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Analytic Truths – Still Harmless After All These Years?

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Abstract

Hilary Putnam once proposed a semantic approach to, as well as a deflationist resolution of, the problem of analyticity. I take up and defend both ideas. First of all, I defend Putnam's semantic construal of the issue against Quine's reductive understanding. Secondly, I devise a semantics that successfully explains the genesis of the relevant analytic truths and that shows them to be harmless. Finally, I rebut the aspirations of the neo-descriptivist semantics, prominently propounded by David Chalmers and Frank Jackson, that is widely presumed to spearhead the re-establishment of substantial analyticities. I conclude that analytic truths — at least those discussed — are indeed harmless

1. 'Two Dogmas' and Beyond

Fifty years ago, Quine's rejection of the analytic-synthetic distinction sparked one of the most passionate disputes in analytic philosophy. However, hardly any contribution to this dispute can match the refreshing originality of Putnam's *The Analytic and the Synthetic*. Published some ten years after *Two Dogmas of Empiricism*, Putnam's paper propounds what amounts to a deflationist attitude towards the issue of analyticity. Arguing that the problem of analyticity is to be understood as one *within* rather than *about* semantics, Putnam claims that Quine is evidently wrong. Some truths are analytic, and some are not. Still, Putnam wholeheartedly endorses the thrust of Quine's case. Putnam believes that a semantic approach lends itself quite naturally to a deflationist resolution of the problem of analyticity. He maintains that once we have provided an adequate semantics, suited to explain the genesis of analytic truths and apt to evaluate their importance, we will see that analytic truths are *harmless*. That is to say, they are trivial and hence ill-suited to play any exceptional epistemological or methodological role. Putnam consequently agrees with Quine on the deep issue: the distinction between analytic and synthetic truths is not a suitable ground to rest one's

philosophical position on. The logical positivists assumed otherwise. This is what in the end discredited their stance.

In this paper, I will sort of uphold both of Putnam's contentions. First of all, I explore and defend Putnam's semantic approach to the problem of analyticity. Secondly, I consider Putnam's own attempt to defend his deflationist conclusions. I argue that it fails because Putnam employs a flawed semantics. Thirdly, I provide an adequate semantics and contend that it explains how analytic truths do come about. Finally, I argue that many of the truths effected are indeed harmless, thus sustaining Putnam's deflationist ambitions. This will be the hardest part. For a semantics similar to the one I endorse has recently been the prime vehicle for those who think that substantial analytic truths are the means as well as the aim of philosophy. I rebut these aspirations, prominently propounded by David Chalmers and Frank Jackson. I will conclude that Putnam is right. There are analytic truths, but they are harmless.

However, putting it thus overstates my case. I will neither be concerned with mathematical and logical truths. Nor will I brood over purported analyticities involving concepts such as 'knowledge' or 'freedom' – or, for that matter, 'shadow' or 'table'. Following Putnam, I will concentrate on terms such as 'crow' and 'energy'. Maybe there are informative analyticities involving 'knowledge', and maybe the whole of mathematics is analytic. I doubt this, but I will not sustain this scepticism here. What I will argue is that there are no substantial analytic truths concerning energy, crows, and the like.

2. Putnam's Approach to the Problem of Analyticity

Putnam's approach to the issue of analyticity is shaped by two convictions. For one, he is convinced that Quine's rejection of the analytic-synthetic distinction is flawed. Even though he agrees with Quine that it is wrong to think that any sentence is either analytic or synthetic (Putnam 1962, 38f.), he rebuffs Quine's idea that there are no (non-tautological) analytic truths:

That Quine is wrong I have no doubt. This is not a matter of philosophical argument: it seems to me that there is as gross a distinction between "All bachelors are unmarried" and "There is a book on this table" as between any two things in the world, or, at any rate, between any two linguistic expressions in the world. (Putnam 1962, 36)

We cannot give "All bachelors are unmarried" up unless we were to adopt a new 'linguistic convention' (Putnam 1962, 39) for the term 'bachelor' (Putnam 1962, 53, 50). Moreover, "All bachelors are unmarried" is such that 'grasp of its meaning *alone* suffices for justified belief in its truth' (Boghossian 1997, 334). From this Putnam

His conventionalist leanings (cf. Putnam 1962, 39, 68f) might make Putnam succumb to the stronger view that "a statement is analytic provided that, in some appropriate sense, it owes its truth-value completely to its meaning, and not at all to 'the

concludes that there patently are analytic truths. Consequently, Putnam does not even attempt to discharge the arguments Quine offered in his *Two Dogmas*.² He thinks that there is no need to do so.

This bears witness to the fundamentally different perspectives Quine and Putnam take on the issue of analyticity. Quine's argument is clearly intended to be *about* semantics. Quine's rejection of the analytic-synthetic distinction is meant to challenge the very tradition in semantics he should later deride as 'introspective' (Quine 1987, 9) and 'mentalistic' (Quine 1975, 86). In his *Two Dogmas*, Quine puts the core ideas of traditional semantics to the test and finds them wanting; his later argument for the indeterminacy of translation proceeds along similar lines (Quine 1960, ch. 2). Putnam, on the other hand, takes the problem of analyticity to be a problem *within* semantics. He consequently believes that an appeal to our most refined intuitive judgements and to our best semantic theories is a perfectly legitimate means to tackle it.

Even though he holds that there are analytic truths, Putnam still thinks that there is a problem of analyticity. This is his other conviction:

[W]e are in a position of knowing that there is an analytic-synthetic distinction but of not being able to make it very clear just what the nature of this distinction is. (Putnam 1962, 35)

We know that there are analytic truths. But we do not know how they come about, and which role they can play. According to Putnam, this is the problem of analyticity. He believes that all we need to solve it is an adequate semantic theory. The challenge that arises from Quine's critique thus is to provide an adequate semantics that yields the explanation sought, and allows for the evaluation wanted. Given such a semantics, "we should be able to indicate the nature and rationale of the analytic-synthetic distinction" (Putnam 1962, 35). According to Putnam, successfully accomplishing this robust semantic project would in turn dissolve the problem of analyticity. For once we have devised the semantics sought, we will see that analytic truths are harmless.

