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A Dilemma about Kinds and Kind Terms

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1. Introduction to the Dilemma

It is uncontroversial that some noun phrases denote kinds, like the subject-term in the following:

(0) The kind Tiger is an abstract object.

Regardless of whether (0) is true, clearly its initial NP denotes a kind.¹

However, it is often thought that some *generic* NPs denote kinds as well. In the literature, the following have been offered as examples:²

(1) The tiger is striped.

(2) That kind of predatory cat is striped.

(3) Water is a colorless, odorless liquid.

(4) Dinosaurs are extinct.

But the view that certain generics are kind-denoting can seem unworkable.³ Consider:

¹ It may be that (0) is only part of a philosophical dialect of English, rather than a proper sentence of English *per se*.

Regardless, the point holds that its initial NP clearly denotes a kind.

² A classic introduction to this literature is Carlson & Pelletier (1995).

³ I use ‘reference’ and ‘denotation’ interchangeably; ditto with their cognates. The exception is in section 5, where an imagined objector proposes a distinction between them. But until then, the reader may regard them as equivalent.

(P) The potato was cultivated in Ireland by the end of the 17th century. [Given]

(KD) ‘The potato’ in (P) denotes a kind. [Premise]

(v) The kind at issue is an abstract object. [Premise]

(?) So, some abstract object was cultivated in Ireland by the end of the 17th century.

[From the preceding]

The conclusion looks absurd, assuming an abstractum cannot be grown as a crop. And this suggests something amiss with (KD).⁴

Call the argument above “the *reductio*.” Premise (v) is contestable as it stands, but it will end up being somewhat variable, and shall be adapted to different views of kinds. See section 4. Moreover, the *reductio* does not raise a problem for *all* generic NPs. Many such generics do not denote a kind, but rather express quantification over individuals. They often express ordinary universal or existential quantification, as in the following examples:

(5) Greenland sharks are vertebrates.

(6) The Greenland shark has lived up to 400 years.

And there are other generic NPs, which quantify not universally nor existentially, but rather quantify over *most*, or *normal*, or *statistically average* members of the kind, as in the following:

(7) Tigers are striped.

(8) Chairs have four legs.

(9) A sofa is a broad, overstuffed armchair.

⁴ Moltmann (2013, p. 13) seems to note this kind of issue in passing: ‘Obviously...it is not the kind as such that is said to have a mane or to live in Africa’. But the problem seems dismissed in this remark, since nothing further is said. Yet unlike many linguists, Moltmann accepts that many so-called kind-denoting generics do not denote kinds. (Though she still thinks that a kind is denoted by a definite NP on its generic use, e.g., ‘The Siberian tiger’.)

The usual view is that sentences like (7)-(9) have an implicit *Gen* operator binding the variables in ‘Tiger(*x*)’, ‘Chair(*x*)’, etc. (understood as an “adverb of quantification” in the sense of Lewis 1975.)⁵ Very briefly, (7) for instance is said to be true because a contextually restricted subset of individuals that satisfy ‘Tiger(*x*)’ also satisfy ‘Striped(*x*)’.⁶

But the *reductio* just concerns the allegedly kind-denoting generics. And even here, I am somewhat concessive: For the linguist’s *overall* purposes, I am agnostic whether such generics are best seen as denoting a kind. A variety of nuanced considerations (morphological, syntactic, psycholinguistic, etc.) may make the overall advantages of the view outweigh the disadvantages. But—strictly within *the theory of reference*, the *reductio* suggests that (KD) is incorrect. *Yet the quantificational analyses also seem incorrect.* After all, (P) is *not* a truth about all potatoes, most potatoes, normal potatoes, statistically average potatoes, etc. And it seems not to be an ordinary existential claim, considering the oddity of the anaphora in:

(P†) *The potato was cultivated in Ireland by the end of the 17th century, but soon after it was eaten by Murphy.

⁵ Liebesman (2011) has argued that sentences like (7)-(9) refer to kinds as well. But for a compelling rejoinder, see Leslie (2015). The *reductio* I present below resembles some of Leslie’s considerations, yet her remarks are just targeting Liebesman’s kind-denoting analysis of characterizing generics. In contrast, my *reductio* problematizes the kind-denoting analysis for almost *any* generic NP. It animates the question: Apart from cases like (0), how is it possible on *anyone*’s view for *any* generic NP to denote a kind?

⁶ Leslie (2007, 2008) argues that the *Gen* operator should be seen as cognitively primitive (unanalyzable), owing to some of the difficult cases discussed here. Unfortunately, I cannot delve into Leslie’s view here, though I would argue that she offers a *psychological* solution to a specific group of problems—whereas our problems require a *semantic* solution. Also, for a useful critical discussion of Leslie, see Sterken (2015).

It thus appears that ‘The potato’ in this use is not co-referring with ‘Some (/unique) potato’.⁷

Accordingly, the usual view would be that it refers to a kind. But this is where the *reductio* is applicable.⁸

In fact, the *reductio* may be avoidable with examples (1)-(4). For instance, one might paraphrase (1)-(3) in the manner of (6)-(8), using the *Gen* operator. That is true even for (2), even though its initial NP is explicitly formulated in terms of “That kind...” After all, one might see the NP there as elliptical for “[Generic members of] That kind...”, thus allowing a *Gen*-operator paraphrase.

To be sure, this would be a non-standard analysis, and I think that the anaphor test illustrated at (P†) would create difficulties.⁹ But no matter. I wish to leave (1)-(4) alone and focus on (P) (though it will not be my only example; see section 3). For it is striking that in the case of (P), the *Gen* operator is patently out of place. Again, (P) is not a truth about most/normal/average instances of the kind. Plus, the subject-term seems to co-refer neither with

⁷ Reviewer #2 observes (P†) would be acceptable in some contexts. But in those contexts, I doubt that ‘The potato’ co-refers with ‘The potato’ as it is used in (P). And it is the referent in *that* usage which concerns me.

⁸ N.B., the issue in the *reductio* is not that of conflating the distributive vs. collective reading of a plural NP. Carlson & Pelletier (1995, p. 80) illustrate that conflation in considering ‘The rabbit has a weight of more than one million tons’. After all, whereas the collective of rabbits has a weight, it is unclear whether the kind *per se* has a weight (especially if it is an abstractum). Perhaps it does if the kind just is the collective (and we will consider such a view at the end of section 4). But I wish to stress that the *reductio* bears on a much wider range of views, especially given the variability in (v).

