When Best Theories Go Bad[1]

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It is common for contemporary metaphysical realists to adopt Quine's criterion of ontological commitment while at the same time repudiating his ontological pragmatism.[2] Drawing from the work of others—especially Joseph Melia and Stephen Yablo—I will argue that the resulting approach to meta-ontology is unstable. In particular, if we are metaphysical realists, it may be best to repudiate some of the ontological commitments incurred by our best first-order theories.

1. The criterion

At the end of 'Two Dogmas of Empiricism', Quine considered Carnap's claim that the ontological question "of whether to countenance classes as entities" is a question "not of matters of fact but of choosing a convenient language form, a convenient scheme or framework for science" (42). Call this view 'ontological pragmatism'. Quine agreed with Carnap, "but only on the proviso that the same be conceded regarding scientific hypotheses generally." Quine and Carnap both held that observationally equivalent theories differing in their ontological posits do not disagree on matters of fact.[3]

Why then do contemporary hard-core metaphysical realists sometimes identify themselves as 'Quineans' about meta-ontology?[4] The answer, of course, has to do with the *rest* of Quine's views. Several broadly Quinean meta-ontological theses are at the heart of contemporary metaphysics, including the thesis that there is no distinction between being and existence.[5] Most important for our purposes is the practice of treating the quantifier of first-order predicate logic as canonical for ontological disputes.

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[1] Thanks are due to William Dunaway, John Hawthorne, Jeffrey King, Gabriel Rabin, Jason Turner, James Van Cleve, and Ryan Wasserman for comments and conversation.

[2] That is, 'pragmatism' in the sense characterized at the end of 'Two Dogmas', (1951).

[3] For two recent discussions of Quine and Carnap on ontology, see (Soames 2009) and (Price 2009).

[4] See (Manley 2009) for a characterization of the kind of realism I have in mind.

[5] Peter van Inwagen—one of the hard-core realists that I have in mind—discusses the Quinean roots of contemporary metaphysical realism in (van Inwagen 2009).

It is hard to say what *claim*, if any, we should identify as the 'Quinean criterion of ontological commitment'. For Quine it is arguably best understood as a framework for ontological debate:

> Futile caviling over ontological implications gives way to an invitation to reformulate one's point in canonical notation…. If he declines to play the game, the argument terminates. To decline to explain oneself in terms of [first-order] quantification, or in terms of those special idioms of ordinary language by which [first order] quantification is directly explained, is simply to decline to disclose one's referential intent. (Quine 1960: 242-3)

The idea is to get one's opponents to accept the introduction of variables and quantifiers into the English sentences that they endorse, and thereby to make clear which objects they must reasonably accept as existing.

This approach has lead to several well-known indispensability arguments. For example, consider the sentences:

(1) The average star has 2.4 planets.[6]

(2) *a* is somehow related to *b*.

Allegedly the process of regimentation yields a forced march from sentence (1) either to '∃x(x is an average star)' or to '∃x(x is a number)', and likewise from sentence (2) to '∃x(x is a relation)'. And once one accepts that one's best first-order theory must include these regimented claims, one must acknowledge ontological commitment to numbers and relations.

It is important to recall that this method of regimentation was not intended to preserve meaning intact. One simply seeks a canonical paraphrase that serves 'any purposes of [the original] that seem worth serving' (1960, 214). For Quine, 'putting our house in ontological order is not a matter of making an already implicit ontology explicit by sorting and dusting up ordinary language. It is a matter of devising and imposing' (Quine 1974). In the case of (1), the original taken literally is about a star that is average. But assuming there is a truth in the conceptual neighborhood that is to be preserved, the original deserves some proxy or other in one's canonical theory.[7]

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[6] Assume that cosmologists endorse this claim, and do so not because they know the precise number of stars and planets, but on theoretical grounds.

[7] 'The paraphrasing of a sentence S of ordinary language into logical symbols will issue in substantial divergences…. Often [the paraphrase, S'] will have truth values under circumstances under which S has none, and often it will even provide explicit references where S uses indicator words…. Its relation to S is just that the particular business that the speaker was on that occasion trying to get on with, with help of S among other things, can be managed well enough to suit him by using S' instead of S' (Quine 1960: 159).

