony of medical experts. Thus, in a large class of cases, the Millian acknowledges that our beliefs are defeasible by empirical evidence. We find it implausible that the Millian could find a principled place to hold the line against the Quinean generalization.

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[14] More contemporary versions of this argument are offered in Williamson 2007.

We have shown that Kripke's and Putnam's arguments have the same form as Quine's more general argument. But Millians who endorse Conclusion A cannot accept the full scope of Quine's conclusion, since they claim that some propositions (such as the proposition that Hesperus is Phosphorus) are knowable apriori. Millians must therefore find some way of resisting Quine's arguments that does not extend to Kripke's and Putnam's arguments. In the dialectical context, this involves showing that there is a class of beliefs which is immune to empirical revision. The Millian opponent of empiricism may adopt one of two strategies. She may argue that some class of belief contents is such that any token beliefs with those contents are immune to empirical revision. Or, she may argue that certain token acts of belief have a feature making them immune to empirical revision. We will consider and reject both strategies below.

Before we proceed, however, we must issue a note of clarification. The above argument is to be separated from the purposes to which Quine put it. Quine (1951) famously offered such arguments as part of a larger push against the view that the notions of analyticity and synonymy could be defined in explicitly epistemological terms. For example, Quine intended to rebut the view that analytic truths were to be defined either as truths knowable apriori or as truths which were immune to revision.[15] Contemporary Millians do employ a notion of synonymy: sentences S and S* are synonymous in a context if they express the same proposition. Given that they have a notion of synonymy, it may be possible for them to define a notion of analyticity (see e.g. Salmon 1993: 93-94). However, these notions are not defined in epistemological terms, and do not have the epistemological consequences that Quine found objectionable. They are therefore not subject to Quine's critique. So the Millian can consistently endorse Quine's arguments for empiricism while maintaining her semantic views.

III
Perhaps the most famous line of resistance to Quine's conclusion was developed by Grice and Strawson (1956). They base their case on the claim that there is a long tradition of use of terms like "apriori", "aposteriori", "analytic", and so forth; and that this tradition has culminated in a great deal of agreement over what is apriori, analytic, etc., including widespread ability to extend this agreement to novel cases. They hold that this suggests that we are correctly tracking a genuine distinction:

> [T]hose who use the terms "analytic" and "synthetic" do to a very considerable extent agree in the applications they make of them. They apply the term "analytic" to more or less the same cases, withhold it from more or less the same cases, and hesitate over more or less the same cases. This agreement extends not only to cases which they have been taught so to characterize, but to new cases. In short, "analytic" and "synthetic" have a more or less established philosophical use; and this seems to suggest that it is absurd, even senseless, to say that there no such distinction. For, in general, if a pair of contrasting expressions are habitually and generally used in application to the same cases, where these cases do not form a closed list, this is a sufficient condition for saying that there are kinds of cases to which the expressions apply; and nothing more is needed for them to mark a distinction. (1956: 142-3)

Clearly a parallel argument may be offered in favor of the distinction between the apriori and the aposteriori. In the dialectical context, this would involve holding that there is a class of beliefs (either acts or their contents) that are immune to empirical defeat. But, the proponent of this strategy defers the question of an independent way of *identifying* this class of beliefs.

Such an approach may or may not be effective against Quine in other contexts. But the standard Millian cannot endorse it. For the habitual and general agreement in application consists to a large degree in claims such as *that it is aposteriori that Hesperus is Phosphorus* and *that it is apriori that Hesperus is Hesperus*, and the standard Millian must deny one of these claims. So the

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[15] For a discussion of Quine's uses of these arguments see Hylton 2002.

standard Millian must abandon widely agreed views about what is apriori and what is not. But since the standard Millian thinks that the habitual and generally agreed views are incorrect, how can she endorse Grice and Strawson's claim that widespread agreement is an indication that a genuine distinction is being tracked?