⁹ There is other well-known evidence suggesting that, e.g., ‘The tiger’ in (1) is not simply quantifying over individuals. E.g., ‘tigers’ plausibly quantifies over individuals, yet it does not intersubstitute with ‘The tiger’, as shown in: (i) Tigers resemble each other. (ii) *The tiger resembles each other. Actually, I think this evidence is not conclusive, but as I say, I wish to leave aside examples (1)-(4) and focus on (P).

‘All potatoes’, nor with ‘Some (/unique) potato’ (see again the anaphor test). So the kind-denoting view is especially attractive here. Yet this forces us to contend with the *reductio*.

Indeed, there is a consensus that *some* generics denote kinds, even if the example from (P) is not utterly uncontroversial.¹⁰ But for convenience, I shall continue with the example, and consider how a defender of (KD) might escape the *reductio*. The main options here are:

- (i) reject the absurdity of (P),
- (ii) resist premise (v), or
- (iii) deny that (P) follows from the premises.

However, I shall argue that none of these options are satisfying.

Let me be clear: My overarching goal is *not* to suggest that (KD) is false. It may seem otherwise, since I spend the remainder of the paper defending the *reductio*. But this is driven by *de facto* consensus—and the strong supporting evidence—in favor of the kind-denoting view. The ultimate lesson, however, is that we have a problem, one that has been little acknowledged. The quantificational analyses of ‘The potato’ in (P) seem quite unacceptable, yet the kind-denoting analysis incurs the *reductio*. So we are left with a dilemma in the theory of reference. The lesson is thus really a “Socratic” one about the extent of our ignorance. Disappointing, I know, but worth recognizing.

2. Red Herrings

Before exploring options (i)-(iii), I wish to put aside other responses to the *reductio* that are mostly distractions. First, even though the *term* ‘The potato’ in (P) is not extensionally

¹⁰ Thus, the *Stanford Encyclopedia of Philosophy* informs us: “It is widely accepted that sentences like ‘dinosaurs are extinct’...are singular statements that predicate properties directly of kinds.” (Leslie & Lerner 2016).

equivalent to ‘Some (/unique) potato’, it still may be that the *sentence* (P) is equivalent to the following existential statement:

(P-) Some potato was cultivated in Ireland by the end of the 17th century.

And for many purposes, we may not mind shunning (P) in favor of the less puzzling (P-). Yet the *reductio* concerns the subject-term in (P), and it suggests that (KD) cannot be the right view of its denotation. The sense is, moreover, that ‘*The potato*’ in (P) indeed denotes something, yet our dilemma concerns what that might be.¹¹ So to ignore (P) in favor of (P-) is really just to ignore the particular issue at hand. Even so, perhaps we *should* ignore (P) in favor of (P-). But for practical purposes, this effectively surrenders (KD). For the question is whether it is at all possible to defend a claim like (KD) in the face of the *reductio*—especially given the shortcomings of the alternative, quantificational analyses.

Liebman’s (2011) view of generics might inspire a non-solution similar to (P-). This sort of view could suggest that (P) is equivalent to:

(P+) A part of the kind Potato was cultivated in Ireland by the end of the 17th century.

The idea, then, would be that (P) is true in virtue of a *part* of the kind, much like ‘the table is touching the wall’ can be true in virtue of a part of the table touching the wall. In this way, the kind *per se* can avoid being “cultivated” in Irish soil.

Yet as with (P-), (P+) is an analysis of the *sentence* at (P), and not of the *subject-term* specifically. It is not obvious, moreover, what the analysis would suggest about the term. If

¹¹ The felt equivalence between (P) and (P-) might prompt the idea that ‘The potato’ in (P) refers to a kind of *fictional* object, which acts as a “proxy,” so to speak, for some specific group of potatoes. Yet then, (P) would say *per impossibile* that a fictional object was cultivated in Ireland by a certain time.

anything, it would suggest that ‘The potato’ in (P) denotes some individual potato(es). And that is the sort of view which was already rejected in connection with (P†).

However, this is not the last we have seen of Liebesman. In the next section, his view shall be used to bolster that (P) is not absurd. And though I also find that unsatisfying as well, it is not a *red herring* in relation to the *reductio*. (Liebesman will also make an appearance in section 5; his view might suggest as well that (P) does not follow from (P) even though ‘The potato’ in (P) denotes a kind.)

The observations from this section allow me to answer a further concern, about the overall project of the paper.¹² One might ask why my approach is *linguistic*, even though the basic issue seems to be metaphysical. At worst, I am hiding a well-known metaphysical problem in an unhelpful, linguistic guise.

The more familiar issue in metaphysics is that abstracta often seem to have the properties of concreta. For example, consider the following fact about the game of chess (assumed here to be an abstractum):

(C) Chess was played in Persia by the end of the 7th century.

The question is: How can an abstractum enter into spatio-temporal relationships, as indicated by (C)? Metaphysicians have responded in a variety of ways. (For helpful overviews, see chapter 2 of Cowling 2017, and section 3 of Rosen 2017.)

But the problem with (KD) is different, as seen by the fact that many answers to the metaphysical issue are red herrings as concerns (KD). The metaphysical question may very well be answered by accounts that parallel the quantificational and Liebesman-style accounts above. Thus, a metaphysician could conceivably explain (C) by the fact that:

¹² My thanks to reviewer #1 for helpfully explaining this concern to me.

(C-) Some instance of chess was played in Persia by the end of the 7th century.

(C+) A part of the kind Chess was played in Persia by the end of the 7th century.

Such explanations may have their drawbacks, but neither would be a red herring. Each proposal would be attempting to explain why the abstractum seems to have concrete properties, by the fact that some concrete instances/parts have the relevant properties.

However, if we try to parlay these into solutions to our (KD)-issue, we are indeed left with red herrings. Our starting question is “What does ‘Chess’ refer to in (C)?” (The question is especially acute, since ‘Chess’ in (C) is not being used to denote all/most/normal/average games of chess.) However: Neither (C-) nor (C+) addresses *that* question. In the first instance, they describe the truth-condition for *the sentence*. And if they suggest any answer as to what ‘chess’ denotes, they would suggest that it denotes a particular instance of chess. But that too can be problematized by the anaphora test:

(C†) *Chess was played in Persia by the end of the 7th century, and it ended in checkmate.

Here too, the awkwardness of the anaphoric reference suggests that the subject-term is not referring to some instance of chess.