The question I want to focus on is this: does everything worth saying have an adequate paraphrase into Quine's canonical notation? If not, it is hard to see why we ought to assume that our best attempts at paraphrasing (1) and (2) into that notation will yield sentences that we must accept.

2. The commitments of the gods

Joseph Melia (1995) makes the following point concerning (1). Suppose we knew exactly how many stars and planets there are. This would allow us to replace (1) with a sentence that says that there are n stars and m planets. But this casts a strange light on Quine's criterion:

> Although the best theory we have may entail the existence of numbers, we know that there is a better theory… which does not entail the existence of numbers.... In this situation, even a Quinian can see that we should believe only in the entities which the better theory says exists - even if, through uneliminable ignorance, this theory will never be our best theory. And since the better theory (whatever it is) does not entail the existence of numbers, we ought to disbelieve some of the consequences of our best theory. (Melia 1995)

So while our current best theory commits us to numbers, we know there is a better theory that does not. All that separates us from the better theory is more knowledge—so shouldn't we adopt *its* commitments instead, at least insofar as we can tell what they are and aren't?

The Quinean can respond to Melia in the following way: 'The theory you have in mind doesn't just add truths to the current theory; it simply *leaves out* a general truth in favor of specific truths. It won't be committed to numbers. But neither will it contain any sentence corresponding to the general truth we express by 'the average star has 2.4 planets'. In effect, the paraphrase challenge has just been ducked. If we know this truth *now*, any new theory that becomes available because of a mere addition of knowledge had better also express this truth.'[8]

I recommend that we concede this point. But of course there *is* a more general truth about stars that can be expressed in a first-order language without quantifying over numbers, namely the infinitary disjunction: 'Either there are five stars and twelve planets, or there are ten stars and twenty- four planets, or...'.[9] Naturally, this sentence cannot actually be uttered or written down—a

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[8] Something like this objection was expressed to me by Peter van Inwagen, in conversation.

[9] There may be other options, depending on the vocabulary the paraphrasing language. With the right predicates at hand, we can quantify over sets instead of numbers: 'The set of planets is two-and-a-half-times more numerous than the set of stars'; and with plural quantification we

fact which leads Yablo to suggest that numbers are introduced as representational aids in a game of make-believe (Yablo 2005). But regardless of our semantics for English claims involving numbers, it seems to me that we can revive Melia's fundamental point: there is a better theory than ours that can paraphrase (1) without even apparent quantification over numbers.

Admittedly, this infinitary disjunction would not be expressible *standard* first-order languages of the sort Quine had in mind, because they do not allow infinite disjunctions. But imagine a being with no cognitive limitiations, who could simultaneously grasp infinitely many disjuncts. Such a deity would have no reason to shun the ability to merge all of these disjuncts into a single disjunction. But it follows that such a deity would not use a standard first-order language: the deity would naturally employ a more expressive first-order language that allows infinitary disjunctions—like $L\{w_1,w\}$. Such a deity would be able to express disjunctions like the one we have sketched.[10] And since even by Quinean lights it is clear that none of the disjuncts would involve ontological commitment to numbers; it seems safe to conclude that the disjunction would not either.

Of course, while intensionally equivalent to the original, our disjunction will differ from the original in cognitive significance even for those who can express them both. (For one thing, there will be nothing in the logical form of the sentence that guarantees that the sequence of disjuncts has been finished: to know that it has been finished, one would need basic knowledge of arithmetical facts.[11]) But recall again that the goal of paraphrase is not to preserve the cognitive significance of the original. If a sentence of ordinary language is too compelling to discard without replacement, the task is to find a paraphrase that will do more or less the same work.

Now imagine an exchange between our deity and a human who believes in the existence of numbers based on the indispensability argument we are considering. We may suppose the only difference between them is one of vocabulary and expressive power; and we may give them both very Quinean intuitions about ontological commitment. Surely the deity, when considering the human's indispensability argument, should be unimpressed. Meanwhile, it

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could dispense with the sets. Moreover, if we have the 'on average' operator, we could say "On average, stars have 2.4 planets". (This last point is due to Jason Stanley.)