Similar remarks could be made about thinkers who accept the full range of Kripke/Putnam epistemic arguments, even if they do not draw the standard Millian conclusion. For again, these thinkers must deviate significantly from the habitual and general agreement in application of the terms "apriori" and "aposteriori", since they endorse such claims as *that it is not apriori that cats are animals* and *that it is aposteriori that pediatricians are doctors specializing in the care of children*.[16]

IV

So it seems that the Millian opponent of empiricism must exhibit a principled way to block the argument from defeasibility, rather than merely assuring us that there must some principled way or other. One possibility, exploited by some of the most powerful traditional arguments for the apriori, is to appeal to the notion of logical truth. These arguments proceed from two strongly held pre-theoretic views. The first is that there is an identifiable class of truths that are true as a matter of logic. These are the *logical truths.* This class of truths includes sentences such as "Hesperus is Hesperus", "All arugula is arugula", and "either I'm tall or I'm not tall" (as uttered by (say) Cicero). The second strongly held pre-theoretic view is that the logical truths are knowable apriori. For instance, Etchemendy (1990/1999: 89) describes the pre-theoretic principle that all logical truths are knowable apriori*,* going so far as to suggest that apriority is part of the basis by which we distinguish logical from non-logical truths.[17] These two views together entail that some truths are knowable apriori.

We noted above that there are two ways to resist the argument from defeasibility. It can be claimed that there is a certain class of contents such that beliefs with those contents are not defeasible on the basis of empirical evidence. Or, it can be claimed that certain token acts of beliefs are immune from empirical revision. The argument from logical truths sketched in the previous paragraph might in principle be proposed in either spirit. But only the second option is available to the Millian. Consider the examples of logical truths listed above. The standard Millian holds that the propositions expressed by these sentences are also expressed by the sentences "Hesperus is Phosphorus", "all arugula is rocket", and "either Cicero is tall or Tully is not tall". So if token beliefs with the same contents as logical truths are immune to revision, it would follow that beliefs associated with these sentences are not defeasible by empirical evidence. But clearly, typical token beliefs associated with these sentences are subject to empirical revision. It is easy to imagine a host of empirical evidence that would undermine our warrant for the beliefs associated with any of these sentences.

What this shows is that it is not the content of the belief expressed by a logical truth that makes it immune to empirical revision. If anything, it must be something about the act of belief itself that makes indefeasible. This suggests that (in typical cases) a token belief expressed by a

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[16] Of course, it is possible to accept some of the cases that motivate the epistemic argument without accepting all of them; for example, someone might accept the Godel/Schmidt case without accepting the pediatricians case. It is a delicate question whether, or to what extent, a non-Millian who takes this intermediate position can appeal to Grice and Strawson's argument.

[17] "[S]ome would claim, not implausibly, that it is only due to the *a priori* relation between then premises and conclusion of a valid argument that we judge the latter to follow necessarily from the former, and hence that we judge the argument as valid. On this view, a necessary consequence that could not be recognized as such *a priori* would never qualify as a logical consequence. And this certainly seems right." (1990/1999:89)

sentence such as "all arugula is arugula" is knowable apriori and therefore indefeasible, even though other token beliefs with the same content are knowable only aposteriori and are defeasible. These other beliefs would be likely associated with a sentence that is not a logical truth, such as "all arugula is rocket".[18]

But what is it about a sentence gives it the status of a logical truth? And can this status be used to establish that the token belief expressed by such a sentence is indefeasible? There are a number of conceptions of logical truth (discussed in Gómez-Torrente 2010, which we largely follow), and we cannot hope to examine them all here. But we will briefly examine a few of the most prominent views, and show that they offer little help to the Millian who hopes to establish a principled way of resisting the argument from defeasibility.

According to the most widely accepted conception of logical truth, the Tarskian model-theoretic conception, a sentence is a logical truth just in case it is true in every model. A model supplies a domain of objects and an interpretation for all of the non-logical constants of the language in terms of this domain. Unfortunately, there is no natural connection between *being true in all models* and *expressing a proposition which is knowable apriori or indefeasibly*. For instance, many developments of model-theoretic semantics build in the assumption that there are no empty models. Thus, it becomes a logical truth that there is at least one thing in the universe. This is incompatible with traditional views that existence claims are not knowable apriori. We mention this example not argue that impossible to know such a truth apriori, though we do not believe it is knowable apriori. Rather, our point is that the existence of at least one object treated as a logical truth primarily in order bring harmony our theory of logical consequence. For this purpose, the possibility that it is not knowable apriori is irrelevant. This suggests that a fully developed theory of logical consequence may well sever any connection between logic and apriority.