Nevertheless, akin to my earlier concession, it may be desirable to represent the truth-condition of (C) by a less puzzling sentence such as (C-) or (C+). But, that is once again to forego the question I am asking—namely, what is the subject-term referring to? The term seems to refer, yet the present metaphysician dispenses with the question; she treats the term as unimportant to grasping the basic metaphysical situation. And while that may be entirely apt for her purposes, a linguist’s curiosity may very well remain unsatisfied. For the *reference of the*

term may be exactly what she wants to understand. This is why I have framed the issue partly as a linguistic one—and why it is different than the more familiar metaphysical issue.¹³

I do not mean to imply, however, that metaphysics is irrelevant. What partly drives the *reductio* is the metaphysical oddity in the idea of cultivating an abstract object. And granted: Because a key concern is metaphysical, some linguistics may be indifferent to it. E.g., some linguists may just want a semantic theory to model compositionality in the language—to output a unique truth-condition for a sentence, given a sequence of denotations for the terms. Accordingly, if some of the denotations seem metaphysically “odd,” that is a problem for philosophers, not linguists.¹⁴

In fact, I doubt there is such a clean separation of interests between linguists and philosophers. Regardless, one could think of the *reductio* instead as not so much an issue for linguistics as for *philosophy of language*. Indeed, the theory of reference has a natural home in philosophy of language, and there, it is clearly of interest to specify the denotations of subject-terms in a way that avoids metaphysical perplexities. (Think of Russell on ‘The present king of France’, or Kripke on ‘Pegasus’.)

¹³ At this stage, reviewer #1 suggests that perhaps the subject-term in (P) *does not refer*. This is not the suggestion that it refers to a fictional object (which I rejected in footnote 11.) Rather, the thought is that there is some sort of failure of compositionality, like with the denotationless, dummy-subject in ‘It’s raining’. But with (P), I would tend to regard the dummy-subject proposal as a last resort, and I shall not pursue it here.

¹⁴ My thanks to reviewer #3 for pressing me to clarify this.

3. First Solution: Embracing (?)

The first *bona fide* response to the *reductio* is to reject the absurdity of (?). This may initially provoke an “incredulous stare,” but there is precedent in the literature for this. Thus, Liebesman (2011) considers the following:

(10) *Canis lupus familiaris* barks.

It seems evident that the subject-term denotes a kind, even though we might prefer to say that it is generic *members* of the kind which bark (i.e., typical dogs) rather than the kind itself.

Liebesman admits that the sentence is a bit “jarring” (p. 433); nonetheless, he does not have the intuition that it is false. He rather confesses having no solid intuitions on its truth-value either way. Thus, it strikes him as a leap to label (10) as *absurd*.

Indeed, Liebesman supports the truth of (10), by appeal to an uncontroversial truth with an apparently co-referring subject-term:

(11) That kind of animal barks. (Uttered while demonstrating a dog.)

However, within the theory of reference at least, it is dubious whether NPs with ‘kind of’ are best seen as kind-denoting. It may be just as well to analyze (11) as elliptical in the following manner:

(11') [A generic member of] that kind of animal barks.

Leslie (2015) casts further doubt on Liebesman’s face-value reading of sentences like (11) (pp. 44-45; see also pp. 32-33). We may capture the gist of her observations in noting the apparent propriety of (12) and the apparent impropriety of (13):

(12) That kind of thing is an individual. (Uttered while demonstrating a dog.)

(13) *That kind of thing is a kind. (Uttered while demonstrating a dog.)

Some metaphysicians may hear nothing odd in (13), yet this may just reflect how kind-talk in metaphysics has been a bit incautious. Outside philosophy, I suspect that (13) hits the ear wrong.

Further evidence against the face-value reading of ‘kind of’ NPs is the fact that such NPs seem appropriate in identifying-statements about an *individual*, e.g.:

(14) Carnap is that kind of metaphysician, the self-effacing kind.

(15) Trump is the kind of man you love to hate.

Naturally, we might interpret (14) and (15) as expressing something that does not gloss the distinction between kinds and their members:

(14') Carnap is [a member of] that kind of metaphysician, the self-effacing kind.

(15') Trump is [a member of] the kind of man you love to hate.

But this just reinforces that in the surface grammar, NPs featuring ‘kind of’ seem not to express an unqualified reference to a kind.

In a similar vein, I would suggest that the “jarring” feature of Leibesman’s (10) may be explained by an ambiguity between something appropriate and something less appropriate:

(10') [A generic member of] *canis lupus familiaris* barks.

(10+) **Canis lupus familiaris*, the kind *per se*, barks.

Unfortunately for Liebesman, the less apt reading is where the NP is interpreted as a bare reference to a kind. (See also Leslie, *op. cit.*, for additional evidence on why the generic rendering of such sentences seems preferable.)

Thus, the evidence seems less than extraordinary for an extraordinary claim like (?). Nonetheless, an anonymous colleague has objected that *some* predicates for individuals must also apply to kinds. To say otherwise would be tantamount to a rejection of kinds altogether.

This requires me to switch from offense to defense, yet it eventually helps clarify my offensive strategy as well. On the defensive side, observe that there is no danger of “rejecting kinds altogether.” After all, kinds might be accepted as the denotation of our predicates—and besides, higher-level predicates might also be applied to them, as in (0), even if no individual-level predicates are so applied.

Yet the intuition persists that some predicates must be “shared” between individuals and kinds, owing to cases such as:

(16) *Panthera tigris* is a species that gives live birth.

Pre-theoretically, (16) is a truth of English. Moreover, a species seems like a kind of kind—and “giving live birth” seems predicated of the species. So perhaps such predication to kinds should be conceded.

However, I suspect that the situation is rather like that in Quine’s (1960) example ‘Giorgione is so called because of his size.’ The example strikes English speakers as true, even though the surface grammar appears to conflate use and mention. Yet Quine resolves this by paraphrasing the sentence as “Giorgione is called ‘Giorgione’ because of his size.” Since the latter exhibits no use/mention confusion, we can then understand the former as expressing a truth, albeit in a shorthanded way.

In analogous fashion, I suspect (16) is true, despite the seeming conflation between a kind and some of its members. For plausibly, the sentence is used to express something like:

(16') *Panthera tigris* is a species [such] that [a generic adult female] gives live birth.

Naturally, this paraphrase of (16) should not be used as an argument *against* those with a different view of (16). It is merely suggesting a possibility. But it is a possibility with some

merit, and it should at least forestall critics who think the only option here is to describe the kind directly as “giving live birth.”

But—more boldly—this increases the pressure on those who would defend (KD). It clarifies that (KD) apparently forces (P) to conflate a kind with some of its members. For if (KD) is true, then a predicate for individuals *is* being applied to a kind. And since this seems like a conflation, that is some reason to doubt (KD).