[10] The trick of uttering countably many disjuncts in a finite time can be achieved by uttering one disjunct in the first half-minute, then uttering the next disjunct in the next quarter-minute, and so on.

[11] If the deity can quantify over groups (or has a plural quantifier) and has a primitive predicate 'is finite' (or 'are finite'), she could add a conjunct after all the disjuncts to the effect that, necessarily, if there is a finite group of objects (or there are some objects that are finite), then either there is one object in the group, or there are two objects in the group, and so on.

seems the human can grasp the truth-conditions of the deity's huge disjunctive sentence, by understanding its structure. So the human is in a position to know that the disjunction is an adequate paraphrase, even if he cannot utter it. Can he maintain that the indispensability argument still provides him with reason to believe in the existence of numbers? This seems tantamount to claiming that—merely by virtue of his deficiencies— he has some special insight into the nature of things that the deity does not have.

As a pragmatist, Quine would have been unmoved by these considerations. After all, the ontological question at issue is not one of "matters of fact but of choosing a convenient language form, a convenient scheme or framework for science" (1951:42). The deity has a language form that his convenient for *him*; we have a language form that is convenient for us. Our theories will be empirically equivalent with his: thus there is no disagreement on matters of fact. The indispensability argument should therefore not be thought of as giving the human any special insight into reality. It is simply that he cannot help but incur the ontological commitment in his language.

Of course, this kind of pragmatism is far from the spirit of the indispensability arguments currently peddled by metaphysical realists. But if we do take the human and the deity in our story to disagree about matters of fact, it is hard to avoid the conclusion that the human has no reason to accept any ontological commitments incurred by his best theory if he knows that there is a *better* theory without them. (In this case the theory is better at least in the sense that it is framed in a more expressive language.) And it should make no difference whether we happen to be able to *express* that better theory. Thus, we should sometimes disagree with our best first-order theory about what there is.

Perhaps we should propose a new criterion of ontological commitment: One incurs any commitments one knows would belong to the best theory in any first-order language, even if one cannot express that theory. This would radically change the nature of the game, in part because it is not always easy to tell what sorts of paraphrases a god could come up with if he had a sufficiently rich vocabulary and a sufficiently expressive first-order language. He might, for instance, have infinitely many predicates, or a language that allows continuum-many junctions or infinitely long strings of quantifiers in a single sentence.

As a case in point, consider a simple indispensability argument for the existence of universals.[12] Take the sentence, due to Peter van Inwagen: 'Spiders

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[12] This kind of argument can be found in (van Inwagen 2004). Other sentences that allegedly cannot be paraphrased by nominalists can be found in (Jackson 1999), (Armstrong 1978), (Loux 1978). However, many of these strike me as much easier to deal with than the ones discussed above, at least if the available vocabulary is rich enough. For example, one of Jackson's favorites is 'Red is a color', but I think it is adequately rendered by 'Anything red is thereby colored,'

and insects share anatomical features that they don't share with mollusks.' Surely there is a truth in the neighborhood worthy of being preserved. And there is no way to express it in the canonical notation without quantifying over universals. But a simple infinitary disjunction could do much of the work of this general claim, assuming one had a predicate for every anatomical feature: ('Either spiders and insects are exoskeletal and mollusks are not, or…'.)[13] At best, it is unclear whether certain classic indispensability arguments for numbers and universals could survive a shift to a more plausible criterion of ontological commitment.

Of course, even if these indispensability arguments fail when married to the revised criterion, there may be others that succeed. Perhaps even our imagined deity would need to assert the existence of universals in order to explain resemblance between objects, to account for physical laws, or to play the role of objects of thought in theories of intentionality. In short, universals may be indispensable for much more than providing paraphrases of general English sentences of the sort just considered.

Our suggested revision to the criterion of ontological commitment, however, leaves us with a further question. If we are to look to the commitments of a best possible theory—even if it is one with more expressive power than ours—why require that the theory in question be a *first-order* one?

3. English as a second (order) language

Certain sentences of ordinary English have a distinctly second-order flavor (see Rayo and Yablo 2001). For example, consider:

(2) *a* is somehow related to *b*.