Interestingly, this point is acknowledged by standard Millians. Soames (2005: 49-55) explicitly argues against David Kaplan that logical truths in Kaplan's Logic of Demonstratives need not express propositions which are knowable apriori (see also Salmon 1991: 171-2). Soames considers an example using Kaplan's expression "Dthat(...)", where **Dthat(ϕ)** is a Millian singular term referring to whatever object satisfies ϕ. In Kaplan's Logic of Demonstratives, the sentence "Dthat(the youngest spy) is the youngest spy" is valid, and is therefore a logical truth. Yet, in Kaplan's system, the proposition expressed by "Dthat(the youngest spy) is the youngest spy" is the proposition, concerning some specific individual, that she is the youngest spy. Soames points out that it is implausible to hold that one can know apriori of a particular individual that she is the youngest spy. He therefore agrees with us that one cannot infer that a proposition is knowable apriori from the fact that it is expressed by a logical truth.

A simpler example is the sentence "I am here now", which is also a theorem in the logic of demonstratives. Yet, according to the Millian, this sentence uttered by, say, Scott Soames in the year 2012, expresses the proposition that he is in Los Angeles in 2012. It seems clear that is not knowable apriori that Soames is in LA in 2012. So logical truth, construed model-theoretically, does not establish apriority. So even if "Hesperus is Hesperus" is a logical truth (in this sense), this would not show that the proposition that Hesperus is Hesperus is knowable apriori. For these reasons, the Tarskian conception of logical truth – the conception which has proven the most attractive to Millians – cannot be used to resist the argument from defeasibility.

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[18] Note that the arguments of the previous two paragraphs appeal to features that are distinctive of standard Millianism. In particular, the arguments appealed to the standard Millian's view that the proposition that Hesperus is Hesperus is identical to the proposition that Hesperus is Phosphorus. Thus, the proponent of the Kripke/Putnam epistemic arguments who does not endorse standard Millianism might find in logical truth a principled place to resist the Quinean argument for empiricism, pending further considerations.

According to a rival conception, the logical truths are those truths that are derivable by certain rules from a certain set of specified axioms. Of course, whether this conception of logical truth can be deployed to resist the argument from defeasibility depends on the status of the axioms and rules. Some might suggest that the axioms must express propositions that are necessarily true and the rules must be necessarily truth-preserving. But, it would be strange for the Millian to derive any epistemic consequences from the necessity of the axioms; in general, the Millians follow Kripke in sharply distinguishing metaphysical features like necessity from epistemic features like apriority.

Others might suggest that the axioms must, among other things, express propositions that are knowable apriori. On this view, logical truths *by definition* express propositions that are knowable apriori. This may be part of the conception of logical truths that Etchemendy hints at above. But such a conception of logical truths would hardly help to independently identify a class of apriori and indefeasible truths. Indeed, the Quinean argument from defeasibility might be seen as giving us reason to doubt that there are any logical truths in this sense, and so to prefer one of the other conceptions of logical truth on offer.

One final proposal is offered by Boghossian (1997) and has many echoes in the history of philosophy. On this view, logical truths and the corresponding inference rules are *partially constitutive* of the meanings of the expressions that they contain. One might infer that the propositions expressed by logical truths are knowable on the basis of our understanding of the language alone. It is this position that we will examine in the next section.

V

According to the view under consideration, a certain amount of knowledge is required to understand a language. Our opponent suggests that this knowledge can be acquired apriori.

LC1.   Knowledge of the truth of sentences, such as "Hesperus is Hesperus", is required to be a competent user of the language in which those sentences occur.
LC2.   If knowledge is required to be competent user of a language, then users of that language may possess that knowledge apriori.
LC3.   If a sentence is known to be true apriori, then what it says is known apriori.
Conclusion D: It is knowable apriori that Hesperus is Hesperus.[19]

This argument finds support from the traditional idea that one may know a truth apriori if one does not have to investigate the world to find out whether it is true. The claim is that since one's understanding of certain sentences requires knowing that they are true, one needs only reflect on one's understanding (and not on the world) in order to know that the sentences are true.

But no such argument is available to the Millian. For Millians argue both that the truths that one must know to achieve linguistic competence are often knowable only aposteriori and the knowledge of what proposition is expressed by a particular sentence is empirical knowledge. They therefore reject LC2 and LC3, and deny that there is any relevant connection between linguistic competence and apriority.