Our troubles, however, partly consist in the fact that *there is good reason* to regard (KD) as true. To repeat, the usual ways to interpret ‘The potato’ as denoting some individual(s) also appear inadequate: The subject-term is not equivalent to ‘Some (/unique) potato’, nor is it denoting all/most/normal/average potatoes. Thus, (KD) gains credibility as an account of what the term denotes. But the *reductio* makes that account problematic as well.

Some loose ends. One should not think that (16') reveals an easy algorithm for escaping the *reductio*. It was presumed that the subject-term in (16) denotes a kind; even the analysis at (16') respects that. The issue, rather, was whether the *predicate* in (16) is applied directly to the kind. (If it is, then that independently supports that (?) is not absurd.) However, we brought in (16') to show that such kind-predication is not mandatory, and indeed, seems to involve a conflation. But this point does not allow us to dismiss the *reductio*.

True, (16) involves an apparent conflation, and the same sort of conflation seems to be in (P), if (KD) is accepted. But the thesis of the paper is *not* that (KD) is false. Again, part of my point is that the alternatives to (KD)—the quantificational analyses of ‘The potato’ in (P)—seem clearly inadequate too. If there is a lesson to the paper, it is merely a “Socratic” lesson about the extent of our ignorance. (However, one reviewer for *Synthese* has responded here with a novel

interpretation of ‘The potato’, one where it is neither kind-denoting, nor quantifying over individual potatoes. See the appendix for more details.)

4. Second Solution: Resisting (ν)

The second solution to the *reductio* is to resist (ν), but let me first back off the claim a bit. Suppose that ‘abstract object’ in (ν) is really just a placeholder for whatever theory of kinds you prefer. Even so, my claim is that, when (?) is revised accordingly, it will remain absurd, no matter which favored descriptor replaces ‘abstract object’. For instance, consider a view where a kind is defined by a Lockean nominal essence. Then, “the potato” referenced in (P) would be a mere projection or “shadow of a predicate.” But the potato is not so ontologically flimsy. It is a tuber, not a shadow of a predicate.

Similarly, it is a strain to say that an Armstrongian immanent universal was cultivated in Ireland by the end of the 17th century (cf. Armstrong 1989). After all, an immanent universal exists in several places at once—it wholly exists wherever an instance exists.¹⁵ But the thing cultivated in Ireland was not so metaphysically exotic. What was grown in Irish soil was an ordinary vegetable, occupying one place at a time.¹⁶

More generally, once we care to separate predicates for individuals vs. kinds, it is inevitable that *what describes a kind is not what describes the potato*. This leads to a more

¹⁵ Note that an Armstrongian immanent universal is *not* just a scattered object. The latter merely has different *parts* at different places. An Armstrongian universal is much weirder—the *whole* occupies multiple places at once!

¹⁶ An unregenerate Armstrongian might reply that if we are truly talking about the *kind*, then we should insist that the thing existed at several places at once. But this is a view that tries to embrace the absurdity of (?), and we have already addressed that possibility in the previous section.

general argument suggesting that *no* theory of kinds will elude the *reductio*, once we recognize other cases besides (P) which force the issue. Consider for instance:

(17) Liquor induces cirrhosis.

(18) The lion has a mane.

(19) Steel was manufactured cheaply by the beginning of the 20th century.

As in (P), the initial NPs here do not seem quantificational in the standard or generic ways. E.g., it is false that all/most/normal/average lions have a mane, given that juveniles and adult females are lacking. More, we would not see (18) as stating merely that at least one lion has a mane.

After all, if *only* one had a mane (and it was due to random mutation, let's suppose), then (18) would naturally be read as false. The anaphora test, illustrated with (P[†]), can be used here as well to provide further confirmation.

Observe, then, that to escape the *reductio*, what describes a kind must describe liquor, the lion, steel, and the potato (assuming the preceding NPs denote kinds). After all, what is true of kinds in general ought to be true of these kinds in particular. But what is said of kinds in general will not be said of liquor, *and* the lion, *and* steel, *and* the potato. Granted, some descriptors correctly apply to all of these, e.g., none are fish, each has less mass than the sun, each is found in Africa, etc. Yet when philosophers try to say what a "kind" is, they do not describe them as non-fish, as less massive than the sun, as found in Africa, etc. Rather, they describe them in ways that would only encourage the *reductio*. And the broader point is that the denotations of these NPs are wildly heterogeneous. That in turn suggests that the kind-denoting view will lead to absurdity, assuming your theory of kinds describes kinds homogeneously. And so, the *reductio* is apparently a *reductio* of the kind-denoting view, represented by (KD).

As a different tack, one can “resist (v)” just by refraining from judgment about what kinds are (rather than hold any specific views on the matter). This may reflect agnosticism or a principled quietism about the metaphysics of kinds. Either way, however, it is unclear why one would retain a predilection for (KD), absent any conception of kinds. In that case, the denotation of ‘The potato’ in (P) is merely a “black box.” This just reflects a refusal to engage the dilemma rather than any real success in resolving it.

Before moving on, one might consider the *reductio* in relation to two well-known conceptions of species, viz., the view that a species is a ‘historical individual’ (Ghiselin 1974; Hull 1976, 1978), and the view that a species is a set of organisms (Kitcher 1984, 1989). Could it be that ‘The potato’ in (P) denotes the potato-species, as understood by either view? In fact, the force of the *reductio* to the Kitcher-view should be clear. The set of all potatoes was not cultivated in Ireland by a particular time.

But what of the Ghiselin-Hull view? First, the Ghiselin-Hull view is not a view about kinds, not even biological kinds.¹⁷ Indeed, the view is precisely that a species is not a kind, but an *individual*. Regardless, if ‘The potato’ in (P) denotes a species *qua* historical individual, would this dismantle the *reductio*? It seems not. Consider that a species *qua* historical individual has all instances of the species as parts. So if ‘The potato’ in (P) denotes a historical individual, it denotes a thing that has all individual potatoes (spread throughout time) as parts. And in that case, (P) would be saying that a rather extraordinary event had occurred in Ireland by the end of

¹⁷ I thank reviewer #2 in emphasizing this important difference to me.

the 17th century—namely, the planting/harvesting of the mereological sum (or what have you) of all potatoes that will have ever existed.¹⁸

There is a further view of kinds worth considering. This is the view that a kind—or at least a *natural* kind—is a cluster of properties whose co-instantiation is regularly and stably found in nature (Millikan 1999; Boyd 1999; cf. also Bird 2018).¹⁹ Here, it sounds tenable at least to say that the lion, steel, etc., are each homeostatic property-clusters. However, this is an illusion, due to glossing the distinction between properties vs. their instances. It may well be that the lion is a cluster of property-*instances*, e.g., an instance of mammalhood, an instance of animalhood, etc. But a cluster of property-*instances* is at best an individual, not a kind. After all, a cluster of instances cannot be repeated or multiply instantiated.