(3) *a* is something that *b* is not.

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which is a suggestion of (Teichmann 1992). Similarly, 'Red resembles orange more than it resembles blue' can be replaced with 'For any red x, orange y, and blue z, if x is red, it thereby resembles y more than it thereby resembles z.'

[13] Again, the replacement would not be analytically equivalent to the original even to those who understood both sentences. For one thing, if one did not know that a predicate for every anatomical feature had been used, one could reject the disjunction while still thinking they had anatomical features in common. (Perhaps even this could be fixed, with a rich enough vocabulary. The deity could finish up the sentence with a conjunct to the effect that, necessarily, any two objects that resemble anatomically do so insofar as they are both exoskeletal or both…) But—again—in finding paraphrases, we are not preserving cognitive significance, but 'devising and imposing'.

How can we regiment these sentences using Quine's canonical notation? We cannot—at least, not without explicit quantification over properties or predicates.[14] But intuitively, the originals do not make claims about the existence of properties or predicates. (Note that in (3), the 'something' is in predicate position: the claim is not that *a* is identical to something that *b* is not identical to.) Moreover, as several philosophers have noticed, there is a strong intuition that these sentences are trivial consequences of

(4) *a* is to the left of *b*

and

(5) *a* is red and *b* is not red

respectively.[15] But if we adopt the Quinean criterion, it seems we must reject either the intuition that these transitions are trivial, or the conviction that in making a trivial transition one cannot incur new ontological commitments.

There are at least two ways that we could reject the Quinean criterion to save appearances here. One approach is to assert that ordinary predication itself is not 'ontologically innocent', so even the claim that a is red carries a commitment to properties. (This is the view of Quine's McX.) This, of course, means that Quine's criterion is too lax, because the Quinean regimentation of those sentences does not involve quantification over properties.

However, some philosophers have the basic intuition that none of these four sentences asserts—or in any way commits one to—the existence of properties or predicates. This is not to deny that the proposed first-order paraphrases for (2) and (3) do involve such a commitment. We can simply refuse to regiment the sentences using Quine's preferred notation. (2) is not to be translated as '∃x (x is a relation and a bears x to b)', in part because the original does not claim that there are any relations. Neither is it to be translated as '∃x (x is a two-place predicate and x is satisfied by a and b)', in part because the original does not claim that there are predicates. And so on.

On this second approach, there is indeed no finite sentence in Quine's canonical notation—or in 'those special idioms of ordinary language by which [first order] quantification is directly explained'—that will suit the purposes to which the target sentence is put.[16] If we like, we can formalize the sentence by

[14] By 'property' here I mean to include, for example, the resemblance classes that some nominalists invoke to play the role of properties in their theories. For some problems unique to such views, see (Manley 2002).

[15] See for example, (Van Cleve 1994), (Rayo and Yablo 2001), (Yablo 2000).

[16] Another well-known case-in-point is the Geach-Kaplan sentence 'Some critics admire only one another', which on the intended interpretation does not entail that there exist sets. But the second-order quantification at issue in the text should not be confused with plural quantification, which is usually invoked in regimenting the Geach-Kaplan sentence.

quantifying into predicate position—'∃X(Xa & ~Xb)'— as long as we refuse to explain this in terms of the first-order quantifier. (When giving voice to the primitive predicate-position quantifier, it is best not to use phrases like 'there exists': the above formula, for example, should be read 'a is something that b is not'.) We can thus preserve the principle that, as Rayo and Yablo put it: "If predicates are noncommittal…, the quantifiers *binding* predicative positions are not committal either" (2001: 79).[17]

If we cannot replace the target sentences, and yet they express truths we would not want our best theory to leave out, it follows that not everything worth saying in a theory can be said, or even adequately replaced, using Quinean notation.