Consider, for instance, Soames's (2003: ch. 16; 2005: 65-68) account of Putnam's cases. In his discussion of the possibility of discovering that tigers are robots, Soames notes that it is plausible that knowing that tigers are animals is required for understanding the term "tiger". Nonetheless, Soames argues that Putnam's cases show that the proposition that tigers are animals is not knowable apriori. Knowledge of this proposition might be required for linguistic

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[19]A related view would have it that knowledge of certain propositions is required for the possession or mastery of particular concepts. Most of the arguments below apply straightforwardly against such a view, and we argue against a similar view in section VI.

competence; nonetheless, "like other *de re* knowledge, *de re* knowledge of the kind tiger that instances of it are animals requires empirical justification" (2005: 65). Thus, Soames is forced to claim that knowledge involved in linguistic competence is often empirical. But it follows that there is no direct argument from the fact that knowledge is involved in linguistic competence to the claim that it is apriori.

Putnam himself does not endorse Millianism; he holds that part of the meaning of a word is a "stereotype" – roughly, the descriptions one would give to explain the meaning of the word to someone learning it for the first time (1975: 247-251). Nonetheless, Putnam's account is quite similar to Soames's. He maintains that one is a competent user of "tiger" only if one associates with it descriptions like "is an animal" and "is striped". Nonetheless, as we have seen in section I, he thinks that empirical investigation might reveal that no tigers are animals, and that no tigers are striped. Like Soames, Putnam is therefore committed to the claim that knowledge involved in linguistic competence is empirical.Soames's and Putnam's responses entail that even if knowledge of a given claim is required for being competent with a language L, it does not follow that every competent speaker of L is in a position to know the claim apriori. It may be that in order to be competent with the name "Hesperus", one must know that "Hesperus is Hesperus" expresses a truth. But that does not mean that one acquires this information apriori. Rather, as part of one's linguistic training, one acquires a significant amount of world knowledge.

There is a further reason to doubt that the argument for conclusion D could succeed, since it is very plausible that the Millian must maintain that LC3 is false. In general, one can know the proposition expressed by a sentence on the basis of knowing the sentence to be true only if one knows what proposition the sentence expresses. But the information that a given sentence expresses a particular proposition can be known only empirically. For example, it can be known only empirically that "Hesperus is Hesperus" expresses the proposition that Hesperus is Hesperus. So even if it could be known apriori that "Hesperus is Hesperus" is true (which we doubt), linguistic competence cannot lead us from this claim to the claim that the proposition that Hesperus is Hesperus is knowable apriori.

One final consideration on this matter is that some Millian arguments suggest that an utterance of any given sentence *type* may be competently denied, and therefore threaten the view that it is part of our competence to know that instances of that sentence type are true. Specifically, consider Kripke's Peter, who doubts that some utterances of "Paderewski is Paderewski" expresses a truth because he is introduced to Paderewski on different occasions (Kripke 1979/1989: 130-131). On our view, Peter is perfectly competent with the name "Paderewski". His problem is that empirical evidence justifies him in denying that "Paderewski is Paderewski" expresses a truth. And it is only by acquiring more empirical evidence that he can justifiably abandon this belief.

VI

The considerations just raised – that a sentence of any given type may be competently denied – suggest that the Millian can better to defend apriori knowledge by appealing to an aspect of the agent's psychology (a concept or psychological representation) than by appealing to her linguistic mastery. Thus, the Millian may do better to appeal to *modes of presentation*. One Millian who explicitly adopts this strategy is Salmon (1986). Salmon observes that (given standard Millianism) a rational agent may have conflicting attitudes towards the same proposition. She may believe that Hesperus is Hesperus, but deny it at the same time. She would normally verbalize her belief using the sentence "Hesperus is Hesperus" and her denial using

"Hesperus is Phosphorous," but these cognitive states are associated with different sentence types merely because of an intrinsic psychological difference in the way the agent represents the proposition that Venus is Venus. Salmon explains these seemingly conflicting attitudes within the same individual by suggesting that one believes a proposition just in case one bears a more fundamental relation, BEL, toward the proposition and some mode of presentation. (On a closely related view, "believes" expresses a three-place relation like BEL, with the mode of presentation being supplied by a "hidden indexical" element (e.g., Crimmins and Perry 1989).) Thus on Salmon's view, one can believe the proposition that Hesperus is Hesperus by bearing the BEL relation to that proposition and some mode of presentation m, or by bearing the BEL relation to that proposition and an alternative mode of presentation m', and so forth. And on Salmon's view, one may with perfect rationality believe a proposition under one mode of presentation, but deny it under another.