I take this to be a perfectly warranted approach to the issue of analyticity. Putnam is right: we do not need to meet Quinean strictures to convincingly justify the claim that there are analytic sentences. We evidently are able to consistently classify sentences from an open class with respect to their fundamental semantic properties (Grice/Strawson 1956, 142f; Searle 1969, ch. 1.2; Glock 2003, ch. 3). We all do agree that, say, "Bachelors are unmarried" falls into one category, and "Snow is beautiful" into another. This robust ability gives us sufficient reason to maintain that some truths are analytic, and some are not.

facts'"(Boghossian 1997, 334). Since nothing in his argument hinges on this, I will assume that Putnam makes do with the weaker 'epistemological' idea. — For an overview on definitions of 'analyticity', cf. Bealer 1998.

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For a thorough and critical discussion of Quine's arguments cf. Glock 2003, ch. 3, Boghossian 1997 and, still, Grice/Strawson 1956.

Quine is not impressed. He will not admit that there is a distinction to be drawn unless we define 'analytic' in extensional terms (Quine 1951), or explain 'analytic' relying exclusively on a behaviouristic naturalism (Quine 1960, ch. 1-2). The former cannot be done, and the latter will not work. But this does not undercut the argument given. It rather warrants the charge that Quine assumes incoherent standards of explication (Glock 2003, ch. 3), that he relies on a parochially narrow understanding of 'naturalism' (Nimtz 2002, 156-165), and that he forgets about his own naturalistic standards for the acceptance of theoretical terms (Sober 2000). Hence, Putnam is right. The task is not to determine whether there are analytic truths. The task is to explain how they come about.

One might still want to hold that a satisfactory explanation of analyticity must reveal how analyticity is constituted by non-semantic properties.³ It for sure would be nice to have such an explanation. However, if our account happens to be enlightening as well as projectible, and if it employs only the well-tested notions of established semantics, it does what we want: it explains how analytic truths do come about. The fact that it falls short of providing a reductive explanation does not undercut its explanatory import (Grice/Strawson 1956, 148-151). Again, if all we want is to understand how analytic truths do come about, there is no need to prop up our explanation with a naturalistic reconstruction of semantic categories. That is to say, the task is to *semantically* explain how analytic truths come about.

I will thus take up Putnam's approach to the problem of analyticity. Taking it for granted that there are analytic truths, I will seek a semantics that provides an explanation of their genesis and an evaluation of their importance. The latter is very much at the heart of the debate about analyticity. Hardly anyone ponders this issue out of an interest for semantic taxonomy. Most who do rather want to know whether certain sentences can play an exceptional epistemological and methodological role simply in virtue of their semantic properties. This is the deep issue behind the problem of analyticity. Quine's rejection of the analytic-synthetic distinction was specifically intended to maintain that there are no such sentences. We have already seen that this rejection is flawed. However, this fact merely reflects Quine's infelicitous perspective on things. The deep issue is not whether there are analytic truths. The deep issue rather is whether the analytic truths there are can play the role alluded to, and hence whether "there are (...) analyticities that cannot be discovered by the lexicographer or the linguist but only by the philosopher" (Putnam 1962, 36f). Putnam maintains that there are none of those. This is precisely what his deflationist resolution consists in.

This identification of the deep issue allows us to resolve a puzzle put forth by Boghossian (Boghossian 1997, 331f). Most philosophers reject Quine's idea that translation is indeterminate. They hold that there are facts about meaning as well as sameness of meaning. They nevertheless voice agreement with Quine's claim that there is no analytic-synthetic distinction. This might appear incoherent. However, I do not

This idea shapes Quine's approach to reference, cf. Nimtz (2002), esp. ch. 3 and 4.

think it is. The professed agreement with Quine on the analytic-synthetic distinction is to be understood as an agreement on the deep issue. What most philosophers do reject is the idea that there are sentences suited to play an exceptional epistemological or methodological role simply in virtue of their semantic properties – and *this* view does not oblige them to deny that some truths are analytic, and some are not.

3. Putnam's 'The Analytic and the Synthetic'

Poised to carry out his deflationist agenda, Putnam devises a semantics he expects to yield an explanation of analyticity and to allow for an evaluation of the importance of analytic truths. The semantics Putnam offers is a version of descriptivism. It pivots on the ideas that meaning determines reference, that meaning is given by a body of knowledge, and that the respective body is typically constituted by an inferential network. Putnam embraces the following principles (Putnam 1962, 50-54):

- (1) Typical ordinary general terms such as 'crow' are cluster terms. Their meaning is constituted by a cluster of properties governing the application of the term.
- (2) Typical general terms that figure in advanced scientific theories such as 'energy' are law cluster concepts. Their meaning is constituted by a cluster of laws governing the application of the concepts.

Putnam uses the latter principle to argue that ordinary scientific statements are very unlikely to be analytic. Statements that contain law cluster terms are, he claims, not immune to revision. For within the cluster that determines the meaning of the concept, "any one law can be abandoned without destroying the identity of the law cluster concept involved" (Putnam 1962, 52). Since the statements and laws of an advanced science will typically contain law cluster terms and since analytic statements are those 'that a rational man must hold immune from revision' (Putnam 1962, 50), Putnam infers that statements such as "f = ma" or " $e = \frac{1}{2} mv^2$ " are not analytic. By parity of reason, we may conclude that analyticity does not affect large parts of ordinary discourse either. Many ordinary general terms are cluster-terms. Since the statements that make up these clusters are not immune to revision either, it follows that sentences containing these terms, too, will not be analytic.

The principles mentioned are meant to explain how analytic truths do not arise. Putnam's explanation as to how these truths do arise rests on another descriptivist idea:

(3) General terms such as 'bachelor' are one-criterion words. Their meaning is constituted by a cluster that contains just a single property governing the application of the term.⁴

The network that determines the meaning of a one-criterion-word F comprises just a single statement, predicating of F the single criterion for its application. That is to say, it predicates of F those necessary and sufficient conditions for something's being an F that are such that people can and do use them to determine whether something happens to be an F (Putnam 1962, 67). This is what is done, for example, in "All bachelors are unmarried men". Any such statement will consequently be analytic. Since it states the only criterion for the application of the term in question, we cannot give it up if we want to hold on to the term's established use. However, any such statement will be rather trivial indeed. It will be immediately recognised as true by every competent speaker, and since the only strict implication F is involved in is the statement we are concerned with, it will have hardly any 'systematic import' (Putnam 1962, 39) at all.