It would be better to say that a kind is a cluster of properties as such. But then, the *reductio* returns. Each part of a property-cluster is a repeatable affair; each such property has multiple instances. However, the lion does not have body parts that are multiply instantiated. If it did, it would be a remarkable animal indeed. To be sure, the lion's parts are of various kinds which, in turn, have multiple instances. But that hardly means that the lion itself has (e.g.) a

¹⁸ Here too, beware of the Liebesmanian idea that a *part* of the kind Potato makes it true that “The potato” was cultivated in Ireland by such-and-such time. That may result in an equivalent sentence as (P), but the question at hand concerns the denotation of the initial NP in (P). See section 2.

¹⁹ Reviewer #3 objects that the Boyd-Millikan view is not that a kind is a cluster of homeostatic properties, but rather a *group of individuals* who instantiate the homeostatic property-cluster. I am quite ready to agree that this is the better exegesis of Boyd-Millikan. However, it is a view which fares worse against the *reductio*. It would be a view where (KD) implies, in connection with (P), that the group of all potatoes was cultivated in Ireland by such-and-such a time. In this respect, the view would suffer exactly the same fate as Kitcher's view.

mane that is multiply instantiated. Its mane is an individual, not a kind (although it *belongs* to a kind, viz., the kind Lion's Mane); cf. our comparison of (12) and (13).

5. Third Solution: *Non-Sequitur*

Perhaps a better response to the *reductio* is to deny that (P) follows from what precedes it. There are, in fact, three ways to levy this charge, which I shall refer to respectively as (a) the charge of "false dichotomy," (b) the charge of "unsound inference rule," and (c) the charge of "equivocation." I shall explore these in turn.

5.1 *False dichotomy*

The charge of false dichotomy starts by observing that, in light of the previous section, it now appears that 'abstract object' in (v) is shorthand for some long disjunction ('abstract object, or nominal projection, or immanent universal, or...'), where each disjunct reflects a view of kinds. Accordingly, one might observe that the correct view of kinds might be a view that has not been devised yet. Given that, either the disjunction will be open-ended, or it will just list all the *present* views. In the former case, if the open-ended disjunction is stipulated to contain whatever view is the right view, then presumably an absurdity will *not* result. So the *reductio* requires the implied disjunctive list to include only present views of kinds. In which case, it is a non-exhaustive list of the possibilities. And reasoning from such a non-exhaustive list is characteristic of the fallacy of false dichotomy.

But my claim is not that absurdity is *unavoidable* with (KD), but rather that we presently do not know how to avoid the absurdity. Besides, if you have a preferred view of kinds, then I invite you to replace 'abstract object' in (v) with your favored description(s). The *reductio* then directly addresses your favored view only; it does not require some long disjunctive premise.

Alternatively, if you do not have a favored view, then I concur that there is no categorical reason to say that an absurdity results. Still, for a defender of (KD), that leaves mysterious how one avoids such absurdities.

5.2 Unsound inference rule

The second version of the *non-sequitur* charge is that an unsound principle of inference is at work. For simplicity's sake, assume that the predicate in (ν) consists in your favored descriptor(s) for kinds. The idea then is to deny the inferential principle operative in the *reductio*, roughly, that what is true of a kind as such is automatically true of specific kinds.

In clarifying matters, let us use 'Cult(X)' to translate the entire predicate in (P). Then, this version of the non-sequitur charge would deny something like the following inference rule (where t is a term, K is a kind, 'Denotes(t, x)' expresses the denotation-relation, and ' Φ ' is replaced with your favorite theory of kinds):

$$(IR) \forall t \forall K [(\ulcorner \text{Cult}(t) \urcorner \text{ is true} \ \& \ \text{Denotes}(t, K) \ \& \ \Phi(K)) \supset \exists X (\Phi(X) \ \& \ \text{Cult}(X))]$$

Thus, suppose that t is a kind-denoting term. Then, (20) says that if ' $\ulcorner \text{Cult}(t) \urcorner$ ' is true, the kind denoted by t simultaneously satisfies 'Cult(X)' and your favorite theory of kinds. The current reply to the *reductio*, then, is to reject this.

However, the usual semantics for a classical language will vindicate (20), owing to the following disquotation principles. Where t is a term that denotes y :

$$(DQ1) \ulcorner \Psi(t) \urcorner \text{ is true iff } \Psi(y)$$

$$(DQ2) \ulcorner t \text{ denotes } x \urcorner \text{ is equivalent to } \ulcorner y = x \urcorner$$

If these are assumed, then (IR) is equivalent to:

$$(IR') \forall Y \forall K [(\text{Cult}(Y) \ \& \ Y = K \ \& \ \Phi(K)) \supset \exists X (\text{Cult}(X) \ \& \ \Phi(X))]$$

And the truth of (IR') is logically trivial. The consequent is guaranteed from the antecedent, the indiscernability of identicals, and existential generalization.

As a result, if one wishes to reject (IR), it is best to show that it is not equivalent to the logically trivial (IR'). This might be done by showing that the substitution of identicals fails regarding Y and K , on the grounds that 'Cult(X)' and ' $\Phi(X)$ ' are intensional, in the sense that substitution of coreferring terms within these predicates is invalid.²⁰ Alternatively, one could argue that (DQ1) or (DQ2) is false.

I submit that the first option is undermotivated. If 'Cult(X)' is intensional, it would be a hitherto unrecognized case of intensionality—the predicate does not use a propositional attitude verb, a modal operator, quotation marks, or an idiom like 'so called'. More broadly, there is no evidence that the object is partly individuated by the term denoting it. Yet the proposal would ideally need some independent evidence of intensionality, on threat of possibly being *ad hoc*.²¹

Moreover, the intensionality of one's favorite theory of kinds seems like a drawback, even if it is advantageous vis-à-vis the *reductio*. After all, if one's theory of kinds is intensional, then to give a theory of *Panthera tigris* is *not* to give a theory of the kind Tiger (nor vice-versa).

²⁰ Notice that one would need to defend the intensionality of *both* predicates here, for instantiating *either* variable in the antecedent of (IR') allows one to derive its consequent, thanks to the conjunct ' $Y=K$ '.

²¹ Reviewer #1 presses that the *reductio* could be construed as the very evidence which shows the intensionality of the relevant terms. In which case, claiming intensionality would not be *ad hoc*, but rather an evidence-based discovery. (An analogy: It would be strange to accuse Frege (1892) of an *ad hoc* view about propositional attitude constructions, given the apparent substitution failures.) I admit I cannot fully quell the reviewer's concern here. I confess my somewhat Quinean tendency to avoid intensionality whenever possible, unless there is fairly straightforward and undeniable evidence for it. Relatedly, I would argue that making "the potato" into an intensional object is just another way of making it metaphysically odd.