The belief that Hesperus is Hesperus is often said to be trivial, and it certainly must be admitted that it is often very easy for this belief to constitute knowledge. If the proposition that Hesperus is Hesperus were knowable on the basis of simple apriori reflection, this would explain the triviality. Salmon (1993) endorses such an explanation. In order to explain the fact that the belief that Hesperus is Phosphorus is sometimes far from trivial, he claims that a proposition can be knowable apriori under some modes of presentation but not under others. For example, it might be that the proposition that Hesperus is Hesperus is knowable apriori under the mode of presentation typically associated with the English sentence "Hesperus is Hesperus", but not under the mode of presentation typically associated with "Hesperus is Phosphorus".

A Millian who follows Salmon in claiming that modes of presentation are crucially involved in belief might therefore object that even if the Quine/Kripke/Putnam arguments show that the proposition that Hesperus is Hesperus is not knowable apriori under many modes of presentation, they do not show that the proposition that Hesperus is Hesperus is knowable only aposteriori. For example, it might be claimed that no empirical evidence can defeat belief in the proposition that Hesperus is Hesperus, when that proposition is inferred from the proposition that everything is self-identical, or perhaps when it is believed by someone who asserts, "Hesperus is Hesperus", with the explicit intention to refer to the same object with both occurrences of "Hesperus". The triviality of (or ease by which one may come to know) the proposition that Hesperus is Hesperus under the relevant mode of presentation might be argued to constitute evidence that the proposition is indefeasible under that mode of presentation.

There are two questions to ask here. First, can the Millian use modes of presentation in order to resist the argument from defeasibility? In particular, can she claim -- consistently with her overall view -- that beliefs under certain modes of presentation are immune from empirical revision? Second, does the triviality of the proposition that Hesperus is Hesperus under the relevant mode of presentation constitute evidence that it expresses a proposition knowable apriori? We think that both questions should be answered in the negative.

We deny that the Millian can appeal to modes of presentation to block the argument from defeasibility. Indeed, the arguments for Millianism suggest that any given belief is revisable *even under modes of presentation where the belief seems trivial and obvious!* Consider, for instance, the agent in Burge's famous example who learns that one cannot have arthritis in the thigh. Prior to being told by a doctor that one cannot have arthritis in the thigh, the agent thought it was trivial that arthritis can occur in the thigh. After receiving testimonial evidence from the doctor, the agent revises her belief.[20] As we mentioned above, related cases are easy to generate. It seems

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[20] Some views of testimony have it that -- in good cases -- testimony merely transmits justification from speaker to hearer. On these views, the hearer does not need to do empirical reasoning concerning the speaker's reliability, so that apriori justification can be transmitted by testimony (Burge 1993). We do not mean to challenge such views. We

trivial that cats are animals, that pencils are instruments made for writing, and that pediatricians are doctors specializing in the care of children. But Putnam's thought experiments suggest that these beliefs could be overturned given sufficient empirical evidence, even under modes of presentation under which they seem trivial.

In order to resist our argument by appeal to modes of presentation and at the same time retain their case against descriptivism, Millians would need to hold that the beliefs that seem trivial in the Burge and Putnam cases are nevertheless revisable due to empirical evidence, but that other beliefs that seem trivial under a mode of presentation, such as the belief that Hesperus is Hesperus, are not revisable. At this point in the dialectic, we see no principled way to draw the line. For example, we have argued that the Millian cannot differentiate these cases by appeal to the fact that "Hesperus is Hesperus" is a logical truth or that believing it is a prerequisite for linguistic or conceptual competence.