Putnam's descriptivist semantics thus provides a straightforward explanation of analyticity: analytic truths arise by way of one-criterion words. More precisely, "the exceptionless principle that provides the criterion governing a one-criterion concept [is] analytic" (Putnam 1962, 68). (At least, this is how basic analytic truths arise. All implications of these truths are analytic as well). At the same time, Putnam's analysis implies that terms whose meanings are constituted by rich networks do not give rise to analytic truths – analyticity arises *exclusively* by way of one-criterion words. Since one-criterion words do not give rise to informative statements, it follows that all analytic truths are harmless. Putnam's account thus sustains his deflationist ambitions: analytic truths are trivial and hence ill-suited to play a prominent epistemological or methodological role.

His discussion inspires Putnam to give us a piece of methodological advice: just ignore the analytic-synthetic distinction. For if you do not, you will consistently be wrong (Putnam 1962, 36). The proper way to proceed is *as if* there was no such distinction at all. Quine thus is right on the deep issues pertaining to the analytic-synthetic distinction. It hence is hardly surprising that Quine has nothing but praise for Putnam's account (Quine 1986, 427). Quine moreover emphasises that his own analysis of analyticity in *The Roots of Reference* proceeds along Putnamian lines. He there maintains that a sentence is analytic "if everybody learns that it is true by learning its words" (Quine 1973, 79). This is precisely what is true of a sentence predicating a criterion of the one-criterion word it governs.

⁴ Or very few properties. I will ignore this complication.

4. The Quest for an Adequate Semantics

Putnam's doctrine of one-criterion words offers a convincing semantic explanation for humdrum analyticities. Putnam's argument from law cluster-terms is less compelling. For one, Putnam combines two ideas that do not sit easily with one another. On the one hand, he holds that the meaning of a law-term F is determined by the cluster of laws L_1 , ..., L_n the term figures in. On the other hand, Putnam maintains that we can give up any one law in F's cluster without changing the meaning of F. It is very hard to see how both claims can be true. If a law-term's F meaning is determined by L_1 , ..., L_n , dropping, say, L_7 will plausibly lead to a change in intension and hence in the meaning of F. If it didn't, there might be good reasons to conclude that L_7 does not contribute to F's meaning after all and that it is at least misleading to say that F's meaning is determined by L_1 , ..., L_n rather than by L_1 , ..., L_n minus L_7 to begin with. What is more, Putnam's account evidently yields an analytic truth that is far from trivial. Given that F's meaning is determined by the laws L_1 , ..., L_n , it follows that, necessarily, something is F if and only if it satisfies L_1 , ..., L_n . Thus Putnam's account does not live up to its deflationist aspirations.

One might be tempted to conclude that there are substantial analytic truths, and that deflationism is flawed after all. I would like to propose a rather different diagnosis: Putnam simply relies on an inadequate semantics. His descriptivism provides a flawed account for terms such as 'crow' and 'energy'. Putnam's deflationist claims thus remain so far unscathed. We can still cling to the idea that once we have devised an adequate semantics suited to explain the genesis and allowing for an evaluation of analytic truths, we will see that these truths are harmless. All we now need is a convincing semantic theory. So let me briefly ponder the question what an adequate semantics for some natural language would have to be.

Ignoring questions of force (Dummett 1976, 73ff, Davies 1981, ch. 1) as well as communication (Grice 1987) and concentrating on austere accounts of literal meaning, it is plausible to maintain that any adequate semantics for some natural language has at least to get the truth-conditions of the sentences and utterances of that language right (Nimtz 2002, 30-61). Assuming that truth-conditions can be equated with intensions and taking into account the fact that a sentence's truth-conditions allow of a compositional analysis in terms of the semantic values of its parts, any adequate semantics is moreover bound to specify the semantic values of words in such a way as to account for the intensions of sentences or utterances, respectively. In so doing, it has to respect further strictures arising from various characteristics of natural languages. Let me highlight three of those. First of all, the semantic values of indexicals such as 'I' and demonstratives such as 'that F' vary systematically with the contexts these expressions are employed in; a kindred variety of context-dependence might affect shape-predicates such as 'is triangular' and relational expressions such as 'is in Reykjavik'. Secondly, we are intuitively pretty sure that 'Amundsen' would not have designated Wisting, even if the latter had in fact been the first to arrive at the South Pole; and we are pretty sure that any utterance of "It's necessary that I am here" is false, even though any utterance of "I

am here" must be true. Thirdly, natural languages are spoken by ordinary people like you and me who are neither particle physicists nor ornithologists. We nevertheless are competent users of terms such as 'electron' or 'robin'.

An adequate semantics thus has to assign semantic values in a way that accounts for the phenomenon of context-dependence, squares with our modal intuitions, and respects the fact that one can be a competent speaker even though one does not know all that much. Putnam's vintage 1960s descriptivism apparently fails on all three counts. As Putnam himself later was keen to point out, this variety of descriptivism does not respect our modal intuitions, and it burdens the competent speaker with a load of knowledge that she plausibly will not have (Putnam 1975, Kripke 1980). I will come back to both points in due course. Taken together with Kaplan's arguments designed to show that indexicals are not simply synonymous with descriptions (Kaplan 1977, 497), we have to conclude that Putnam's descriptivism is in fact a flawed semantics.

We consequently are in need of an adequate semantic theory. I am inclined to think that there is an obvious candidate to fill the slot. For want of a better name, I will call it 'sophisticated Kripkeanism'. This semantics is on the one hand emphatically Kripkean. It employs talk of 'possible worlds' to model truth-conditions and other intensions, and it vigorously embraces the general account to be found in Kripke, Putnam and Kaplan as to how intensions are determined. On the other hand, sophisticated Kripkeanism transcends the Kripkean layout. For it combines the ideas mentioned with a Kaplan-Stalnaker-style two-dimensional framework designed to accommodate context-dependence (Putnam 1975, Kaplan 1977, Kaplan 1989, Kripke 1980, Stalnaker 1978, Stalnaker 1999, Lewis 1981). I will deal with these points in reverse order.