This is, of course, the same conclusion that we came to by a different means in the previous section. But again, the Quinean pragmatist should not be bothered by any of this. If someone claims to be using (2) in such a way that it cannot be regimented into Quine's notation, then we have simply reached a stand-off:

> We saw in our consideration of radical translation that an alien language may well fail to share, by any universal standard, the object-positing pattern of our own; and now our supposititious opponent is simply standing, however legalistically, on his alien rights. We remain free as always to… translate his sentences into canonical notation as seems most reasonable; but he is no more bound by our conclusions than the native by the field linguist's. (Quine 1960: 242-3)

The alleged problem with primitive quantification into predicate position (PQPP) is not that it contains something analogous to a first-order quantifier and so must be ontologically committal. Instead, the problem is that the friend of PQPP is refusing to play Quine's game. The pragmatist may claim not to understand such a language, but he will not insist that there is a disagreement. Those who claim to understand PQPP have their 'alien rights'.

(Admittedly, there seems to be a frown indicated by calling this stance 'legalistic'. It is as though Quine is saying: 'Technically there is no arguing with someone who refuses to play the game. They needn't be wrong or have hidden

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[17] See also Van Cleve (1994): "It would be extremely surprising if it were the need to speak generally that first ushered in universals. Could one hold that the specific predication
(5) 'Tom is tall'
makes no commitment to universals, but that as soon as we are forced to generalize and say
(6) (∃F) (Tom is F)
we *do* recognize the existence of universals? That seems highly unlikely. If the existentially quantified formula (6) is legitimate at all, it follows from (5), and cannot reveal any ontological commitment not already inherent in (5)" (Van Cleve 1994, 587).

commitments that they are denying. But they are somehow being obstinate.' I take it that this frown is ultimately in tension with Quine's own pragmatism. After all, the deity from the previous section will refuse to play Quine's game—but it could hardly be argued that he is somehow shirking his ontological responsibilities. The true pragmatist could only justify such a claim on the grounds that his language was somehow more perspicuous or convenient for scientific purposes, which from the god's point of view is not the case.)

Realist neo-Quineans will not be content with this. For them, there is something defective about adopting (2) and refusing to provide a paraphrase. The assumption in the background appears to be that everything worth saying can be said in the canonical notation—or at least (given the considerations of the previous section) in a first-order language. In response, friends of PQPP will point to (2) as a counterexample. Indeed, those of us who take ourselves to understand it without recourse to a first-order paraphrase would like to think that the Quinean can do so, too. (It would be uncharitable to conclude that the expressive limitations of Quinean notation correspond to the cognitive limitations of Quineans.) So we extend a counter-invitation to the Quinean: Put aside the guise of a field linguist for whom English is a foreign or second language, and consider (2) and (3) as a native speaker. Then reflect on their meanings, and the meanings of the purported first-order paraphrases. This exercise should be sufficient to realize that none of the paraphrases are adequate substitutes.[18]

Once one understands the idiom at work in (2), it can be used to say things like 'a and b are somehow related that c and d are not'. But if we understand this sentence, it is not much a stretch to understand (for example) what would be meant by 'Spiders resemble insects anatomically somehow that neither spiders nor insects resemble mollusks'. Or if we understand 'a is something that b is not', we can grasp what would be meant by 'spiders and insects are anatomically something that mollusks are not'.[19] So perhaps it is possible to provide an English paraphrase—if not a first-order one—for the infinite disjunction about anatomical features discussed in section 2.

There are, of course, limits to the use of these idioms. For instance, consider

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[18] Here the terms 'adequate' and 'substitute'—while they are perhaps not entirely clear— are intended to be used in the way the Quinean uses them in articulating his method for clarifying ontological commitments.

[19] Or 'spiders and insects are something that mollusks are not, and necessarily anything two things that are thus thereby resemble anatomically'. I won't here address the logic of adverbs like 'anatomically', except to hold out hope that they can all be parsed as intensional predicate modifiers.