Moreover, given the Millian's commitments, it is possible to come up with cases in which a belief would be revised under any mode of presentation whatsoever. Suppose, for example, that the sort of considerations that have led a number of philosophers and scientists to hold that the objects studied by quantum mechanics are not self identical (see French 2011: section 5, and references therein) become universally accepted orthodoxy in the community of physicists. Now suppose that you are attending to the bubble-chamber track left by an electron. You dub the electron "El". You say, "Everything is self-identical, so El is identical to El." A quantum physicist friend replies that El is not identical to El. She argues that no physicist believes that particles like El are self-identical. Perhaps she presents you with the data that has led her and all of her colleagues to reject this claim. It seems clear that it would be irrational for you to ignore the evidence of the physicist's testimony, even if you held your original belief under a mode of presentation that made it seem obvious and trivial. And the situation would not be substantially changed if it were large objects such as planets that exhibited behavior like the objects studied by quantum mechanics actually exhibit, and an astronomer who corrected your belief that Hesperus is identical to Hesperus.[21]

The Millian might object at this point that we are not using the full resources of the mode of presentation strategy. She might suggest that upon being confronted with the relevant testimony, the agent comes to doubt that El is El under a different mode of presentation, or indeed that she comes to form an altogether different belief. Along these lines, the Millian might differentiate "deferential" modes of presentations, for which the agent is inclined to accept testimonial evidence, from "non-deferential" modes of presentation, for which the agent refuses to accept the testimony of others. An agent with a "non-deferential" mode of presentation would not be inclined to revise her belief in the face of testimonial evidence.

However, this move would be a disaster, for at least two reasons. First, the move undermines the Kripke/Putnam-style arguments against descriptivism. As we showed in section I, the typical epistemic arguments against descriptivism purport to show that the proposition expressed by a sentence of the form **a is F** is not knowable apriori. These arguments typically appeal to the possibility of finding out by empirical means that a is not F. But if the Millian can invoke modes of presentation to escape the argument above, then the descriptivists can help themselves to this response as well. For example, the descriptivist might claim that there is a way of thinking that water is the actual clear, potable liquid in her environment on which that thought

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take it as fairly obvious that the doctor's justification for the view that arthritis cannot occur in one's thigh is also empirically defeasible, and we have already shown that the Millian must regard empirically defeasible justification as aposteriori.

[21] Of course, we are not claiming that the actual evidence against the self-identity of electrons is convincing. Our point is that testimony of contrary empirical discoveries from an overwhelming number of sources can and should weigh as evidence even against beliefs that seem to be trivial and obvious.

is apriori and empirically indefeasible.[22] Similarly, she might claim that there is some description **F** typically associated by speakers of English with "Gödel", and that the proposition expressed by the sentence **Gödel is the F** is empirically indefeasible when entertained under the mode of presentation associated with this English sentence. And indeed, she might claim that there is a mode of presentation under which it is apriori that Gödel discovered the incompleteness of arithmetic: for example, the mode of presentation associated with stipulatively introducing the term "Gödel" by means of the reference-fixing description "the person who proved the incompleteness of arithmetic". Kripke's Gödel-Schmidt scenario would not show that it is an empirical matter whether Gödel discovered incompleteness, when Gödel is thought of in this way.

Indeed, some opponents of Millianism restrict their claims to beliefs with non-deferential modes of presentation. They do so explicitly in order to avoid Burge style arguments like the one we considered above.[23] So just as the Millian can claim that there is some mode of presentation under which the belief that Hesperus is Hesperus is empirically indefeasible, the descriptivist can claim that there is some mode of presentation under which claims of the form Gödel *is the F* are indefeasible. Thus the Millian saves conclusion A only at the cost of undermining her anti-descriptivist arguments.

The second reason that the move to non-deferential modes of presentation would not help is that the information that makes it rational to give up the claim that Hesperus = Hesperus need not be obtained via testimony.[24] In the case above, physicists obtain empirical information that is evidence against the claim that certain objects are self-identical, and pass on this information via testimony. But one can just as easily imagine that one obtains this information through first-hand research. Indeed, if it is conceivable that such information be obtained at all, presumably it is conceivable that it be obtained by a lone scientist acting in the absence of a community. Deference would be irrelevant in such a case.

