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DISAGREEMENT AND DEFERENCE: IS DIVERSITY OF OPINION A PRECONDITION FOR THOUGHT?*

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Professor Marblehead: Good morning Harvey, have a seat while I try to open my thermos here.

Harvey: Hmm, yes, coffee; where would we be without it…So where's Calliope?

Prof. M: Well, she's running behind as usual I expect. We may as well start without her.

H: Sure, okay.

Homonia is discussed but rejected by Harvey

Prof. M: So what were we going to look at this week?

H: The thought was that we would begin by talking about this paper by Rachana Kamtekar: "*Homonoia* in Platonic Politics."[1]

Prof. M: Oh yes, yes, very interesting paper, and very challenging too. While it is a widely held view in our liberal political tradition that diversity of opinion and even disagreement is a good thing, the view in Plato's *Republic*, is that agreement and consensus is to be prized in the polis, and that things work most smoothly when citizens willingly defer to the relevant leaders (i.e. the philosophers) without protest.

Uh, let's see, what was the passage that struck me…Ah, yes, the following bit from the *Republic* (431d9-32a9).

> [*Socrates*:] And if indeed in any city the same opinion exists in both the rulers and the ruled concerning who should rule, it would also exist in this one…In which of the citizens will you say moderation exists when they are like this? In the rulers or the ruled?
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> [*G*:] In both, I suppose.

> [*S*:] Then,…do you see how reasonably we surmised just now that moderation is like a sort of harmony?…Because it is not like courage or wisdom, each of which, by being in a certain part, makes the city wise and courageous, respectively. Moderation does not work like that, but rather, it is spread throughout the whole, making everyone, through everything, sing the same thing together: the weakest and strongest and those in between whether in terms of wisdom, muscle, numbers, wealth, or anything else. Se we would say most accurately that this agreement is moderation, the concord between the naturally inferior and superior as to which should rule both in the city and in each one.[2]

Harvey: Yes, well, I'm not sure I see why it is that consensus is a good thing. I really wonder if people who agree about everything can properly be said to even be thinking.

Prof. M: Well, of course the standard liberal view is that diversity and disagreement have much to recommend them. Diversity of opinion ensures that our policy options are thoroughly debated and that minority views are represented…

H: No, no, that's not what I'm saying. The point is that deference and agreement in any interesting sense are *impossible* without there also being widespread disagreement. See, the point is not a general one about the emergence of consensus in the polis, but has to do with current work in the philosophy of mind and the theory of meaning: Given certain basic assumptions about the nature of mental and linguistic content, I think it's arguable that there are a broad class of thoughts which we simply could not have if we were not embedded in a community where there was widespread disagreement over the individuating conditions of those thoughts. In effect, diversity of opinion—indeed, widespread disagreement—is a precondition for having thoughts and expressing meaningful utterances. It goes without saying that it is therefore also a precondition for agreement.

Prof. M: Well, that's certainly very thought-provoking Harvey, but I'm not sure I follow why that should be.

H: Well, the reasoning goes something like this. Start with these three assumptions: First, following Putnam, Burge and Davidson, the contents of our thoughts are fixed at least in part by the embedding social environment. Second, there is a kind of division of linguistic labor. Third, the contents of our thoughts depend (at least in part) upon those persons/experts in our social environment that we might defer to regarding the individuating conditions of the terms we use.

Prof. M: You're talking about Putnam's discussion of beeches and elms, right? So, the claim is that even though most of us can't tell a beech from an elm, and thus don't know the individuating conditions for the terms 'beech' and 'elm,' our uses of those terms are meaningful because we defer to people who do.

H: Right. Similarly, I might defer to certain experts in chemistry about the individuating conditions of water, and there may be social norms concerning individuating conditions for sofas, pre-cooked deli meats, etc., so that I might defer to certain "authorities" on these matters as well. These three assumptions

are all familiar and widely held, if controversial. It seems to me that if one makes these assumptions, there are sufficient resources to construct an argument for the indispensability of diversity of opinion for thought. That's because the question of who to defer to is something that has to be determined by critical exchange.

Prof. M: Plato wouldn't make those assumptions, though. In the ideal state, everyone defers to the philosophers, and at the same time there is complete consensus. So where does the diversity of opinion come in?

H: I'm not trying to make a point about political philosophy: it's not a claim about whether or not the ruled should defer to the rulers about, say, how to raise their children. Rather, it's a point about the theory of meaning—about *semantic* deference. I'm saying that *this* kind of deference has to be earned through argument. This is even in the background of the Platonic dialogues—we come to grasp (or recall) a concept through dialectic. This is why the dialectician is superior to the Sophist, who merely flaunts his alleged "expertise." We don't defer to Socrates on the meaning of 'justice' because he has the Greek letter *phi* tattooed on his head. We defer to him because he argues all the competitors into the ground.

Prof. M: Socrates does like to argue, that's true. But he's arguing about what *justice* is—what all and only just things have in common—not about what the word 'justice' means.

H: But that's the same issue; externalist theories of meaning don't draw a sharp distinction between, say, the meaning of 'water' and the physical properties of water itself. Likewise, the question of whether Socrates is investigating the meaning of 'justice' or properties of justice itself is confused. For the externalist these come to the same thing. Socrates demands individuating conditions for justice, which amounts to asking what the necessary and sufficient conditions for applying the term 'justice' could be.

Prof. M: I see. But still, why are Socrates' disputatious tendencies relevant to whether we defer to him on the semantics?

H: Well, consider what it means to defer to someone. I might defer to a friend (call him "Fonzie") on the individuating conditions for the term 'cool' (in the positive social sense, not the thermodynamic sense), but that can't mean that I simply unthinkingly suppose that Fonzie is the arbiter of what is cool. I must have observed that there are other conceptions of what is cool (say my friend Ralph's conception), and I must have made a decision, based on *something*, that I will defer to Fonzie and not to Ralph for the individuating conditions for this particular term. That something must be a difference between their conceptions of coolness—a diversity of opinion—that provides me with a reason to defer to Fonzie rather than Ralph.

Prof. M: Very interesting.

H: Okay, now, what if I had no reason to defer to Fonzie rather than Ralph, but just did so blindly? Under these circumstances, insofar as the contents of our thoughts are socially determined, is it so clear that I would be having thoughts at all?

Prof. M: I take your point. It is as though the person who blindly agrees isn't thinking or understanding at all.

H: Okay, good, so if we agree that the answer to this question is "no" then we are on our way to seeing the importance of diversity to having genuine thoughts. The problem is that reasoning our way to seeing someone as a linguistic authority requires that we be able to entertain other alternatives. So, we take Fonzie to be a better authority than others, but we cannot reason to this conclusion unless there are other possible candidate authorities (at least in principle). We won't take Ralph *too* seriously as an alternative, but we must be able to entertain such alternatives if only to run a kind of system check.

Prof. M: Very provocative, Harvey. Have you thought about writing this up?…Ah, Calliope, you've arrived!

H: Hi Cal.

Calliope: Hi Harvey, hi Ed, sorry I'm late. What did I miss?

Prof. M: Oh, we've been off subject, but nevertheless engaged in a very interesting discussion. Harvey was just explaining his theory of how diversity of opinion and disagreement are actually a precondition for deference to linguistic authority, and ultimately for having thoughts.