If *a* is somehow related to *b*, then *a* is so related to *c*

To my ear, this is ambiguous. We can express the two possible meanings using second-order formalisms as follows: '$(\exists X)(Xab \rightarrow Xac)$' and '$(\forall X)(Xab \rightarrow Xac)$'. But the innocent-seeming idioms we have been considering will not let us adjudicate between these meanings. Of course, we could agree to use this English sentence only when we mean to express the first thing, and to say something else—perhaps 'If *a* is anyhow related to *b*, then *a* is so related to *c*'—when we mean the second thing. But that would be to *extend* the expressive power of these ordinary idioms by stipulation. Or we could start using locutions like 'There is somehow such that if *a* is so related to *b*, then a is so related to *c*'. But even to friendly ears 'there is somehow such that' sounds like a first/second-order mongrel.[20]

What is worse, there are formal sentences involving quantification into predicate position that stretch these idioms entirely past their limits: for example, '$(\forall X)(\exists Y)(Xab \rightarrow \sim Yb)$'. I doubt this has an ontologically innocent-seeming counterpart in ordinary English.[21] But many friends of primitive quantification into predicate position—call it PQPP— claim to understand these formal sentences. Since we cannot be doing so by translating them into these ordinary idioms, how do we do it? Must even friends of PQPP, in order to understand them, translate these formal sentences into ontologically loaded English counterparts like 'For every relation *x*, there is a property *y* such that if *a* is related by *x* to *b*, then *b* does not instantiate *y*'? And if so, does this mean we should consider ourselves ontologically committed to relations if we accept such sentences of PQPP?

In moments of weakness, perhaps friends of PQPP do revert to mental first-order quantification over properties and relations in order to understand difficult formulas involving quantification into predicate position. But this is simply due to our cognitive limitations: it is not as though a mental translation manual is essential to understanding them. Timothy Williamson makes this point in a memorable passage:

> Perhaps no reading in a natural language of quantification into predicate position is wholly satisfactory. If so, that does not show that something is wrong with quantification into predicate position, for it may reflect an expressive inadequacy in natural languages. We may have to learn second-order languages by the direct method, not by translating them into a language with which we are already familiar. After all, that my well be how we come to understand other symbols in contemporary logic, such as $\supset$ and $\Diamond$: we can

[20] To unfriendly ears, it sounds like a semi-sensical phrase out of e.e. cummings.

[21] We could start to introduce cross-indexing and neologisms like 'everyhow'. (See Rayo and Yablo 2001.) But I have in mind existing English uses.

> approximate them by 'if and 'possibly', but for familiar reasons they may fall short of perfect synonymy…. At some point, we learn to understand the symbols directly; why not use the same method for ∀*F*? We must learn to use higher-order languages as our home language. Having done so, we can do the semantics and metalogic of a higher-order formal language in a higher-order formal meta-language of even greater expressive power.
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> Issues in philosophy often turn on what language we use as our home language, the language in which we are happy to work, at least for the time being, without seeing it through the lens of a meta-language, the language that we treat as basic for explanatory purposes… What we are willing to take as our home language is partly a matter of what we feel comfortable with; unfortunately it can be hard to argue someone into feeling comfortable. (Williamson 2003)

There are mental exercises that can foster a degree of comfort with PQPP. It helps, for example, to reflect on the limited idioms we discussed in the previous section, along with their corresponding formalizations. If one can get the hang of '∃X' in this way, one can try to generalize from there to understanding formal sentences that have no ordinary (and innocent-seeming) counterpart. Alternatively, one can begin by reflecting on the infinitary first-order paraphrases that possible deities might provide for sentences like '(∀X)(∃Y)(X*ab*→~Y*b*)'. (In this case, we have an infinite series of conjuncts, each of which is a conditional containing an infinite disjunction as its consequent: 'If *a* is taller than *b*, then *b* is either not red or not round or not crazy or…., and if a is part of *b*, then *b* is either not red or not round or not crazy or…, and….'.) We understand the truth-conditions of these infinitary sentences, despite being unable to express them, and they can be used as a heuristic in coming to learn how to use '∃X'.

Consider the following comparison, which is not original to me.[22] If a child asks what 'true' means, we might try to induct him into the practice of the word as follows: 'If Jill said 'Bobby is happy' and Bobby is happy, then what she said is true. If Jill said 'It's snowing' and it's snowing, then what she said is true, and so on.' And for the child to achieve mastery of the word, he must in some sense be ready infer from 'What Jill says is true' to every sentence in an infinite list, including 'If Jill says 'snow is white', then snow is white'. Of course, the child need not have mastered every such sentence; but this does not keep the child from getting the hang of this inferential pattern.