Views on which apriori knowledge can be defeated by empirical evidence would have the resources to maintain that it is apriori that Hesperus is Hesperus despite the conceivability of such cases. But as we have shown, this style of view is not open to the Millian. The Millian could claim that under the relevant modes of presentation, the proposition that Hesperus is Hesperus resists appeals not only to testimonial evidence, but also to perceptual evidence. But surely no agent who ignores relevant perceptual evidence is behaving rationally. More generally, we cannot just stipulate that there are modes of presentation that make an agent resist appeals to certain kinds of evidence (perceptual evidence, testimony, historical evidence, etc), and expect that agents who form beliefs under these modes of presentation are behaving rationally. The descriptivist who refuses to revise her belief that Gödel discovered the incompleteness theorem in light of new evidence may be behaving in accordance with her mode of presentation. Nonetheless, she is behaving irrationally. Thus, in our view, the belief is still *revisable* in the sense that an agent with that belief *should revise* it in light of possible empirical evidence.

This brings us to the second question. We have argued that beliefs are defeasible even under modes of presentation under which they seem trivial. But does the seeming triviality of the belief that Hesperus is Hesperus under the relevant mode of presentation constitute an argument that it is knowable apriori? After all, we concede that it is easy to come to know that Hesperus is Hesperus under certain circumstances.

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[22] Frank Jackson (1998: 212) is one descriptivist who makes essentially this claim. Though he is ambivalent about exactly which description captures the meaning of "water", he insists that there is some description that we will continue to hold true of "water" no matter how the empirical facts turn out.

[23] See for example Peacocke 1989: 29-33, Bealer 1998: 272.

[24] Burge (1986) argues that the phenomena associated with his arguments do not depend on testimony and deference.

We deny that the Millian can invoke the triviality of this belief as evidence that the proposition is knowable apriori under the relevant mode. Consider an analogous case: the proposition expressed by "I am here now" as uttered by Scott Soames. This sentence expresses the proposition that Soames is in Los Angeles in 2012. Under the mode of presentation associated with "Soames is in Los Angeles in 2012", this proposition is far from trivial. But under the mode of presentation associated with "I am here now", the proposition is relatively trivial for Soames. And as we discussed above, even a staunch Millian such as Soames would deny that it is knowable apriori that Soames is in Los Angeles in 2012.[25]

A better explanation of this triviality can be formulated on the basis of the fact that an agent in any context of inquiry has a large number of background beliefs and assumptions. We, for example, know that everything is self-identical, or that the proposition expressed by an utterance of "I am here now" is always true. Whether this information can be brought to bear to justify any given belief may depend on the mode of presentation of the belief. For example, when I utter "Hesperus is Hesperus" and intend to refer to the same thing twice, the belief that I express has a mode of presentation that can be justified by my background belief that everything is self-identical. Similarly, when Soames utters "I am here now", this belief can be justified (in part) by Soames's background knowledge that every utterance of this sentence expresses a truth. But there is no reason based solely on the triviality of the relevant beliefs to suppose that this background knowledge is itself apriori.

This conception of inquiry accords well with the view that seemingly trivial beliefs can be revised given sufficient counter-evidence. When considerations tell against a seemingly trivial belief, they tend to undermine our background beliefs. Things that were thought to be true for the purposes of the investigation or conversation have to be rejected. Burge cases show us that background assumptions including those concerning the meanings of our words can be brought into question, and thereby undermine out justification for any given belief. Thus, the seeming triviality of these beliefs can be wholly explained by their place in the context of inquiry. Or so we must hold if we endorse the arguments for Millianism.

VII

We have defended a narrow conclusion and a broad conclusion.

The narrow conclusion is that the standard Millian is faced with a choice between two difficult positions: she must hold either that it is apriori that Hesperus is Phosphorus, or that it is aposteriori that Hesperus is Hesperus. Although the latter option has been ignored in the literature, we have argued that the standard Millian has reason to choose it.

The broad conclusion is that typical arguments for Millianism – the Kripke/Putnam epistemic arguments -- can be viewed as attacks on putative apriori connections between names and descriptions. These forms of argument generalize to other putatively apriori truths. Indeed, they are precisely the forms of argument that Quine used to attack the idea that there are any apriori truths at all. So the proponent of the epistemic arguments has a powerful reason to reject the claim that any truths are knowable apriori.

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[25] See the discussion of the youngest spy in Soames 2006: 52-3.

We have not commented on the truth of Millianism or the soundness of the epistemic arguments, and thus our argument does not show that the Quinean conclusions are correct.[26]

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