C: Oh, jeez, not that again.

H: Cal and I have been arguing about this for a while now.

C: Ad nauseum, I might add, and I still don't understand what Harvey is on about.

Prof. M: Well, we just left off with Harvey's point that deference to a linguistic authority—the example here is Fonzie versus Ralph on the individuating conditions of 'cool'—has to be earned, and that this means it has to be earned in part through debate.

C: Yes, yes, I've heard it all before. But maybe this would be a good opportunity to lay out all the problems with Harvey's view in one sitting, so that perhaps he will accept defeat and move on to formulating more plausible philosophical positions.

H: Okay, bring it on, Cal.

Prof. M: Oh dear, here we go again. But it's your tutorial I suppose…

Calliope challenges the claim that deference must be earned

C: To be honest, it's difficult to know where to begin; there are so many objections. But let's start with that Fonzie-Ralph example. Could you remind me of your basic point?

H: My claim was that my deference to Fonzie on the application of 'cool' cannot be blind deference, but has to be earned. And for this deference to be earned, I must have entertained alternative conceptions of 'cool,' like Ralph's, against which I favorably compare Fonzie's. Therefore, deference presupposes disagreement.

C: Ah yes, I remember. For the sake of argument, let's assume your entirely implausible claim that deference to experts is a necessary condition for us to have certain kinds of thoughts. Even if that is so, why must there be *disagreement?*

Prof. M: If I understood Harvey's position correctly, the answer is that deference can only be earned that way. But this raises the prior question of why deference has to be earned at all. Why couldn't it be automatic?

H: What would that be like?

C: I get the idea. Imagine a community of individuals who have been hardwired by evolution to accept certain individuals as experts and to defer to them on matters of linguistic usage. Moreover, evolution has done its job so that the individuals to whom deference is paid really *are* experts in their respective fields. There's no disagreement, but there is deference to experts, and that seems to be sufficient for socially determined content.

Prof. M: That would have been a pretty smart move on the part of evolution (or God, as the case may be): it's got to be more efficient for human beings automatically to defer to genuine experts than to spend their time wrangling over who is an expert and who's not. And think about all the people who defer to the wrong individuals, like their philosophy professors; wouldn't we all be better off if they were hardwired to defer to the right ones?

H: I don't think this is plausible—even in principle. If the individuals that we automatically defer to are experts, what makes them so? And how do we recognize them? There must be some facts about the experts in virtue of which they count as such, and presumably those facts will explain how we recognize to whom we're supposed to defer. It's not much of a leap to see the facts in question as reasons that can be offered in favor of recognizing one person rather than another as an expert. If that's right, then such a community depends on diversity of opinion after all.

C: Actually it is a big leap. There could easily be an evolutionarily determined (or, if you prefer, divinely determined) mechanism by which we'd know to whom to defer, corresponding to some genetically inherited trait that belonged to all and only experts in a particular domain. So, for example, persons destined to be experts in medical matters might have pointy heads, while persons destined to be experts in legal matters might have six fingers. Or else experts could produce pheromones of various kinds to which we are sensitive. Then we need not have reasons for deferring to one or another person—we would just do it without reflection.

H: In that case I don't think we can say there's deference at all. Automatically following the usage of unreflectively identified "experts" doesn't strike me as an attitude that qualifies as deference.

C: Why not? I don't see the problem.

H: Suppose Richie blindly defers to guys in leather jackets on the individuating conditions of 'cool' because he's prewired to do so. We ask Richie, "Why are you going along with that guy in the leather jacket?" and all he can say is "I dunno, I just am." That doesn't look like a notion of deference that can anchor

meaning. There's no normative component to it, and meaning is supposed to be normative.

Prof. M: I see. It's like the rule-following considerations raised by Wittgenstein.

H: And Kripke and scores of others. Exactly.

C: In spite of what these authorities may say, it seems pretty clear that a lot of linguistic deference is actually rather automatic. The studies of linguistic deference that I've seen all seem to point to the idea that one immediately defers to one's economic and social "superiors" on issues of pronunciation and word meaning.

H: Then why does no one in England speak like the Queen?

Prof. M: No, I think Calliope is right about this, Harvey. I used to date a sociolinguist who worked on related topics. One typically defers to individuals that are in a relevant power relation to you—for pronunciation, anyway. I don't recall that she worked on semantic deference.

H: That's just in face-to-face conversations, and it is typically done as a form of politeness. There's a classic book on this by Brown and Levinson (cleverly called *Politeness*). It would be a mistake to extrapolate from these cases to the sorts of cases that interest us. No one defers to scientists or other domain experts because they are upper class. Probably scientists receiving their Nobel prizes defer to the King of Norway on the pronunciation of scientific terms when talking to the King, but not much follows from that.

C: Okay, but this doesn't let you off the hook, Harvey. One thing that we know about the acquisition of word meaning is that most of the words with which we are competent are acquired at a very young age, in a critical period. There are periods where we learn the meanings of several hundred words a day. As far as the empirical evidence is concerned, this process appears to be entirely hardwired, and has little or nothing to do with deference and has everything to do with the person the child happens to be listening to.

H: I don't deny that a big chunk of the lexicon is acquired automatically, but the part of the lexicon that is acquired this way is skeletal at best. Children may learn the basic meaning of 'good' and 'bad,' but certainly what is automatically acquired only scratches the surface here. There are all sorts of specific cases that may or may not fall under the extensions of 'good' and 'bad' and the child will have to defer to someone if she wants to put meat on the bones of that lexical skeleton. I'm not even denying that the mechanisms involved in deference are innate—I'm just saying that those mechanisms, whatever their source (innate or not), include discursive strategies for establishing deference-worthiness.

C: Well, I find it implausible that children have discursive methods for determining whether or not they should defer to their parents. I can't imagine that little kids challenge their parents on the individuating conditions of non-natural kind terms, for example.

Prof. M: I'm afraid I have to come to Harvey's defense here. If you've ever had a child you know you get challenged all the time—even on word meaning. Why, I remember when my son Rupert…

Calliope challenges the claim that earning deference requires disagreement

C: Look, even if you're right—even if meaning is normative and deference must be earned (that is, there must be reasons for which we defer to certain experts) it does not follow that these reasons have anything to do with disagreement.

Prof. M: Well, going back to Harvey's *argumentum ad Happy Days*, I thought the idea was that a reason to defer to Fonzie is ipso facto a reason to defer to Fonzie *rather than* some alternative such as Ralph.

C: That's the idea, but I want to challenge it. Consider a community of seven people who've been stranded on an isolated island, each of whom is the only expert in a particular field. When it comes to fashion terminology the other six people always defer to Ginger, when it comes to scientific terminology the other six people always defer to the Professor, when it comes to nautical terminology the other six always defer to the Skipper, and so on, but at no point is there disagreement. Gilligan defers to the Professor on the meaning of 'quark' but to Ginger on the meaning of 'style' and to Mr. Howell on the meaning of 'financial derivatives,' and rightly so. There is no need to introduce disagreement here.

Prof. M: Those names sound familiar…

C: Yes, they should. Anyway, the point is that each person knows that the other people are experts in their fields, and this is what justifies their deference. At the same time, there is no debate about the relative merits of deferring to one person rather than another, because everyone recognizes that there is only one expert in any given domain.