Imagine Jørgensen pointing to a row of sleek black snowmobiles and uttering "I want one of those". Let us make the plausible assumption that she thereby says that Jørgensen wants a 2003 Yamaha snowmobile. She evidently does so partly because the sentence she utters means what it does, and partly because the context she utters the sentence in is as it is. If we want a lucid model of the dependencies involved, we have to make two distinctions. On the one hand, we have to distinguish the content of an expression as uttered in a context from the context-invariant content of the expression-type involved. Call the former content a secondary and the latter a primary intension. Primary intensions determine secondary intensions. That is to say, if taken together with a context c, the primary intension of an expression(-type) determines the secondary intension expressed by an utterance of that type as made in c.5 Given that she happens to stand in front of 2003 Yamaha snowmobiles, the primary intension of "I want one of

That's not quite right. Since the primary intension of an expression e yields a mere extension for a context c, you need additional rules determining how the intension of e as uttered in c depends on that expression's extension in c to fix the expression's secondary intension. These rules will plausibly drawn on well-entrenched pragmatic delineations such as the referential/attributive distinction. I will, however, ignore this complication and stick to the simplified account given.

those" determines that Jørgensen expresses the secondary intension that Jørgensen wants a 2003 Yamaha snowmobile. If she had been in a different context, the secondary intension expressed would have been different. Whereas a sentence(-type) thus is taken to have a single and unchanging primary intension, it gets assigned one secondary intension for each context it is uttered in.

On the other hand, we have to distinguish two roles played by possible worlds. Centred possible worlds — i.e. worlds with a region and a speaker highlighted — figure as contexts an utterance is made in, and non-centred possible worlds are employed to spell out what is expressed by such an utterance. Call centred worlds playing the former role *contexts*, and call worlds playing the latter role *indices*. Given the context of her utterance, Jørgensen expresses a secondary intension that is true at any index in which Jørgensen wants a 2003 Yamaha snowmobile. This allows us to devise model-theoretic representations for the two kinds of contents involved. A primary intension can be modelled as a function f_1 : $w_c \rightarrow e$ from contexts to extensions, whereas a secondary intension must be represented by a function f_2 : $w_1 \rightarrow e$ from indices to extensions.

The two-dimensional framework provides a versatile tool to accommodate context-dependence within a possible worlds semantics. But it remains an empty structure unless it is married to a substantial doctrine. This doctrine, *not* the two-dimensional structure it is embedded in, makes up the core of the semantics. As mentioned, the core of sophisticated Kripkeanism consists in the account to be found in Kripke, Putnam and Kaplan. It pivots on three ideas. First of all, there is Kripke's idea of *rigid designation* (Kripke 1980, lecture 1). Kripke argues that names such as 'Samuel Clemens' or kind terms such as 'gold' designate rigidly — they pick out one and the same individual or substance, respectively, in all possible worlds. The fact that some of our terms are rigid designators implies that some of our true identity statements are necessarily true. Given that the terms involved are rigid designators, it follows that "Samuel Clemens = Mark Twain" and "Gold = the element with the atomic number 79" are true in all possible worlds.

Secondly, there is Kaplan's idea of *direct reference* (Kaplan 1977, 497, ibid., 483). It is best understood thus: an expression is directly referential if all it contributes to the intension expressed is the item it picks out (Kaplan 1977, 497). Think of Jørgensen uttering, "I want one of those". The term 'I' she employed most certainly means something like 'the speaker'. But if Kaplan is right, this descriptive meaning does not contribute to what Jørgensen says. What figures in what she says rather is the person this descriptive content picks out in the context she utters her sentence in. The content she expresses is *that Jørgensen wants a 2003 Yamaha snowmobile*. She does not assert *that the speaker wants a 2003 Yamaha snowmobile*.

The third idea is due to Putnam (Putnam 1975). Putnam argues that for a substantial number of predicates F, neither the knowledge a competent user of F is rightly expected

These representations are not to be mistaken for the contents they model; meanings or contents *for sure* are not model-theoretic entities. – Cf. previous footnote.

to have nor those aspects of its use transparent to the linguistic community suffice to fix F's semantic value. Take the term 'tiger'. According to Putnam, it applies to something x if and only if x is of the same kind as – has the same genetic microstructure as – the paradigmatic items we employ in introducing the term. This account generalises: for many predicates F it holds that what determines F's intension is an object-anchoring, i.e. a set of paradigmatic items and a suitable sameness-relation. Which entities are relevantly similar to the paradigmatic items will in many cases depend on non-obvious properties of the things involved – whether Shahir really is a tiger does not depend on his black stripes and yellowish fur, but rather on his genetic pawprint. It hence is hardly surprising that the semantic values of many predicates outrun our knowledge-cum-transparent-use. For we have to do empirical research uncovering the non-obvious properties in order to determine what they apply to.

5. Deflationism Revamped

Sophisticated Kripkeanism assigns semantic values — truth-conditions, intensions, extensions — in a way that accounts for context-dependence, that squares with our modal intuitions, and that respects the fact that one can be a competent speaker even though one does not know all that much. In fact, it has been tailor-made to do so. Hence, there is every reason to believe that sophisticated Kripkeanism in fact is an adequate semantics. Sophisticated Kripkeanism moreover yields an explanation as to how analytic truths arise, and it provides an evaluation of their importance that supports the main contention of deflationism. This is what I am going to argue now.

Sophisticated Kripkeanism comes with an assumption about semantic competence. It is taken for granted that a competent speaker must have grasped the primary intensions of the expressions she uses. She will thereby get to know many secondary intensions. For, in all cases where what is said does not vary with the context, primary and secondary intensions coincide, effecting precisely the same function from worlds to extensions. Anyone who has grasped the primary intension of, say, "Grandmothers are lovely" will know the secondary intension assigned to any utterance of this sentence. This does not hold for, say, "I want one of those". You will not grasp the secondary intension of such an utterance unless you are informed about the non-linguistic aspects of the context it is made in. Consequently, if a sentence is such that 'grasp of its meaning alone suffices for justified belief in its truth' (Boghossian 1997, 334), this will inevitably be due to one's grasp of its primary intension. Any explanation as to how analytic truths come about can hence focus on primary intensions. Since analyticity as explained is an overtly epistemic category, we have to hook up the semantic apparatus outlined with a suitable epistemology – we have to explore what it is to know or grasp a primary intension. I fear that, on Kripkean premises, such an exploration does not yield a uniform account. It rather appears that we have to distinguish three different basic cases, each concerning a specific category of terms and pivoting on a specific way of grasping a primary intension.