So oddly, if one decided upon the view that *Panthera tigris* is subsumed by the kind Mammal, it would not yet follow that the kind Tiger does so as well. I assume that this strange and complicating feature is best avoided, if possible.²²

The second option strikes me as a better choice for the defender of (KD). I may be idiosyncratic in that the falsity of (DQ1) or (DQ2) strikes me as a real possibility, at least in relation to natural language. Regardless, one way of pursuing this tactic is not too eccentric. Consider that when deriving (IR') from (IR), we assumed that 'denotes' expresses a relation between a term and the *member(s)* of the extension of the term. Yet often in the semantics literature, 'denotes' instead expresses a relation between a term and the *extension itself*. Thus, on the latter usage, 'gold' as a kind-term does not denote gold, but rather the *set* containing gold. One could still say that the *referent* of 'gold' is gold; however, the *denotation* of 'gold' would be something else.

It is reasonable, moreover, that (IR) is false if 'denotes' is used to represent a relation between a term and a set. For (IR) would then imply that gold is identical to a *set* rather than a metal. Thus, the defender of (KD) would seem justified in rejecting (IR).²³

So: The present defender of (KD) holds that the *reductio* is a *non-sequitur*, for it depends on an unsound inference rule, viz., (IR). And, in response to its putative equivalence to the

²² I am not identifying kinds with properties. There *is* reason to say that properties are intensional, but that is less plausible with kinds. In biology at least, what is true of *Panthera tigris* seems ipso facto true of the kind Tiger.

²³ If $\{x \mid x \text{ is gold}\}$ is an "impure" set, this may not imply that gold is a set in any objectionable sense. In which case, the defender of (KD) may not yet have adequate warrant for rejecting (IR). But out of generosity to the defender, let us pass over this issue.

logically trivial (IR'), the defender now rejects the equivalence by denying (DQ). And (DQ) plausibly *is* false if 'denotes' is construed as expressing a relation between terms and *sets*.²⁴

However, if the defender reads 'denotes' in the proposed manner, then it seems she loses sight of the key issue. That issue, I take it, is: When we use the 'The potato' in (P), *what part of the world are we referring to?* In asserting (P), we are saying something true about *some* part of reality, and we are using 'The potato' to single out the part of reality in question. But which part of reality is it? Apparently, a speaker would not be referring to any individual potato, nor would she be making a statement that is *in res* all potatoes, most potatoes, normal potatoes, etc. So what in the world is she referring to?

The present defender of (KD) seems to have left that question by the wayside. For her use of 'denotes' is not a relation between a worldly object and 'The potato'. Rather, like all denoting-terms, she understands the semantics of 'The potato' in her quasi-technical way, where its semantics consists in a relation to a *set*, the one containing all potatoes. And from this, it is unclear how we get an adequate answer to *what in the world are we referring to?* After all, 'The potato' on her view "denotes" the set of *all* potatoes—yet we have stressed how (P) does not equally concern *all* tubers of that kind. Nor is it clear how one would restrict the extension by an adverb of quantification, for we have also emphasized that (P) is not *de* most/normal/average, etc., potatoes. So the defender seems to have simply left behind the question about reference.

²⁴ In response to all this, I might try to *stipulate* that in (IR), 'denotes' expresses a relation between a term and the members of its extension (vs. the extension *per se*). The problem, however, is that 'denotes' in (KD) is the *defender's* term, which she is free to define as she likes. Hence, if she construes 'denotes' in (KD) one way, and I read it the other way, then the issue threatens to be merely verbal.

Ultimately, this is also how I respond to those who question (IR) using Liebesman (2011) as a basis.²⁵ This latest objection would be that ‘The potato’ “denotes” an abstractum, but (?) does not follow, on the grounds that the abstractum is not part of the *truth-maker* for (P). The truth-maker instead is given by something like (P-)—and the abstractum is not a part of that state-of-affairs. This is a view, however, which says that the “denotation” of ‘The potato’ is *not* part of the Irish affairs represented by the sentence. And yet, on this view, the abstractum would still in some sense be the “object” of the ‘The potato’. But at least, this seems to ignore the basic question which has animated the paper. Namely, when we use ‘The potato’ in (P), what in pre-1700 Ireland are we referring to, to say it was “cultivated”?

Or: Is the suggestion that ‘The potato’ in (P) is *not* referring to any part of the relevant Irish conditions? This would seem to forgo the compositionality of truth-conditions from the reference- and satisfaction-conditions of the parts. Yet such compositionality holds in extensional contexts. (On intensional contexts, see earlier discussion.) This is to say: The denotations of a sentence’s terms determine its truth-condition, as per the usual compositional rules—where a ‘truth-condition’ is a state-of-affairs that has the denoted objects as parts. (Thus, ‘Fred’ denotes Fred, and Fred is part of the truth-condition for ‘Fred loves Ned’, viz., the state-of-affairs where Fred is in the loving-relation to Ned.) I take all this to be in line with current orthodoxies.

I am also assuming, however, that the sentence’s truth-maker is identical to its truth-condition. Granted, this is not standard fare in linguistics, since the idea of a “truth maker” is metaphysically loaded. And as admitted earlier, linguistics is not obliged to do metaphysics at any stage. But the identification here is natural, given that our concern is largely metaphysical.

²⁵ I thank two of my reviewers for (independently) raising this sort of Liebesman-based idea.

As metaphysicians, we wish to answer: What condition of the world is truly represented by (P)? Here, it is natural to say that the sentence is “made true” in virtue of representing an actual condition of our world. Yet a *condition* represented by a *true* declarative is also the sentences’ *truth-condition*, or so it is said. To be sure, we are now giving a metaphysical tinge to the notion of a “condition,” which is standardly omitted in linguistics. But once we wax metaphysical, it is appealing (at least with a truth like (P)) to say that its truth-condition *is* the actual worldly condition represented by the sentence. This is not intended as a knock-down argument for such an assumption. But in the present metaphysical context, I hope to have explained why it seems more attractive than its negation.