H: Cal, I have to question your assumption that this deference is unreflective…

Prof. M: …Got it! *Gilligan's Island*, that's it! Thank goodness, that would have driven me crazy all day. But if I take your point, Calliope, Gilligan's Island has a kind of harmony (in Plato's sense)—not in that the ruled know they should defer to the rulers, but in the sense that everyone knows who the relevant domain experts are and they defer accordingly.

H: That's her line, but I doubt Calliope's assumption that the experts of this island society are deferred to without reflection and without their establishing their credentials. On the TV show, each character gained his or her expertise prior to arriving on the island, in a linguistic community that clearly had diversity of opinion. But I think Cal is asking us to think of our seven experts as having always been in this isolated state.

C: Exactly.

H: Okay, but then I have trouble getting a handle on what it could mean to say they're *experts*. How would they determine who was an expert in what? Calliope stipulated that the passengers of the S.S. Minnow know why they defer. How do they know? That deference had to be earned! Everyone defers to the Professor on matters scientific, but he's proved his expertise to them on numerous occasions—making radios out of coconuts and whatnot.

Prof. M: How on earth did he do that? Very impressive feat!

C: Look Harvey, I've already granted you that deference has to be earned, but I don't see that this entails anything about diversity of opinion and it certainly doesn't seem to have anything to do with disagreement. Why aren't the Professor's manifestations of scientific knowledge, engineering, skill, etc., on the island sufficient? How does building a radio out of coconuts—surely an excellent reason for deference—require disagreement?

Prof. M: Hmm, yes, Calliope has a point. There would be no actual *disagreements* in that case, but it seems that deference has been earned by the relevant experts. Surely building a coconut radio establishes the Professor as an expert in scientific or engineering matters. Actually, I don't see why he even needs to build a radio. Shouldn't it be enough that he has a diploma from a prestigious research university? In the real world there are lots of ways to establish scientific credentials without having to prove oneself by building radios or engaging in debate.

H: Ed, you are shifting assumptions on me. Remember, we were supposing that the people had always been on the island and that they didn't blow ashore with credentials (like diplomas) that were earned elsewhere in communities with diverse views and opinions.

C: And to be fair, the Professor's fellow passengers do not initially accept the Professor's advice based on his reputation alone. He really does have to prove his expertise: in the first episode Gilligan and the Skipper initially reject his contention that their raft will not be successful. Nonetheless, whether his credentials come from radio-building or institutional confirmation, disagreement is not required.

Harvey discusses the reach of semantic credentials

H: Well, you say that the Professor's contention is rejected—this sounds like disagreement to me. But clearly, I need to be a little bit more careful here. There are two kinds of credentials that the Professor has to establish, and while I think that both kinds of credentials are established by debate we can lapse into confusion if we don't separate them. First, the Professor has to show that he really is an expert in the domain, that is, to establish his *scientific* credentials. Let's assume for the moment, though I will want to come back to this, that domain expertise can be established in any number of ways. My claim is that this is not *enough* for establishing one's semantic credentials: something more is needed, and this must be established discursively.

C: I don't think I buy this distinction between scientific and semantic credentials, especially since your whole motivation rests on accepting the arguments of social externalists about meaning. When Putnam argues that we can use the terms 'elm' and 'beech' because we defer to people who know the individuating conditions for those types of trees, he's clearly talking about deference to *scientific* experts, not English-language teachers.

Prof M: Calliope is right about that. Early on in our conversation, Harvey, you said that we defer to chemists about the meaning of 'water' and to other authorities about sofas, deli meats, and so forth. If we do not defer to chemists because they are experts in *chemistry*, then I don't understand the premise of the argument.

But I also have a different worry about the distinction between kinds of credentials. It seems to assume the tenability of a sharp divide between the semantic and the empirical—in different terms, the analytic and the synthetic—which for Quinean reasons I find suspect.

H: Ed, that is an important worry. But let me address Calliope's point, because this may go some way in assuaging your Quinean concern. I'll grant you that Putnam is not talking about deference to English-language teachers—they are the last persons we would want to consult on questions of meaning—but it does not follow that the only relevant consideration is institutional scientific knowledge. Consider why we take someone to be a scientific expert in the first place. Calliope has argued that the Professor can establish his deference-worthiness by performing actions—like building coconut radios—that prove his expertise. But regardless of how the Professor's scientific credentials are established, the question before us is whether something *more* or something *else* is required to establish his semantic credentials with respect to some particular scientific terminology.

Prof. M: So your claim is that we defer to chemists about the meaning of 'water,' but not *only* because they are chemists.

C: I don't see why being a chemist isn't enough, Harvey. Knowing what makes an elm tree an elm, a beech tree a beech, or water, water—bits of empirical knowledge that do not rely on any sort of disagreement—should be sufficient to establish that one is an expert on the meaning of the terms 'elm,' 'beech,' and 'water.' The point generalizes to other scientific terms, and presumably to terminology in other domains.

H: It's true that we assume that trained botanists know how to use the term 'elm' and medical doctors know how to use the term 'arthritis.' This is because, for institutionally certified scientific experts, we have reasons for supposing that the institutions, such as universities, ensure that their graduates are familiar with certain linguistic norms. But we might have doubts about the reach of the linguistic authority of these institutions in a particular context. For example, do PhDs in botany really know the individuating conditions of 'elm'? I for one have no idea. The point is that when we consider institution-sanctioned experts, we must still entertain questions about whether the expertise covers the particular linguistic usage in which we are interested. This doesn't mean there is a

non-empirical question to be answered here—it just means that there is a possibly empirical question about the semantic reach of our institution-sanctioned scientific credentials in any given case.

C: I just don't see this, Harvey. Isn't it clear that doctors are trained in standard usage of medical terminology? Are you the sort of person who insists to his doctor that he has arthritis in his thigh?

H: The situation is much more complicated than you are making out, Cal. Take a different example. Suppose that Mary Ann wants to say, "Tomatoes are vegetables." The Professor takes exception to this remark and insists, no, "Tomatoes are fruit." Is she supposed to defer to him in this case? Well, if she is, then she's in the position of also having to say that cucumbers are fruit and that, well, just about everything is either a fruit or a root or some such thing and who knows if the Professor will even take 'vegetable' to have an extension.

Or suppose that the Professor insists that a glass window falls under the extension of 'liquid.' Is she supposed to defer to him there? I really don't think his scientific credentials are relevant. This is how it usually is: we will defer to the Professor only if we're on his semantical turf, but it is far from clear where the territorial borders lie. If he wants Mary Ann to defer to him, then he's going to have to fight for his turf.

And in other cases I might accept someone's semantical authority, but at the same time recognize that their expertise covers only a small part of the picture. The Professor may tell me that 'water' refers to stuff that is constituted in part by H_2O, allowing for impurities. Now suppose you and I get into a dispute over the following example, which is due to Chomsky. Someone dumps some tea-leaves into the water supply, with the result that when I turn on my faucet, a tea-infused liquid comes out. Is it tea or is it very impure water? We might get into an argument about this, but it would be crazy for one of us to say, "Let's ask the Professor." Here we are prepared to defer to him on some features of the meaning of 'water,' but not all of them.