First of all, spelling out the primary intensions of some of our terms comes down to specifying a context-insensitive or, as I will call them, *pure* description⁷. For instance, we can spell out the primary intension of 'grandmother' thus: 'grandmother' applies to something x in a context c iff x is a female parent of a parent. Anyone who grasps the primary intension of 'grandmother' must know this. Consequently, any competent speaker will know that "Grandmothers are female" is true simply in virtue of having grasped the term's primary intension. This case smoothly generalises. Anyone who understands an expression F whose primary intension is given by a pure description knows that the extension of that expression in a context c is whatever satisfies the description. Consequently, if *being* G is part of the primary intension of F as captured by a pure description, any competent speaker will know that "All F are G" is true. This yields our first partial explanation as to how analytic sentences arise:

(4) "All F are G" is analytic if being G is a vital part of the primary intension of F as captured by a pure description D.

In fact, any speaker who understands an expression F whose primary intension is captured by a pure description containing $being\ G$ will know that "All F are G" is a context-invariant necessity. "Grandmothers are female" is not only true in any context it is uttered in. Any utterance of this sentence will moreover express a secondary intension that is true at all indices, and a competent speaker must know this.

Let me add that it is immaterial how rich the description *D* might be. *D* could comprise just a single property. This is why "Bachelors are unmarried" comes out analytic. Our explanation thus accords with Putnam's analysis of one-criterion words. However, *D* could also comprise a whole theory. This is why we have to admit that "Crows are birds" comes out analytic if we, against better judgment, assume that the meaning of 'crow' is determined by a suitable inferential network. This suggests a diagnosis as to why Putnam's account is flawed. Putnam holds that the meaning of *both* 'bachelor' and 'crow' are determined by networks or theories. The only difference between those cases is that the one theory is simple, and the other complex. But it is not obvious that a mere difference in complexity can yield a difference in categorical semantic properties. What is needed might rather be a difference in kind.

As for the second case, spelling out the primary intensions of some of our terms comes down to specifying context-sensitive descriptions. For instance, we can spell out the primary intension of 'I' thus: 'I' applies to something x in a context c iff x is the speaker in context c. This is what a competent user of 'I' must know. Generalising, we can say that anyone who understands an expression whose primary intension is given by a context-sensitive description knows that the extension of that expression in a context c is whatever fills a certain context-specific role in c (Strawson 1950, Perry 1998). Any

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⁷ Or, if you prefer: context-insensitive conditions of application for the term in question.

competent user of 'I' and 'here' knows that 'I' picks out whoever plays the speaker-role in c, and that 'here' picks out the position that fills the role 'being the location of this utterance' in c. This yields another partial explanation of analyticity:

(5) "F is G" is analytic if being G is part of context-specific role associated with F.

There are three points to be noted. First of all, role terms give rise to analyticities that are more complex that those captured by (5). The most prominent example is "I am here now". Secondly, indexicals and demonstratives are by no means the only role terms we employ. Think of 'the secretary general of the UN' or 'the home team'. These role terms yield analytic truths. Just consider "The home team plays at its own pitch".

Finally, the knowledge someone acquires by grasping the primary intension of a role term contrasts sharply with knowledge of the "Grandmothers are female"-variety. On the one hand, what is known to be true are utterances rather than sentence-types. Having grasped the primary intension of 'here', I know that any utterance of "Here is the location of this utterance" will be true. Yet I do not even assign a truth-value to this sentence-type. On the other hand, what one of these utterances expresses will typically be a contingent rather than a necessary truth. Since they usually refer directly and designate rigidly, role terms mostly contribute the items they pick out in the context they are uttered in to the secondary intension expressed, and these items will not vary with the respective indices. This yields room for contingency. For example, what Amundsen expressed by uttering "Now I am here!" on December 14th, 1911 at the South Pole was *that Amundsen is at the South Pole on December 14th 1911*. This is not necessarily true. There are worlds in which Amundsen made it to the Pole long after Scott got there on January 18th, 1912.

There is a third case we have to consider. For some of our terms, spelling out their primary intension comes down to specifying an object-anchoring. For instance, we can spell out the primary intension of 'tiger' along the lines already indicated: 'tiger' applies to something x in a context c iff x is of the same kind as the paradigmatic items we used to introduce the term 'tiger'. Ignoring deference and idealizing rather heavily, we may assume that a competent user of 'tiger' must somehow know this. Consequently, any competent speaker will somehow know that tigers are of the same kind as the paradigmatic items anchoring the intension of 'tiger' simply in virtue of having grasped the primary intension of 'tiger'. Moreover, even if we assume that any competent speaker must know a true instance of the scheme "Tigers are of the same kind as the Gs", where the description 'the Gs' picks out the respective paradigmatic items, we have to admit that the instances known to be true might vary wildly. Since the extension of 'tiger' is not affected by the way the paradigmatic items are identified, a speaker might employ any identifying description of these items she likes. Hence, you do not need to know that "Tigers are of the same kind as the whitish catlike animals owned by Siegfried and Roy" in order to be a competent speaker. But someone's grasp of the term's primary intension might rest precisely on this piece of information.

If we agree that a sentence can be analytic only if everyone who grasps its primary intension will know it to be true, terms whose primary intension are object-anchored do not yield any interesting analytic truths at all. The only analytic truths seems to be this:

(6) "Fs are of the same kind as the paradigmatic items anchoring the intension of 'F'" is analytic if Fs primary intension is determined by an object-anchoring.

This is almost as trivial as "Oblique things are those 'oblique' applies to". There is a reason for this. The intension of 'tiger' is determined externally — it depends on the animals involved. This in turn makes the semantic and epistemic properties of the relevant sentences come apart. Given that our use of 'tiger' is anchored in animals with the DNA sequence t, "Tigers have DNA sequence t" is true in all contexts. Moreover, given that natural kind terms are rigid designators, any utterances of "Tigers have DNA sequence t" expresses a necessary truth. Yet you will not know any of this simply in virtue of having grasped the primary intension of 'tiger'. Your knowledge will be exhausted by (6) together with an instance of the scheme "Tigers are of the same kind as the Gs". Therefore, unless you do empirical research and find out that the Gs have DNA sequence t, you will not know that "Tigers have DNA sequence t" has a necessary primary as well as a necessary secondary intension — even though it does.