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[22] Compare Van Cleve's observation that the 'Redundancy Theorist of Truth' has much in common the 'Ostrich Nominalist': one believes in the eliminability of talk about truth, and the other believes in the eliminability of talk about exemplification (1994). Moreover, both face a serious obstacle in eliminating generalities like 'at least one thing he said is true' and 'a exemplifies at least one property.' See also (Yablo 2005), section 6.

Likewise, we can try to impart what is meant by a sentence involving PQPP by gesturing at the truth-conditions in terms of an infinite disjunction. In each case the opened-ended disjunction serves its pedagogical purpose precisely because there *is* a general proposition being gestured at, which would be expressed by a hypothetical infinitary sentence. And in each case, we know just what proposition this is, at least in the sense that we know exactly what it would take for it to be true or false.

We can now return to the revised criterion of ontological commitment we met at the end of the previous section: viz. that one incurs the ontological commitments that one knows would belong to the best theory in any first-order language, even if one cannot express that theory. It is hard to see why those who claim to understand even the ordinary second-order idioms—like the one in (2)—would want to accept this. For even if they are not at ease with difficult sentences of formal PQPP, they are in a position to understand its basic principles and to realize that such a language is possible. We should not admit that our cognitive limitations provide special reasons for accepting the existence of certain entities—reasons that a god fluent with fully expressive PQPP would not have. At least, that is, unless we are ontological pragmatists like Quine.

References:

Armstrong, David. 1978. *Nominalism and Realism: Universals and Scientific Realism Volume I.* Cambridge: Cambridge University Press.

Jackson, Frank. 1999. Statements About Universals (originally published 1977). In *Properties*, edited by D. H. Mellor and A. Oliver. Oxford: Oxford UP. Original edition, 1977.

Loux, Michael. 1978. *Substance and Attribute*. Dordrecht: D. Reidel.

Manley, David. 2002. Properties and Resemblance Classes. *Noûs* 36:75-96.

———. 2009. A Guided Tour of Metametaphysics. In *Metametaphysics: New Essays on the Foundations of Ontology*, edited by D. Chalmers, D. Manley and R. Wasserman. Oxford: Oxford University Press.

Melia, Joseph. 1995. On What There's Not. *Analysis* 55:223-229.

Price, Huw. 2009. Metaphysics after Carnap: the Ghost who Walks? In *Metametaphysics: New Essays on the Foundations of Ontology*, edited by D. Chalmers, D. Manley and R. Wasserman. Oxford: Oxford University Press.

Quine, W. V. 1951. Two Dogmas of Empiricism. *The Philosophical Review* 60:20-43.

———. 1960. *Word and Object*. Cambridge, MA: The MIT Press.

———. 1974. *The Roots of Reference*. La Salle: Open Court.

Rayo, Augustin, and Stephen Yablo. 2001. Nominalism Through De-nominalization. *Noûs* 35 (1):74-92.

Soames, Scott. 2009. Ontology, Analyticity, and Meaning: the Quine-Carnap Dispute. In *Metametaphysics: New Essays on the Foundations of Ontology*, edited by D. Chalmers, D. Manley and R. Wasserman. Oxford: Oxford University Press.

Teichmann, Roger. 1992. *Abstract Entities*. Basingstoke: Macmillan.

Van Cleve, James. 1994. Predication Without Universals? A Fling with Ostrich Nominalism. *Philosophy and Phenomenological Research* 54 (3).

van Inwagen, Peter. 2004. A Theory of Properties. *Oxford Studies in Metaphysics* 1:107-138.

———. 2009. Being, Existence, and Ontological Commitment. In *Metametaphysics: New Essays at the Foundations of Ontology*, edited by D. Chalmers, D. Manley and R. Wasserman. Oxford: Oxford University Press.

Williamson, Timothy. 2003. Everything. *Philosophical Perspectives* 17:415-465.

Yablo, Stephen. 2005. The Myth of the Seven. In *Fictionalism in Metaphysics*, edited by M. Kalderon. Oxford: Oxford University Press.