C: But look, Harvey, isn't this just a case where different meanings of a term are at issue? Let me see, I remember looking up the tomato debate for a class…Oh yes: First, there's the botanical classification, on which a fruit is any fleshy material covering seeds, and includes tomatoes and cucumbers, as well as eggplants and squash. Then there's the horticultural classification, on which tomatoes are vegetables because they are annuals and, unlike most fruits, don't grow on a woody plant. (You can check this out on any horticulture website.) We might as well throw in the fact that vegetables are usually eaten with the main meal, while fruit isn't—and this is probably what most people are thinking about when they draw the line. Interestingly, in 1893 the Supreme Court actually ruled that tomatoes were vegetables, and that meant they were subject to import taxes.

Prof. M: Calliope, I had no idea you were such an expert about vegetables (no pun intended). I have to say, though, that I can't see why the Supreme Court should have any special insight about vegetables.

H: Whether this is a case of polysemy doesn't really matter to me. It does seem to me, however, that this is a clear case where there are different sorts of experts to whom you might want to defer about applying the *term* 'vegetable,' and whether or not you should defer to the horticulturalist or the botanist or the chef or the Supreme Court isn't going to remain fixed. And as Cal's example nicely illustrates, it's not just a matter of deciding whether you're on "scientific" or "ordinary" semantical turf; there's a lot more complexity than that.

C: I'm not sure I buy this, but on the other hand I don't want to defend the claim that we have different concepts of 'vegetable' every time we decide someone new deserves deference.

Prof. M: This reminds me of an argument by John Dupré in *The Disorder of Things*.[3] He doesn't talk about vegetables, but he does talk about prickly pears, butterflies, and a number of other cases where ordinary classifications conflict with scientific ones. For instance, he says that it is easy to tell, because of leaf shape, whether a particular cactus is a prickly pear or a cholla, but while both belong to a particular genus, biological taxonomy does not identify any important relations between species of prickly pears than it does between those species and species of chollas. As Dupré nicely puts it, the prickly pear is just not recognized in biology.

C: If I remember correctly, though, doesn't Dupré use these kinds of cases to argue against the sort of scientific deference picture proposed by Putnam and Kripke? He wants to claim that there are multiple different classification schemes, equally grounded in objective features of the world. In other words, if your goal is to locate prickly pears to decorate your window, you shouldn't give a hang about what biologists think.

Prof. M: That's right. But to be fair to Harvey, his argument is that *if* we accept the externalist picture that assumes deference to experts, disagreement is required to negotiate deference-worthiness, and the biologist won't necessarily win the argument.

H: Thanks, Ed. I agree that these examples support my point. They don't show that you shouldn't defer *at all*; they show that in different contexts you'll defer to different experts. I haven't the faintest idea how to tell a prickly pear from a cholla, much as Putnam couldn't tell an elm from a beech. But I can use these terms meaningfully because there *are* experts who can distinguish them—they may not be biologists, or even scientists, but that just goes to show that for each situation the relevance of a particular semantic expertise has to be established.

Prof. M: If that's right, then we should say that if we're talking about possible tariffs on tomatoes—as opposed to horticulture or botany or cooking—we *should* defer to the Supreme Court. But deciding which kind of expertise is relevant is a matter of negotiation.

H: Exactly.

Prof. M: So the claim is that in any given conversation, and even if we've established scientific expertise—or credentials in any other domain, I would assume—semantic credentials must be established anew.

H: That's right.

Prof. M: Interesting. You know, it occurs to me that issues of this nature are in play in a number of philosophical disputes. For example, take the term 'time.' Since Einstein introduced his operational definition of simultaneity, a lot of philosophers have argued that he wasn't really talking about *time* so much as relations holding between light signals. This is now echoed in the debates between B-theorists and A-theorists: following McTaggart, the latter typically object that because the B-series does not make room for genuine change—which requires absolute simultaneity—it leaves out a feature essential to the very concept of time.

H: It works in the opposite direction too, Ed. Sometimes philosophers need a reality check, and this is provided by the scientist who can inform us that our use of a particular concept is out to lunch.

Harvey and Calliope debate the transience of semantic deference

C: All right, Harvey, as long as I seem to be losing Ed here, let's grant that having institution-sanctioned scientific credentials is not sufficient for establishing deference-worthiness in semantic matters. But even if you think that linguistic deference was initially earned discursively and through challenge, by season three of *Gilligan's Island* there is presumably no reason for the Professor to keep earning that deference. Everyone knows that the Professor "is the man" when it comes to scientific terminology. He doesn't have to keep proving himself. Why can't they just *remember* to defer to the Professor on scientific terminology?

H: You keep coming back to scientific terminology, but as I said, the problem is to know when you are on scientific turf—and which kind of scientific turf—and when you aren't. As we encounter new cases all the time (is it tea or water, is it fruit, etc.) remembering that the Professor has earned *some* semantic deference in some contexts does not buy us much. It certainly doesn't establish that he has earned our deference in this new context. Semantic credentials are transient.

Go back to Fonzie for a minute. Even if Richie defers to Fonzie on some uses of the term 'cool', he's not going to defer to him in all such cases. Suppose that in the morning Fonzie says 'leather jackets and ducktail haircuts are cool' and Richie defers to him and takes these items to fall under the extension of 'cool things.' Then in the afternoon Richie learns about Gödel's proof in his logic class and decides that it is also "cool" in the same or similar or extended sense. By the end of the day Richie might remember that he used to defer to Fonzie on *all* questions of coolness, but he's probably no longer so inclined. What does memory buy Richie in this case? Or now suppose that during the day Richie learns that Fonzie is an avid collector of Barbie Dolls and Hello Kitty paraphernalia or suppose—even worse—that Fonzie goes water skiing and jumps a pen containing a live shark, and that this undermines Fonzie's coolness credentials in Richie's eyes. In a dynamic world—which is the kind of world we happen to live in—memory that someone was a semantical authority this

morning doesn't buy much. After Fonzie "jumps the shark" his authority is shot. Linguistic deference has to be earned over and over.

C: Sure, Fonzie might jump the shark and undermine his authority, but famously that only happened once in the history of the show, and was a turning point in which the show started to go downhill (I gather that's the origin of the expression "jumped the shark"). Isn't it routinely the case, however, that nothing happens to undermine our deference and we are able to remember who earned our deference?

H: I don't think matters are as stable as you make out, Cal. First of all, memory is not as passive as you seem to be assuming—you can't just remember *who* earned your deference, you have to remember *why* they did. The process by which I come to accept Fonzie and not Ralph as my linguistic authority is no doubt a complex one, involving any number of shared goals and power relations that hold within my web of acquaintances, but it must be possible to have and give reasons why I defer to Fonzie. It must also be possible to reconstruct my reasoning at crucial moments. So, for example, feeling some doubt about why I trust Fonzie, I might rehearse to myself the reasons for supposing that he is worthy of my deference—where, again, these will be reasons to defer to Fonzie *rather than* someone else. More importantly, I might have to justify to others in my circle that Fonzie is the one to whom *they* should defer as well. Obviously every such decision cannot be thought through, and no doubt some of them are made without reflection, but some substantial portion of them must be reasoned, and some greater proportion must admit of background reasons that are available if called for. The point is that our ability to remember who deserves deference depends in no small measure on our ability to reconstruct the reasons that we defer to these individuals.