On sophisticated Kripkean premises, understanding a term consists in grasping its primary intension. This grasp may amount to associating it with a description, a context-sensitive role, or an anchoring, depending on the kind of term involved. In each case you will learn some truths simply by improving your semantic competence. This is why any competent speaker will know that bachelors are unmarried, or that the home team plays at its own pitch, or that tigers are of the same kind as those items anchoring the use of 'tiger'. It should be obvious that none of this forces us to admit that there are substantial analytic truths about, say, energy, electrons, crows, and polar bears. For the intensions of these terms are best understood to be of the object-anchored type. Grasp of their primary intension amounts to no more than knowing that they are so anchored, and this yields exclusively analytic truths that are trivial and hence ill-suited to play any prominent epistemological or methodological role. All analyticities concerning energy, electrons, crows, and polar bears hence are utterly harmless.

All this makes it plain to see why Putnam's 1960s descriptivism provides a flawed semantics for law terms. Putnam assumes that the meaning of, say, 'polar bear' is encapsulated in a rich description D which in turn is determined by our overall theory of polar bears. Since pure descriptions hold in all contexts and at all indices, this implies that, say, "Polar bears have a thick white coat" states a necessary truth. This manifestly violates our modal intuitions. Worse still, it implies that any competent speaker must know a lot about polar bears. In fact, she must know that polar bears satisfy D. Yet it is implausible that a competent speaker will have such extensive knowledge about the animals involved. This yields a second diagnosis as to why Putnam's account is flawed: he misclassified the respective terms. Expressions such as 'energy', 'crow', and 'polar

bear' are object-anchored terms, whereas Putnam took them to be purely descriptive expressions. That is hardly surprising. For given that his semantics was all-out descriptivist, he did not have a choice.

6. The Neo-Descriptivists' Challenge

Sophisticated Kripkeanism is a state-of-the-art semantics that allows to explain and evaluate analytic truths. Since it holds that the primary intensions of 'energy', 'electron', 'crow', and 'polar bear' are determined by object-anchorings and that all resulting analyticities must be trivial, it moreover underscores Putnam's deflationism. However, sophisticated Kripkeanism is neither the only nor the most popular state-of-the-art semantics. Frank Jackson and David Chalmers have recently devised a well-received semantic theory that I call 'neo-descriptivism' (Chalmers 1996, ch. 2, Jackson 1998, ch. 2, Chalmers forthcoming a, Chalmers & Jackson 2001). Neo-descriptivism is suited to explain and evaluate analytic truths, but it apparently undercuts rather than underscores the deflationist programme (Jackson 1998). For neo-descriptivism implies that the truths someone gets to know by way of grasping the primary intensions of 'energy' or 'polar bear' are substantial rather than trivial. This poses a serious challenge to the deflationist attitude I promised to defend. In the remainder of this paper, I will strive to rebut it.

On the face of it, neo-descriptivism and sophisticated Kripkeanism are fairly similar semantic accounts. Both comprise a two-dimensional possible worlds framework, and both rely on a distinction between primary and secondary intensions. However, the two semantics are driven by rather different doctrines. Sophisticated Kripkeans adopt a twodimensional framework to account for humdrum context-dependence. They think of contexts as just that – possible environments for utterances. Neo-descriptivists, on the other hand, employ the two-dimensional structure to model the epistemic or conceptual abilities they assume to underlie our understanding (Chalmers forthcoming a, 16). Neodescriptivists assume that someone's conceptual abilities can be gauged from his willingness to assign extensions to terms in 'worlds considered as actual' or 'epistemic possibilities', that is 'specific way[s] the actual world might turn out to be, for all one can know a priori' (Chalmers & Jackson 2001, 324; cf. Chalmers 2002, §3.1) They go on to identify what I have called 'contexts' with possibilia of this kind, and they consequently understand primary intensions to be purely conceptual contents that yield extensions for epistemic possibilities. Still, they agree that these primary intensions in turn yield rather ordinary secondary intensions.8

In the end, however, it is not the changed perspective on the framework that leads neo-descriptivists to hold that there are numerous substantial analyticities concerning kinds. The reason for this is rather that neo-descriptivists take 'electron', 'gold', and 'polar bear' to be *role terms*. They hold that understanding these terms amounts to

⁸ For a more detailed discussion of these differences – as well as some other arguments against neo-descriptivism – cf. Nimtz (2004).

grasping complex roles encapsulating epistemic or conceptual knowledge concerning the kinds in question (Jackson 1998, ch. 2). For instance, neo-descriptivists believe that grasping the primary intension of 'gold' amounts to knowing that 'gold' applies to whatever fills the gold role in a world considered as actual. That is to say, it applies to the malleable, yellowish etc. metal we are acquainted with in the world under scrutiny. On the neo-descriptivist picture, then, "Gold is a malleable, yellowish metal" comes out analytic. So presumably does "Polar bears have thick white coats".

Neo-descriptivists admit that Putnam was wrong to employ a simple descriptivist semantics for kind terms. They even agree that 'electron' and 'polar bear' designate rigidly and refer directly. Neo-descriptivism can thus account for the modal intuitions classical descriptivism foundered on. However, neo-descriptivists believe that for any law-term F, there is an associated F-role determining F's extension in any world considered as actual; and they hold that any competent speaker will know that "F is G" must be true whenever uttered, given that $being\ G$ is part of the F-role. This lets them conclude that there are substantial analytic truths involving law terms.

To be sure, our language *could* work this way. But I will argue that it does not. More precisely, I will argue that neo-descriptivism is subject to the second flaw diagnosed in Putnam's descriptivism: it makes wildly implausible assumptions about what competent speakers do know. Neo-descriptivists might get the modal properties right. Their semantics correctly implies that no utterance of "Polar bears have thick white coats" will be necessarily true. But they do get the epistemic properties wrong. Their semantic still implies that you will know that polar bears have thick white coats simply in virtue of having grasped the meaning of 'polar bear'.

7. The Argument from Ignorance⁹

Neo-descriptivists maintain that anyone who understands a law term must have grasped the role associated with it. It follows that any competent speaker is bound to know quite a lot about the role the respective kinds are presumed to play. At first sight, this appears to be nothing to worry about. Most of us will know that gold is a malleable and very valuable metal, that it is in most cases yellowish, and that large quantities of it are stored in Fort Knox. Moreover, we expect the members of our community to possess such knowledge. This is precisely what neo-descriptivism predicts.