5.3 Equivocation

The third version of the *non-sequitur* charge is as follows. The subject-term in (P) univocally denotes a kind, as per (KD)—yet the natural-language *predicate* in (P) is equivocal. And it is this equivocation which causes our confusion. Drawing from Carlson (1977) and Teichman (forthcoming), the suggestion is that such a predicate shifts its denotation, depending on whether it is applied to an individual or a kind. So for example, if (contrary to fact) the subject-term (P) were just denoting a single potato, the predicate in (P) would be interpreted at face value, viz., as denoting the property of being cultivated in Irish soil, etc. But as things turn out, the subject-term in (P) refers to a kind—and the attendant idea is that this forces the denotation of the predicate to shift to a different, *higher-level* property.²⁶

²⁶ N.B., although this type-shifting view originates with Carlson (1977), he abandoned it in his (1989), owing to problematic comparatives concerning kinds, and to donkey-anaphora cases involving kinds. Teichman, however, attempts to accommodate this and other recalcitrant data on behalf of the view.

It is typical for such views to regard the predicate in (P) as modified by an implicit, type-shifting operator, ‘*PM*’, whence it is represented in logical form along the lines of $\lceil PM \text{Cult}(t) \rceil$. ‘*PM*’ is seen as encoding a rule for switching the denotation of the predicate in the manner indicated, according to whether *t* is a term for an individual or a kind. For clarity’s sake, I shall henceforth use up- and down-arrows to indicate (respectively) whether the denotation is being type-shifted up to a higher-level property of a kind, or type-shifted down to a lower-level property of an individual. Thus, $\lceil \uparrow PM \text{Cult}(t) \rceil$ shall indicate that the predicate denotes a higher-level property of a kind, and $\lceil \downarrow PM \text{Cult}(t) \rceil$ shall indicate that the predicate denotes the lower-level property of an individual.

The view would then suggest that if (IR) is the principle of inference operative in *reductio*, then the argument equivocates. That’s because (IR) portrays ‘Cult(X)’ as if it were univocal when in fact it is equivocal. If, instead, we were to revise (IR) to reflect the shifty nature of ‘Cult(X)’, we would end up with something like this:

$$(IR2) \forall t \forall K [(\lceil \uparrow PM \text{Cult}(t) \rceil \text{ is true} \ \& \ \text{Denotes}(t, K) \ \& \ \Phi(K)) \supset \exists X (\Phi(X) \ \& \ \downarrow PM \text{Cult}(X))]$$

This basically says that if a kind has the higher-level property denoted by the predicate (when type-shifted up), then the kind also has the lower-level property denoted by the predicate (when type-shifted down). But clearly, (IR2) is false: If the kind has the higher-level property, this does not mean it has the lower-level property. So with (IR2), the *reductio* would no longer equivocate, yet it would now rest on an unsound inference rule.

But instead of the equivocal (IR), and instead of the unsound (IR2), perhaps the *reductio* could still go through with the following, third variation:

$$(IR3) \forall t \forall K [(\lceil \uparrow PM \text{Cult}(t) \rceil \text{ is true} \ \& \ \text{Denotes}(t, K) \ \& \ \Phi(K)) \supset \exists X (\Phi(X) \ \& \ \uparrow PM \text{Cult}(X))]$$

This rule should be uncontroversial, for it can be shown to reduce via (DQ1) and (DQ2) to the following logical truism:

$$(IR3') \forall Y \forall K [(\uparrow PMCult(Y) \& Y=K \& \Phi(K)) \supset \exists X (\uparrow PMCult(X) \& \Phi(X))]$$

Here too, consequent is guaranteed from the antecedent, the indiscernability of identicals, and existential generalization.

But though the inference rule is sound, the *reductio* would no longer be a *reductio*. For what is derivable from (IR3') is not absurd, at least according to the Carlson-Teichman view. That's because (P) is interpreted as attributing a higher-level property to a kind—and given (IR3'), this merely implies the existence of a kind (satisfying Φ) which has that higher-level property. And if one is already committed to the interpretation of (P), this consequence clearly is not absurd. It is rather (more or less) a restatement of the earlier commitment.

However, it is thus far left mysterious what higher-order property is attributed by (P) to the kind Potato. Moreover, without specifying such a property, we seem merely to dodge the key issue for (KD) rather than address it. For we are trying to figure out how (P) is true, how its subject-term denotes a kind, and yet how the property attributed by the predicate does not result in absurdity. The present view, so far, assures us that nothing absurd results, that some appropriate property is being attributed to the kind. But it has not yet identified the “appropriate property.”

Even so, Carlson (1977) expresses indifference about such a task, on the grounds that it is not the job of the semanticist to say *how* a kind-denoting sentence is made true by the world. In this, he expresses the type of attitude we saw at the end of section 2, where linguists may well be within their rights to ignore metaphysical concerns. But since our interests are partly metaphysical, it is fortunate that Teichman (op. cit.) is a type-shifter who attempts to specify the

appropriate higher-level properties. His proposal is easiest to grasp by considering the following truth:

(20) Bears are furry.

In this, ‘Bears’ is seen as a generic NP that denotes the kind Bear, where the predicate is type-shifted up to denote a property of the kind. Now as for the metaphysical details, Teichman first tells us what the *kind* is:

[The] bear-kind can be thought of as the system of alimentary, respiratory, and reproductive transactions currently taking place among the bear population. It is the evolutionary process responsible for making bears...

That is, we get a conception of the kind Bear according to which it is a *production-process*—specifically, a diachronic, biological process resulting in individual bears. But what of the denotation of the predicate, understood as having the modifier *PM*? Generally speaking, Teichman tells us:

PM takes a property of objects *f* and transforms it into the property of kinds that holds of a kind *K* just in case at all worlds in which everything goes according to plan for *K*, some members of *K* have property *f*. That makes the analysis under consideration a normality theory (Asher and Pelletier 1997; Nickel 2008), but it is a kind-level normality theory, rather than an object-level normality theory (p. 34).

Thus, if the subject-term in (20) denotes a bear-producing process, then the modified predicate must denote a property of that process. Teichman indicates the relevant property when he observes:

There are ways that the things it produces (i.e. bears) are supposed to come out [i.e., furry], although not everything it produces in the actual world infallibly comes out that way.

So I take it that the modified-predicate denotes something like the property of “normally producing individuals that are furry,” given as input the lower-level property of “being furry.” In this manner, (20) acquires something like the following (world-relative) truth-condition:

(21) The process that produces bears normally produces furry bears.

And indeed, there is nothing absurd one can derive from this, at least not via a trivial inference rule akin to (IR3'). At most, we would get the (entirely tenable) result that some process has the property of producing furry bears.