C: Harvey, I already granted that we need reasons to defer. So maybe remembering that Fonzie earned your deference isn't enough, but surely remembering *why* he earned your deference *is*. As long as he doesn't jump the shark, those reasons should still be good, and there's no need to reestablish deference-worthiness again and again.

Prof. M: I think Harvey might be right about this, Calliope. You may not believe this, but there was a time—let's not say how long ago—when *I* was the arbiter of coolness in my circle. (That was also a time when 'bad' just meant bad.) The reasons that would have justified deference way back when (ducktail, etc.) are no longer valid. Just try to get my son to defer to me about what's cool on those grounds! If anything, I should defer to Rupert now.

C: Please don't, Ed—we wouldn't want to see you wearing a nose ring.

H: That's one thing Cal and I can agree on. But notice that Ed's example gives us an additional reason to deny that it's enough simply to remember past reasons for deference-worthiness: what is required to be an expert in a particular domain can change, so that meeting an old set of standards for deference-worthiness might not be enough to meet a new set of standards. Rupert might be an expert on coolness now, but it doesn't follow that he'll be one five years

from now. It's not just a temporal issue, of course: Rupert's expertise extends to sixteen-year-old kids, but that doesn't mean he's an expert about coolness for philosophy professors (assuming the concept of coolness has any application in this domain).

C: Maybe the reasons for deferring about coolness, where it's in the very nature of the thing to shift frequently, can change. But this is an unusually fluid case. Surely the reasons for deferring about scientific terms don't change much, so that once having established expertise, that's enough for any context. Even if a *reminder* of why deference was earned is required, there's no need for *further* negotiation and disagreement.

Prof. M: Yes, that seems to be a problem for you, Harvey. Go back to the example of the materials scientist who wants to tell us that a glass window is liquid. It's hard to see why there's any basis for argument here.

H: I think it's clear in that case that the scientist has overstepped her semantic authority. Maybe she will try to argue that her usage conforms to our shared linguistic practice. If I'm not convinced by her argument—and in this case I probably won't be—I'm not going to defer to her in this instance.

And I think there's a lot more fluidity in the scientific cases than Cal is recognizing. Let's go back to the case of 'time.' A physicist tells me that she is exploring the nature of time and I think something is being left out, so I challenge her, perhaps by arguing from our shared practice of using temporal language, or by giving her the usual arguments in the philosophy of time. If she's informed about the philosophy of time (or at least interested in the topic) she might respond with arguments of her own. It's not hard to see what the lines of debate will be.

C: But why should the physicist even engage in these arguments? Why can't she just say, "Look, I'm the physicist, we're talking about physics, so you should defer to me"?

H: If we thought it enough just to *declare* deference-worthiness, we might as well concede that the Supreme Court closed the book on vegetables in 1893. The physicist has to defend her claim to be talking about the same concept her interlocutor is talking about, that is, to establish that I'm really on her semantical turf. If there's a refusal to defend the reach of her credentials, then I've got no reason whatsoever to defer to her.

Prof. M: Let me see if I understand where we are at this stage. Harvey began by arguing that semantic deference cannot be unreflective; it has to be earned, and reasons to defer to one person are ipso facto reasons not to defer to an alternative. Calliope responded that even if this is so, the reasons need not involve disagreement, and this is where the distinction between domain expertise and further semantic credentials was introduced. In accord with that distinction, we've assumed (temporarily) that one can establish domain expertise in any number of ways, for instance by building coconut radios. Then Harvey's claim was that this is insufficient for *semantic* credentials; there must also be (real or possible) disagreement that establishes the relevance of the expertise to a given

conversation. At this point Calliope suggested that once those reasons are given and deference-worthiness established, there is no need need for debate. To which Harvey replied that semantic credentials are transient, so that deference-worthiness must be established anew for each context.

H: That's right.

C: I agree on the outline, but I still think that Harvey's conclusions are so vague, they barely qualify as hand waving.

Prof. M: Ahem. I think the question Calliope is raising is really about *how* semantic deference-worthiness is established. Just saying that we argue doesn't seem informative. How is this sort of disagreement supposed to make progress? How do we score points? When and how do we decide that someone is deference-worthy?

Harvey and Calliope discuss the mechanisms for determining deference-worthiness

H: That is a serious challenge, and in fact it defines my central research project at the moment. As I said before, there are two issues. The first part of earning deference requires establishing that one is in fact an expert in some relevant domain. The second requires establishing that the semantic reach of the domain expertise extends to the terminology being employed in a given context.

Prof. M: I think we have a pretty good idea about why semantic credentials may not apply in new contexts, so that deference-worthiness must be renegotiated. I'd like to hear more about why establishing one's expertise for a particular domain requires disagreement.

H: Okay, good. Suppose you do not know the individuating conditions associated with the term 'water,' and you are trying to decide whether or not you should defer to the Professor on this. Your decision depends on his ability to demonstrate his expertise to you, a person who lacks that expertise. In the examples Calliope mentioned, she defers to the Professor or the doctor based on reputation or institutional certification or testimony. These are cases in which the "demonstration" of knowledge does not transfer the knowledge. Similarly, I may indicate that I know the time merely by gesturing at my watch, or I may demonstrate my knowledge of Kant by presenting letters of reference from noted Kant scholars.

C: Those are just the sorts of cases we've been discussing—credentials and so forth. I don't see how this helps you, Harvey.

H: Right, but there are more interesting cases. While demonstrations like the above are adequate for many everyday situations, they clearly are not adequate for all situations. In particular, they are not adequate for establishing credentials in one-off situations.

Prof. M: And those are relevant because semantic credentials must be established anew for each conversation, right?

H: Right. So, for example, you may be interested in buying a one-time service from me at great expense, and you may have no knowledge of my reputation or you may be unimpressed by my academic credentials. Can I demonstrate that I have sufficient knowledge under such circumstances?

One natural answer is that you might test my knowledge with sample cases. Suppose you are a tree farmer interested in hiring me to tag your trees as either birch trees or beech trees. You might test me by having me tag some randomly chosen trees, enough so that you are confident I am not merely guessing correctly. Alternatively, I might have written a software program that I claim can perform a certain task. You might verify that by testing the program on certain sample tasks.

It is important to note, however, that these are cases where I demonstrate my knowledge by revealing my knowledge (at least to some degree) or exercising my ability (at least to some extent). In both cases I am performing the relevant task to some degree, and your confidence in my ability is directly related to my having revealed some knowledge or ability. We could call these tests "partial knowledge demonstrations" or "partial knowledge proofs" since we establish our knowledge by revealing some of the knowledge that we have, although not all of the knowledge that we have.

C: That still doesn't help you, Harvey. You've just described the sort of situation we find ourselves in when we are grading our students. We have the requisite knowledge and we want to know if they do too. We test them by choosing some randomly selected questions, thereby constructing a partial knowledge proof that they know what we already know and what they are supposed to know. But that doesn't have much to do with cases where *we* don't have the knowledge and we want to know if the other person is an expert in the domain.