However, a closer look reveals that the neo-descriptivist epistemology runs into trouble. To begin with, we do not need to assume that speakers have conceptual knowledge to account for our expectations. We quite naturally presuppose that the members of our community know certain facts about the world. For instance, we quite naturally presuppose that they know that Reykjavik is the capital of Iceland, or that Amundsen beat Scott to the South Pole. Hence, it is not at all puzzling that we expect

⁹ The general thrust of this argument is well-known. Cf. Devitt/Sterelny 1987, 46ff. and Jackson 1998c, 208ff. However, note that I am concerned with *primary* intensions rather than with common descriptions. This makes things rather different.

them to know that gold is a mostly yellowish metal, even if they do not have to know this in order to be competent speakers. This explanation squares better with our actual behaviour than the one provided by neo-descriptivism. Just think of the way we treat the local ignoramus. We do not assume that his mastery of the English language is impaired because he neither knows that electrons have a charge nor that they have a spin. Still, if he tells us that electrons have 1/1800 the mass of hydrogen atoms, we will add this to our beliefs about electrons.

Secondly, neo-descriptivism's contention that understanding a kind term presupposes grasping a descriptive role conflicts with an observation emphasised by the proponents of externalist accounts: actual competent speakers do not know much about kinds. This might go unnoticed as long as we are concerned with water, gold, or tigers. But if we think about, say, magnesium or tapirs, this becomes obvious. To be sure, almost everybody will know something about the metal and the animal in question, e.g. that magnesium is used in flares or that tapirs are four-legged animals with trunks. Yet almost nobody will be able to come up with an account that is rich enough to determine credible roles for the terms. As neo-descriptivists maintain, such a role has to be purely qualitative. It hence is not allowed to contain pieces of non-qualitative identifying knowledge some of us might possess, e.g., "Gold is the stuff the my wedding ring is made of". What is more, such an account would have to be rich enough to single out all and only the gold in all possible worlds considered as actual. But it is unlikely that any purely qualitative account an ordinary speaker can come up with would even single out the gold in our world.

Finally, neo-descriptivism's epistemology cannot deal with speakers who endorse eccentric theories about kinds. Imagine John to believe that gold is actually a radioactive mineral from outer space, a fact most people are ignorant of since our governments are desperate to cover it up. If John now asserts "The US keep their gold in Fort Knox for good reasons", neo-descriptivists have to deny that he just claimed that the US keep their gold in Fort Knox for good reasons. For the primary intension determined by his understanding and the primary intension determined by our account are very different indeed. They for sure do not pick out the same stuff in our world – on neo-descriptivist premises, our term 'gold' might very well pick out some of the gold that happens to be around, whereas John's term has an empty extension. However, it seems to be fairly obvious that we can and of course would disagree with John's bizarre theory. But that presupposes that our term 'gold' has at least roughly the same reference as John's term 'gold'. On neo-descriptivist premises, this cannot be the case.

8. The Argument from Subjectivity

Neo-descriptivists believe that these arguments do not affect their stance. For they acknowledge that different speakers might very well assign *different* roles to, and hence associate *different* primary intensions with, one and the same natural kind term (Chalmers & Jackson 2001, 327, Chalmers forthcoming a, 32, Chalmers forthcoming b, 30). They even hold that these intensions might be *very* different indeed: you, being a

city-dweller who knows nothing of oceans, might use 'water' non-deferentially for the liquid that comes out of faucets, whereas I, being a beach-dweller who knows nothing of faucets, might use 'water' non-deferentially for the liquid in the oceans (Chalmers & Jackson 2001, 328). The variability of primary intensions does not, they argue, undercut successful communication, and it does not forestall disagreement, since both can be grounded in the common referent (Chalmers forthcoming b, 32).

This is hardly a convincing response, though. On the one hand, it does nothing to solve the problem of eccentric primary intensions. On neo-descriptivist premises, a term's primary intension is what determines the term's referent: 'gold' applies to whatever satisfies the role associated with it. But if that is so, there is no common referent that could ground disagreement between John and us, since there just is nothing that satisfies the eccentric role he propounds. On the other hand, acknowledging variability trades a serious problem for a very serious one. For, as neo-descriptivists admit, if primary intensions are subject-relative, so are *analytic truths* (cf. Chalmers & Jackson 2001, 327; Chalmers forthcoming b, 30) — some sentences might be analytic for me, but not for you. I admit that I find it very hard to make sense of this, which is why I have assumed above that a sentence is analytic only if everyone who grasps its primary intension will know it to be true. However, let us assume for a moment that a sentence might be analytic for you but not for me. Yet if that is so, what is it for a sentence s to be *analytic simpliciter*?

Firstly, one could hold that a sentence s is analytic simpliciter if it is analytic for some speaker in our community (Chalmers forthcoming a, 20). That, however, will yield far too many analyticities. For if P describes a procedure to successfully identify an instance of a natural kind n, there might be a speaker in our community for whom it is analytic that n satisfies P. For instance, there might be speakers who can, without recourse to experience, justify that alligators are dangerous or that water flows from faucets, since this is just how they non-deferentially use 'alligator' and 'water', respectively. Secondly, one could hold that a sentence s is analytic simpliciter if it is analytic 'for any given subject and time in our community' (Chalmers & Jackson 2001, 320)10. This evidently yields too few analytic truths. For if primary intensions are allowed to vary as outlined, it is almost certain that for many purportedly analytic sentence s, there will be a speaker in our community who will not know that s is true simply by grasping its primary intension. Thirdly, one could maintain that s is analytic simpliciter if and only it is analytic for a speaker 'given ideal rational reflection' (Chalmers forthcoming b, 30). But it is hard to see how improved rational powers can change anything. For instance, assume that I am the beach-dweller mentioned above. For me, the only analytic truth about water is that water is the liquid in the oceans. I cannot see how improved powers of rational reflection could possibly lead me to richer

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This is how Chalmers and Jackson spell out their thesis that there is an *a priori* entailment from microphysical(-cum-indexical-cum-phenomenal) truths to ordinary macrophysical truths.

— and intuitively more accurate — conceptual truths about water. For this I do rather need to improve my knowledge.

The neo-descriptivist manoeuvre hence does not solve the problem of ignorance. I guess that this adds to the appeal of sophisticated Kripkeanism. Allowing variability leads neo-descriptivists to admit that communication concerning kinds is not grounded in what we believe about them, but rather in the shared referent — just as Kripke and Putnam maintain. Moreover, given the difficulties arising from variability, one might very well be tempted to adopt the simple solution propounded by Kripke and Putnam who hold that beliefs such as "Gold is that mostly yellowish, malleable, and valuable metal" do not enter into the meanings of kind terms *at all*. All they do is pick out the samples that determine these meanings.