Unfortunately, the analysis does not smoothly carry over to (P). The reason is that Teichman's analysis is indeed a normality theory—yet what (P) represents is not the normal state-of-affairs as far as potatoes go (as was stressed throughout). Thus, suppose ‘The potato’ in (P) denotes the diachronic, evolutionary process that results in individual potatoes. Then, if the predicate ‘ $\uparrow PM\text{Cult}(X)$ ’ to be construed in Teichman's way, it denotes the property of being a process that *normally* results in potatoes located in Ireland, prior to the end of the 17th century. But the diachronic, biological process for potatoes does not have that property. It is not a process such that, when “everything goes according to plan,” its products end up in Ireland pre-1700.

6. Closing

‘The kind Potato’ denotes a kind, but it apparently does not co-refer with ‘The potato’ in (P). The potato is raised as a crop, but the former is not. Actually, if the point is put this baldly, it looks question-begging. The *reductio* is thus meant to introduce the idea in a more compelling

way. But at bottom, the observation is just that co-reference apparently fails between ‘The kind Potato’ and the allegedly kind-denoting use of ‘The potato’ as it occurs, for example, in (P).

My aim in this paper has been negative only. It was to show that theory of reference is hard pressed to see, except in more esoteric cases like (0), how so-called “kind terms” denote kinds—even though there are formidable reasons to think they indeed denote kinds

This is not to say that a solution is impossible. But a solution ideally would perform one of several tasks, and it is not easy to accomplish any of them. In the end, perhaps some of the tasks should be surrendered,²⁷ yet exploring this further is beyond the scope of the paper. But to recap, the tasks are as follows.

➤ If (KD) is accepted...

(Ti). Give an explanation as to why (P) is not absurd,

OR

(Tii). Give a theory of kinds where (P) does not imply (P), where such a theory:

- a. describes the objects of all kind-denoting generic NPs (but not in a wildly disjunctive manner), *AND*
- b. avoids consequences whose metaphysical oddity is comparable to (P),

OR

(Tiii). Give an explanation as to why (P) does not follow from (P), where such an explanation:

- a. upholds classical principles like (IR'), *AND*
- b. does not skirt the question “what in the world does ‘The potato’ in (P) refer to?,” *AND*

²⁷ Thanks to reviewer #1 for drawing my attention to this possibility.

c. does not simply transfer the mystery onto the predicate.

➤ Whereas, if (KD) is rejected...

(Tiv). Interpret 'The potato' in (P) by a quantifier ranging over exactly the right individuals (but in a way that does not make (P) into a necessary truth; cf. footnote 30).

I myself remain flummoxed on how such tasks can be accomplished, and currently have no solution to offer.

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Appendix: A Third Way?

A novel sort of account for (P) was recently brought to my attention, one which denies (KD), and instead isolates a select group of potatoes as the referent of 'The potato'.²⁸ The proposal strikes me as worth exploring further, but in this appendix, I shall explain why I do not yet find it compelling.

²⁸ My thanks to reviewer #3 for formulating the proposal in question.

The core idea is to regard ‘The potato’ as denoting a specific plurality of potatoes, viz., the plurality which was cultivated in Ireland by the end of the 17th century.²⁹ Accordingly, it is a view that denies (KD)—but at the same time, it does not invoke the *Gen* operator, whereby ‘The potato’ in (P) would refer to most/normal/average potatoes. Nor is ‘The potato’ denoting all/some potatoes. Rather, it is designating a single *potato-subgroup* (or potato-plurality if you prefer), where the relevant subgroup is indicated by context. It is thus a “third way” in departing both from (KD) and from the quantificational analyses which (in one way or another) regard ‘The potato’ in (P) as designating a quantity of individual potatoes.³⁰ Instead, it is view where ‘The potato’ denotes a single entity, albeit an entity that is a plurality, a plurality of potatoes which meet the relevant description.

Thus, the view would be that:

(21) ‘The potato’ in (P) denotes the plurality of potatoes cultivated in Ireland by the end of the 17th century.

Now in consequence, the truth-condition of (P) would apparently be:³¹

²⁹ At times, reviewer #3 phrased this in terms of the *set* of potatoes cultivated in Ireland, etc., rather than a *plurality* of such potatoes. However, talk about a “set” may raise hackles about cultivating an abstractum in Irish soil. Yet if we are talking about an *impure* set, perhaps there is no issue. And in fact, it does not matter to my present remarks if we speak of an impure set rather than a plurality.

³⁰ Perhaps the relevant potato-plurality could be designated via an extremely restricted quantifier, one whose scope is contextually limited to those potatoes cultivated in Ireland, etc. But the basic worry of this appendix would still apply; it would still seem to make (P) into a necessary truth.

³¹ Here, as in the rest of the paper, I am *not* assuming that the truth-condition of the sentence is identical to its meaning. Rather, I am just sticking to the extensional notions of denotation and truth-condition. Cf. the remarks at the end of section 5.2.

(P3) The plurality of potatoes cultivated in Ireland by the end of the 17th century was cultivated in Ireland by the end of the 17th century.

N.B.: This may seem to create redundancy where there is none. But I myself do not regard that as a drawback. We are just concerned with an extensional semantics for (P), and “redundancy” in logical form is entirely possible. (Consider the “redundancy” in the Russellian analysis of ‘The present kind of France is bald’.)

It is more problematic, I think, that (P3) suggests that (P) holds *of necessity*. For (P3) expresses a necessary truth: The plurality of potatoes cultivated in Ireland by the end of the 17th century was cultivated in Ireland by the end of the 17th century.³² However, (P) is not necessarily true. The potato was not necessarily cultivated in Ireland by the end of the 17th century. And so, while the proposal shows ingenuity, I doubt it will prove fully satisfying.³³

³² Granted, the relevant potato-plurality does not necessarily exist. But this does not prevent some statements about the (actual world) plurality from being necessarily true. In this respect, the necessity of (P3) is analogous to the necessity of ‘The current president of the U.S. is currently president of the U.S.’

³³ Here and elsewhere, reviewer #3 expresses concern that the current paper exacerbates the “trivialization problem” concerning rigidity and natural kinds. Originally, the trivialization problem was that some artificial kind terms become rigid on some conceptions of artificial kinds. Yet the intuition is that *only* terms for natural kinds should be rigid; otherwise, rigidity is an unremarkable or “trivial” feature of terms. (See Schwartz 1980 for one expression of this intuition.) Similarly, if the *reductio* applies equally to natural and to artificial kind terms, that may further collapse the important distinction between them. I cannot adequately respond to this issue here. But let me confess sympathy with Laporte (2004); in essence, he embraces that the linguistic differences between artificial and natural kind terms may be rather small. (It does not yet follow, however, that the *metaphysical* distinction is small between artificial and natural kinds.) However, see Schwartz (2002, forthcoming) for a response to Laporte’s view.

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