H: The best test of whether your students grasp the material is whether they are disagreeing with you.

Prof. M: That sounds right, although I think some students disagree a bit too much (present company, for instance).

H: Heh! Cal is right that student exams are cases where we have the knowledge already, but in most other cases this is not the situation. Typically, when we challenge someone we want to know if they have some knowledge we (the challengers) lack. For example, although Richie may not be an expert about the meaning of 'cool,' he has to have at least partial knowledge of the content of the term. How else could he go about determining whether he has the right expert? He must have some non-trivial grasp of the meaning of 'cool' even to entertain the question of whether or not to defer to Fonzie.

C: Are you saying that Richie and Pottsie have to have enough knowledge of the content of 'cool' to challenge Fonzie?

H: That's precisely what I'm saying. Here's another example. Consider the situation where we want to hire someone in an area where we are not experts, like last year when the department hired a philosopher of logic. In some sense we were in no position to judge the person and to some degree we relied on

credentials (e.g., letters of recommendation). But that isn't all. We also attempted to establish the individual's expertise with specific challenges. We knew *some* of the issues that might arise, if not all, and we were in a position to see how well the candidate performed in handling those issues. In effect, we established a partial knowledge proof of the candidate's expertise.

C: I can agree with you that we often test people in this way, although I'm not at all confident that we are reliable when it comes to this. But I don't see that a challenge comes to the same thing as disagreement.

H: Well, you're right that challenge *needn't* come to the same thing as disagreement. A friend of mine who was a geologist once applied for a job, and the interviewer had a few rocks on his desk that he used to challenge my friend ("Hey, what's this?"). But naming rocks doesn't go very far to establish *expertise*—anyone could sit down with a bunch of pictures of rocks and memorize their names. Experts aren't people who know all the agreed-upon facts; they're the people with defensible opinions about what is controversial.

Prof. M: So you're saying that a geology teacher who'd memorized some textbooks wouldn't count as an expert.

C: Fine, I can agree with that, but it's not enough to prove Harvey's point. If the interviewer had asked your friend to describe some current disagreements in the field, we'd expect him to be able to do so; but a challenge *about* disagreements isn't itself a disagreement.

H: If my friend were just required to list some contemporary debates, this wouldn't be much more of a challenge than naming various rocks: it's the sort of thing you could read about and memorize. You have to do more than this to justify expertise—you have to be able to offer *reasons*, and those are (as always) going to be reasons to defer to you rather than to an alternative. In this vein, imagine that the geologist hands my friend a mineral specimen the identity of which was subject to debate and then asked him to defend his choice. Here, the geologist doesn't care if my friend got it right—he cares whether he is equipped to defend his conjecture against alternative conjectures.

Prof. M: Okay, so the basic idea is that deference is earned through a kind of system of challenges, which are targeted to areas that the candidate expert *ought* to be able to handle if she truly is an expert. Also, the challenges take the form of miniature disagreements. Perhaps something like this: "You say that such and such, but it seems to me that this is wrong because of so and so." Or maybe the question is put more subtly, as in "It appears to me that this might raise a difficulty for your position," but at bottom Harvey takes this to be a point of disagreement. He seems to be right about that. I can't remember the last time I went to a philosophy talk where the "question" wasn't a thinly disguised point of disagreement. That even seems to hold for "points of clarification."

H: Exactly.

C: This may tell us more about the temperament of philosophers than about the role of disagreement in establishing semantic deference-worthiness. Even if,

for some purposes, disagreement is involved, it is far from clear that in most other cases it is needed to establish expertise.

Prof. M: Yes, we still haven't heard why the Professor's skill at building coconut radios isn't sufficient to establish his scientific, or at least engineering, expertise.

Harvey and Calliope debate whether expertise requires disagreement

H: This is really a question about what *constitutes* semantic/scientific expertise in a particular domain, and I want to claim that such expertise would be impossible without a background of disagreement. This is most obvious in philosophy. Could anyone be an expert about propositions, possible worlds, or *homonoia* without knowing the various debates over how to understand these concepts? A student who'd learned that propositions were sets of possible worlds, but had no idea there were alternative interpretations, wouldn't really know how to use the term 'proposition.'

C: I might buy that for philosophical terminology, but why should we think it's true for scientific terminology?

Prof. M: Yes, I'd like to see how that works as well. You mentioned quarks earlier…

H: Yeah, quarks are the favorite example of philosophers because no one knows anything about quarks, so you can say anything you want as long as there isn't a high energy physicist in the room. But let's take an example that I actually know something about: Darwinian evolution.

Prof. M: Go on…

H: Well, there is a very interesting book by Ernst Mayr titled *One Long Argument: Charles Darwin and the Genesis of Modern Evolutionary Thought*.[4] One of the points is that understanding what evolutionary theory is, and by extension what the phrase 'theory of evolution' means, requires understanding the various debates that have raged since Darwin.

Prof. M: Do you mean like between evolutionary theory and creationism?

H: Well, only in very rough form. In point of fact there are several features of Darwinian evolutionary theory, all of which have been very hotly debated through the years and fully grasping what the theory of evolution is about requires understanding the history of these debates to some degree or another. For example, there is the issue of a common origin for every group of organisms. Darwin believed in common descent, but Lamarck famously argued against it. Darwin also argued for the multiplication of species—the idea that species multiply by splitting into daughter species. A number of his contemporaries, ranging from Lamarck to T.H. Huxley, demurred. Darwin believed in gradualism, while naturalists from Huxley to Stephen Jay Gould have argued for some version of punctuated equilibrium. Darwinian evolution also of course includes the doctrine of natural selection, although again this was

a point of contention with Lamarckians and even Huxley ("Darwin's Bulldog") was ambivalent on this question.

Prof. M: Are you saying that we have to know all of this to know what the word 'evolution' means?

H: No, of course not, that is where deference comes into play. *We* don't have to know all of this, but we have to be prepared to defer to someone who is familiar with these distinctions and debates, who can reconstruct them on demand, and perhaps even explain them to us if we wish.

C: Aren't most of these debates now dead?

H: Not really—even evolution as such is controversial to this day (albeit without very compelling arguments on the part of the opposition). But even if these debates were "settled" and no one bothered arguing against evolution or any of the various subdoctrines, the expert's grasp of the concept requires her ability to reconstruct these debates.

Prof. M: I see, so it isn't necessary that the expert be debating and arguing these points, just that she know the various positions, moves and countermoves.

H: That's right.

C: Well, this makes more sense than what you were saying before. You made it sound like actual arguments had to continually be taking place.

Prof. M: That's true. "Arguing all the competitors into the ground" was the phrase that I believe Harvey used before you arrived.

H: Fundamentally, I'm not interested in the *arguing*, so much as *the arguments* and knowing the positions in the argumentative space. The actual exchange, when it comes, need not come in the form of verbal sparring with an interlocutor; it may just involve two people discussing possible moves and countermoves, or a single expert rehearsing them to herself. I will say, however, that the argumentative space is often expanded by debate, and debate motivated by all sorts of possible prejudices, jealousies, and personality conflicts, though this is not necessary in all cases. There are lots of reasons why people argue and take opposing positions, most of them not very attractive reasons. Happily, however, this works out well for us in the long run, since it fuels the development of argumentative positions, and this in turn strengthens our grasp and understanding of fundamental concepts.