9. The Argument from Belief Revision

Neo-descriptivists hold that to know the primary intension of a law-term is to know a role. On neo-descriptivist premises, we should therefore expect a competent speaker to have knowledge of two rather different kinds about polar bears or snow. On the one hand, she will have conceptual knowledge concerning the roles associated with 'polar bear' and 'snow'. On the other hand, she will have empirical knowledge about the local fillers of these roles. It hence should make a difference whether information a competent speaker receives concerns roles or local fillers. In the one case, she will have to revise a role, whilst in the other case, she will have to update her beliefs about some filler.

This is precisely what we find if we look at uncontested role terms. Learning that that man over there is snow-blind does not change the context-sensitive role I associate with 'that man over there'. It for sure does not restrict application of this complex demonstrative in worlds considered as actual to snow-blind persons. Very much the same holds for other role terms. Take 'the secretary general of the UN'. Let us assume that the role associated with this terms is determined by legal and procedural regulations of the United Nations. Hence, "The secretary general of the UN calls in the meetings of the General Assembly" will count as a conceptual truth, whereas "The secretary general of the UN wears stylish suits" will surely be about the respective filler. Competent speakers are sensitive to this difference. Learning the former might very well change the way someone applies 'secretary general of the UN' in worlds considered as actual. Learning the latter will not. Our knowledge attached to 'secretary general of the UN' hence is stratified. It consists of a conceptual layer and an empirical layer.

Nothing of this holds for our knowledge attached to law terms. Here information that neo-descriptivists must take to be about fillers might very well change the way we employ the respective term in worlds considered as actual. To cite the well-worn example, neo-descriptivists assume that "Water is the transparent, odourless, colourless etc. liquid of our acquaintance" states the role that is around here filled by H₂O. Hence, learning that water is a bipolar is to acquire knowledge concerning the filler rather than the role. But our willingness to apply 'water' in worlds considered as actual will be

affected by this. We will be somewhat reluctant to say of some stuff in a world considered as actual that it is water if we know that it does not have a bipolar molecular structure. Very much the same holds for 'gold', 'polar bear', or 'electron'. Being told that the mass of an electron is about 1/1800 of that of a hydrogen atom might very well affect our application of 'electron' in worlds considered as actual. Our knowledge attached to law-terms thus does not appear to have a layered structure. All our knowledge concerning kinds rather seems to be on a par.

Neo-descriptivists devise epistemic possibilities to allow for scientific discoveries. They take it that our water-experts could have announced that water has the chemical structure XYZ rather than H₂O. Neo-descriptivists argue that this would not have affected our concept of water. For if we consider a world as actual that is just like ours, except for the fact that it contains the water-like substance XYZ where our world contains H₂O, we would be willing to apply 'water' to XYZ. This might be right. But this will not lead to clear distinction between filler and role, and it will not give rise to conceptual knowledge. For it tremendously underestimates the power of our experts. Our experts could have announced almost anything. They could have announced that water really is non-transparent, or that gold is not a metal after all. This would have led us to change beliefs that, on the neo-descriptivist construal, concern the respective roles rather than the fillers. Again, we apparently have to conclude that all our knowledge concerning kinds seems to be on a par.

To be sure, it does not *feel* that way. We somehow sense that "Water is transparent" is more vital to us than, say, "Water is sparse in sub-Saharan Africa". There is a straightforward explanation for this. We do possess what I call 'local epistemic shortcuts' for water, gold, polar bears, and the like. That is to say, we possess simple reliable procedures to identify specimens of kinds in our in fact actual world: we carefully bite coins or look out for thick white coats. These procedures are useful, just like identifying grandmothers by their appearance is. But these procedures are not conceptual, and you do not need to acquire any such procedure in order to be a competent user of a natural kind term. Still, that some dependencies serve as local epistemic shortcuts can account for the felt asymmetry.

10. Analytic Truths – Still Harmless After All These Years?

It's time to take stock. In his 'Two Dogmas of Empiricism', Quine famously argued that we cannot produce an adequate justification for our contention that there are analytic truths. Putnam claims that Quine is obviously wrong. Some sentences evidently are analytic, and some are evidently not. Rejecting Quinean strictures on justification, he contends that the problem of analyticity is not a problem about, but rather a problem within semantics. I have argued that this is a perfectly warranted approach to the issue of analyticity. We do not need a reductive explanation to justify the obvious fact that some sentences are analytic. We are allowed to draw on our most refined intuitive judgements, and on our best semantic theories. Since our intuitions are projectible and

univocal, it appears that Quine is indeed wrong: there are analytic truths. Just think of "Bachelors are unmarried".

The fact that Quine's rejection of (non-tautological) analyticities is seriously flawed does not resolve the issue of analyticity, though. In fact, establishing that there are analytic truths does not even touch upon the deep issue. Here Quine might still be right. It might still be the case that there are no truths that are destined to play a prominent epistemological or methodological role simply in virtue of their semantic properties. More precisely, there might be no such truths concerning energy, electrons, crows, polar bears, and the like. This is what Putnam believes. He holds that once we have devised an adequate semantics that yields an explanation as to how analytic truths arise, and that allows for an evaluation of their importance, we will see that they are harmless. I have argued that this is right. Even though Putnam's own attempt fails, once we have drawn on the resources of an adequate state-of-the-art semantics, we do indeed see that there are no non-trivial analytic truths about polar bears or electrons. It takes some argument to establish this. I did not only have to devise a rather complex explanation-cumevaluation in order to secure it. I also had to rebut the aspirations of neo-descriptivism.

Analytic truths — at least the ones concerning law terms — thus indeed still are harmless. In fact, they are *necessarily* harmless: given that their primary intensions are determined by object-anchorings, no competent speaker *can* learn something substantial by getting to know their primary intensions. That is not true of the analytic truths that arise from descriptive or role terms. "Grandmothers are female" and "The home team plays at its own pitch" are, as it were, trivial by accident; there might very well be some substantial analytic truths of these kinds, arising from complex descriptions or intricate roles. Then again, there might not. For it could very well turn out that there are hardly any pure instances of descriptive or role terms. Yet I won't speculate on that matter.

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