C: That looks like a shift on your part, Harvey, but one that makes your position sound a little more reasonable. I would like to see some sort of evidence that this is really how things work, that is, that the argumentative space actually develops in the wake of argument rather than collaborative reflection. But leave that aside. You still haven't defended the claim that an expert needs to know about all these argumentative positions.

Evolutionary theory isn't really a helpful example, for exactly the reason you've mentioned: that the debates are still alive. This brings the case much closer to the philosophical terminology we discussed earlier. All you've shown is that to be an expert with a controversial vocabulary, you need to know about the controversy—and that's just obvious.

Prof. M: In philosophy there is a sense in which some debates are *never* dead; we're still engaging with Aristotle even now about a number of issues. On the other hand, no one's engaging, say, the Stoics on their "gunky" metaphysics. So in these cases it seems that only *historians* of philosophy need to know about certain disputes.

H: Actually that *is* a hot topic, Ed! Several contemporary metaphysicians are very interested in Stoic gunk and have drawn that theory into contemporary debates. I think you would be hard pressed to find any debate that has gone completely dead—not in the sense that we don't make progress, but in the sense that we need the old positions to triangulate and refine our new positions. What's the quote from T.H. Huxley? I wrote it down in my notebook I liked it so much. Ah yes, here it is:

> There is assuredly no more effectual method of clearing up one's own mind on any subject than talking it over, so to speak, with [persons] of real power and grasp who have considered it from a totally different point of view. The parallax of time helps us the true position of a conception, as the parallax of space helps us to that of a star.[5]

And here, I think, we see the value of the history of philosophy. We need it to keep the debates alive, because our very grasp on the philosophical concepts that we deploy as experts requires our being able to recover those traditional debates.

Prof. M: I have to say that I never thought I would see the day when you defended the history of philosophy, Harvey. This warms the cockles of my heart!

C: I still think this has to do with the nature of philosophy, Harvey. Your claim seems much less plausible when we turn from open questions and controversial theories to natural kind terms like 'water.' Once chemists discovered that water is H_2O, couldn't they just forget about whatever controversies there were in the history of water-individuation? Do chemists really have to know that Thales thought *everything* was water? Alternatively, do biologists really have to know that at one time people thought whales were fish? There doesn't seem anything to be gained by requiring that experts know about past mistakes, so long as they have it right.

H: In fact, I want to argue that even these cases are a lot more like the philosophy and evolution examples than you're allowing, Cal. Consider species classifications, a standard example of natural kind terminology, where there's an ongoing debate. Many scientists argue that we should give up the traditional Linnaean system based primarily on morphology, and adopt a new classification system that takes into account evolutionary relationships.

Prof. M: That reminds me of a *National Geographic* article I read a couple of years ago, about whether to call a newly discovered genus of fossil ape-man in Kenya a 'hominin' or a 'hominid.'[6] It seems that under the traditional classification scheme, hominids were a family that included living humans and bipedal

fossil apes (like Australopithecus), while gorillas, chimpanzees, and orangutans were in a different family. But now there's lots of genetic evidence that, for example, chimpanzees and humans are closely related, while orangutans diverged much earlier in evolution. So they're proposing that humans, gorillas, and chimpanzees be in one family (different from the one that has orangutans), and 'hominins' refers just to the bipedal apes within that family.

C: So what's the answer? Is the Kenyan ape-man a hominid or a hominin?

Prof. M: Well, I guess he's both: he's a bipedal ape, so he's a hominid on the old system and a hominin on the new system; and since on the new system hominins are one type of hominid, he's both there too—though for a different reason. 'Hominid' means something different on each classification scheme. I gather Harvey is going to say that someone couldn't be an expert about human origins without being aware of this debate.

H: That's right, Ed. And the debates over species classification are really much more complex than we've touched upon. Everyone agrees that the system based on morphology is outdated, at least for purposes of scientific taxonomy (as opposed to distinguishing prickly pears from chollas, where it's perfectly fine). But even within the new system there are numerous proposals about how to divide up the species using different criteria, some relying on the genetic similarities between organisms, others on whether the organisms descended from the same ancestors. Within each of these options are further proposals. For example, Mayr put forward the "biological species concept," which assumes that species are reproductively isolated, so that genetic flow holds the species together. But there are problems with this idea, and as Philip Kitcher has pointed out, Mayr himself appeals to other criteria, which might yield different results.[7]

C: But these debates are ongoing. By contrast, suppose the Linnaean system is thrown over once and for all, and in several hundred years no one remembers that bipedal apes were once considered a distinct family. Or for that matter, that whales were once considered fish. I don't see why they should be aware of theories that are wrong.

H: Actually I think they should, if they're supposed to be experts in these domains. Take the whale-fish question. A future biologist who didn't know about this alternative way of classifying whales—who just accepted the classification she was taught in school—would be like the philosophy student who never entertained alternative conceptions of propositions. An expert isn't someone who just accepts what she's told.

Prof. M: And given your earlier arguments, Harvey, it doesn't sound like the biologist would even count as *deferring*, never mind being an expert.

H: That's exactly right.

C: But now I'm a bit confused, Harvey. You said before that semantic expertise requires knowing the debates about a particular terminology. But now it seems as if what's at issue isn't the *actual*, presumably contingent history of the controversies in a domain, but rather the *logical space* of alternatives. For all

I know, scientists have always classified whales as mammals. It seems as though you want to say that the expert would still have to consider the alternative possibility that, based on the way they look, whales could be classified as fish. (We might add that if 'fish' is a term like 'prickly pear,' it's possible both classifications would apply.)

H: Good. That's an important distinction I hadn't thought about, and my initial thought is that the current logical space of possibilities is what is important. Perhaps, as you say, no one ever classified whales as fish. I really don't know. Of course every scientist is aware that whales can be misclassified as fish. Perhaps this is a case of a position in the argumentative space that is so familiar it just isn't worth the trouble remarking on. But this silence doesn't mean that no one is aware of the alternatives.

Of course, sometimes the current alternatives and the alternatives that occur to us are not sufficient for us to sense that we really grasp what is going on. In that case we need to look at the history of the discipline to expand the range of possibilities. In effect, the history of arguments in the field help us to flesh out the argumentative space today, and this in turn helps the domain experts to strengthen their grasp on the domain—it is part of being an expert that one proceeds in this fashion.

Prof. M: But now I'm troubled, Harvey. Obviously there have been a lot of debates about evolutionary theory that have taken place since Darwin, and Darwin himself was not privy to most of them, and indeed there was no one to whom Darwin *could* defer regarding the history of evolutionary theory in the 20th century (it's funny to think of him having to defer to someone on evolution in any case). Does this mean that we have a better handle on the meaning of the term 'evolution' than Darwin? All because we have the luxury of being able to defer to Ernst Mayr, who *does* know the history of these subsequent debates?

H: Okay, I'm torn between two possible moves here. On the one hand I want to say, "Sure, we have a better handle on the meaning of 'evolution' than Darwin did." For that matter, we have a better handle on the meaning of 'water' and 'light' and 'magnetism' than he and his contemporaries did. This possibility arises already with standard externalism. But there is another move that is provocative, and also appealing in its own way. A number of philosophers working on externalism and deference (in particular I'm think of some papers by Henry Jackman) have suggested the possibility of forward-looking semantic deference. Why can't we defer to future science? Why couldn't Darwin have deferred to future naturalists?

C: You don't want to go down that road Harvey, since there is no way that future naturalists are in a position to earn our deference either through argumentation or credentials or anything else. It's hard to win arguments and present credentials when you aren't born yet.

Prof. M: Hmm, this is very interesting; perhaps one could allow that there are institutions set up to ensure that future naturalists will be both schooled in the history of these scientific debates and to pursue them via a discursive method. Then we might defer to whoever gets produced by these institutions

(our student's students I suppose), whoever they might be, even thought we will never meet them. We could rely upon institutions to carry on our tradition of…well, argument.

H: Thanks Ed, you bailed me out on that one!

Professor Marblehead on what it takes to "know the meaning" of a term

Prof. M: Well, I think I'm beginning to see how your theory works. On the other hand, here is something that I don't understand at all. If different experts grasp these concepts to different degrees, when do we get to say that someone actually "knows the meaning" of the term? I know you're going to talk about deference here, but I have a different worry. At a certain point an individual may become a domain expert, but still continue to expand her knowledge of the domain—or at least one *hopes* so. When do we get to say that the expert really knows the meaning of a term like 'evolution'? Likewise for non-experts.

H: Clearly there are shifting standards here. The domain expert has to know a lot more than the non-expert, but there will be differences from context to context.

C: It sounds like this is going to dovetail with recent work on context-dependence in the philosophy of language and epistemology.

H: Exactly. The contextualist in epistemology is going to say that the meaning of the term 'knowledge' is sensitive to context—for example there might be higher standards of knowledge in the courtroom than in a conversation at a bar. Maybe the highest standards hold in the epistemology class. Well, in a similar way, whether we say you "know the meaning" of a term depends on whether you know what you are supposed to given the context. There are lots of contexts in which I throw around the term 'quark' and we can say I know what I'm talking about. If I try that in at a physics workshop and people press me on my understanding, they will doubtless conclude that I "don't know what I'm talking about." This topic has been explored in some detail by Jim Higginbotham in his paper "Elucidations of Meaning".[8] I would say that the headline idea is that our knowledge of meaning is often (perhaps always!) partial, and that whether the amount of knowledge we have is enough to get the honorary title "knowing the meaning" will depend upon power relations and numerous other considerations.

But remember, the non-expert has to know some things. For example, if someone says that the theory of evolution is the thesis that man developed from a contemporary ape, we have grounds for saying that he is utterly clueless and that he *doesn't* know what he is talking about. The fact that he might be prepared to defer to the right people won't help, because he won't have the partial knowledge required to establish *why* those people are deference-worthy. The contentfulness of a great deal of our terminology relies on deference to experts, but if you know so little about a term that you cannot defer (because

deference requires having reasons), your claims and thoughts won't be meaningful at all.

Prof. M: That's the point you were making at the beginning of our discussion, Harvey, that without the background of disagreement that underpins our ability to give reasons to defer to one person rather than another, we simply could not have certain thoughts at all.

H: Exactly!

Prof. M: Well, we are *way* overtime now, and I think this is maybe as good a place to stop as any. I have to say that this discussion was much more productive than I expected it to be at the outset. Let me summarize what I take to be the key points of Harvey's position, and maybe we can come back to this topic at a later date after we have had a chance to mull it over.

C: And debate it!

Prof. M: Right! Anyway, here's a quick summary from my notes. Let me know if I left out something important. There are two aspects to earning semantic deference. The first is establishing expertise in a given domain, and the second is establishing that the semantic reach of the domain expertise in question extends to the terminology being employed in that context. Both of these ways of establishing deference-worthiness involve a system of challenges that we might call partial knowledge proof procedures. We use our relatively limited grasp of the domain to present a series of challenges that the candidate expert is then expected to answer. Once expertise is established it has to be established over and over again, since as we move from context to context the semantic reach of the expert's credentials may come into question, and indeed changes in the domain may make the expert's domain knowledge obsolete. Even when we rely upon memory to fix an expert as a candidate for semantic deference this involves a kind of discursive reasoning in which we rehearse the reasons pro and con for our deferring to this candidate. Finally, the degree to which an expert can be said to understand the meaning of an expression depends in part on the degree to which she can reconstruct the history of debate—or perhaps the argumentative space—surrounding the concept associated with that expression. If we are not experts, but are merely deferring, we must at least know enough to allow us to identify the relevant experts—we cannot defer from a position of ignorance. If we are experts, and wish to earn semantic deference, then we shall have to be in a position to reconstruct a good deal of the history of debate and indeed advance that debate. Whether or not either experts or non-experts can be said to "know the meaning" of some expression will depend on (i) the degree to which the expert can reconstruct and carry on crucial debates in the domain and (ii) whether the non-expert has a degree of knowledge that is sufficient to locate reliable experts and pursue matters further.

How did I do?

H: Great! Better than I could put it myself.

C: That's true. It almost sounds plausible when Ed spells it out.

Prof. M: Should we pick up on this topic again next time?

C: Sure, why not?
H: Definitely. In the meantime, Ed, do you have any coffee left?
Prof. M: I do indeed, would you like some Calliope?
C: No thanks, I'm going to make some herbal tea.
H: Well, you know, technically herbal "tea" is not a tea but an infusion…
Prof. M: Oh dear, here we go again…

Notes

∗ The authors of this paper/dialogue would like to thank each other for helpful discussion. The conclusion reached here is not necessarily endorsed by either of the authors. Nor should the fictional characters portrayed here be taken to be representative of any actual philosophers, either living or dead. If you are looking for someone to blame for this, you might consider Joshua Brown, Thomas Hofweber, Rachana Kamtekar, Michelle Kosch, David Manley, Jessica Wahman, Rebecca Walker, and Jessica Wilson, all of whom tried to straighten us out, but obviously didn't try hard enough.

1. Forthcoming in *Oxford Studies in Ancient Philosophy*, May 2004.
2. The translation is from Kamtekar (2004).
3. John Dupré, *The Disorder of Things* (Harvard UP, 1995), esp. Chapters 1 and 2. The discussion of prickly pears and butterflies occurs at pp. 27–30.
4. *One Long Argument: Charles Darwin and the Genesis of Modern Evolutionary Thought* is published by Harvard University Press, 1991.
5. From B. Beakley and P. Ludlow (eds.) *The Philosophy of Mind: Classical Problems/Contemporary Issues*. Cambridge: MIT Press, p. xi.
6. Lee R. Berger, "Is it time to revise the system of scientific naming?" *National Geographic* (4 December 2001), at http://news.nationalgeographic.com/news/2001/12/1204_hominin_id.html.
7. Ernst Mayr, *Animal Species and Evolution* (Harvard UP, 1963); Philip Kitcher, "Some Puzzles about Species," in M. Ruse (ed.). *What the Philosophy of Biology Is* (Dordrecht: Kluwer, 1989). The debate is discussed in Dupré Chapter 2.
8. *Linguistics and Philosophy* 12, 465–518 (1989).