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Indeterminacy and Failure of Grounding

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Abstract: Cases of grounding failure present a puzzle for fundamental metaphysics. Typically, solutions are thought to lie either in adding ontology such as haecceities or in re-describing the cases by means of the ideology of metaphysical indeterminacy. The controversial status of haecceities has led some to favour metaphysical indeterminacy as the way to solve the puzzle. We consider two further treatments of grounding failure each of which, we argue, is a more plausible alternative. As such, the initial dichotomy is a false one, and these alternative options deserve consideration before resorting to the heavyweight machinery of metaphysical indeterminacy.

Keywords: ground, grounding failure, haecceitism, metaphysical indeterminacy, referential indeterminacy

1. Introduction

INDETERMINACY IS UBIQUITOUS. It is widely thought that our language contains vague expressions which indeterminately represent things. Some philosophers, though, have suggested that there is another kind of indeterminacy – metaphysical indeterminacy – which lies in how things are, rather than in how they are represented or what we know about them. Metaphysical indeterminacy, thus, is not a matter of the relations between our representations and the world; the world itself is indeterminate, somehow. This idea of "ontic unsettlement" is familiar from various discussions, for instance, about the future, personal identity, the continuum hypothesis, and subatomic reality.

All the same, metaphysical indeterminacy has been regarded as unintelligible and/or as problematically requiring non-classical logics (see, e.g., Dummett, 1975; Williamson, 1994, ch. 9). Yet a number of philosophers have in recent years attempted to revive metaphysical indeterminacy by proposing a framework which renders it intelligible while maintaining both classical logic and classical semantics (see Barnes and Williams, 2011). The intuitive idea is that when it is metaphysically indeterminate as to whether A, determinately there are two exclusive and exhaustive states of affairs: A and $\neg A$, but it is indeterminate which one

obtains. For instance, assume with van Inwagen (1990) that simples compose a further thing only when their activity constitutes a life. When Tristan is dying, however, it is not determinate as to whether the joint activity of his atoms constitutes a life and hence it is not determinate as to whether his atoms compose some further thing: there is a state of affairs in which Tristan is undeniably alive, and there is also a state of affairs in which Tristan is undeniably dead; but when Tristan is dying, it is not determinate which one obtains.

This article takes no issue with the intelligibility of metaphysical indeterminacy, nor with its compatibility with classical logic. The point of focus is rather on a particular motivation for metaphysical indeterminacy as a response to failures of the *grounding* relation. This line of thought takes the framework of metaphysical indeterminacy to best explain the appearance of the existence of puzzling cases in which there are facts which can be seen neither to be grounded in fundamental facts nor to themselves be fundamental. As a result, in such cases, grounding fails.

We shall argue why this line of thought fails. In section 2, we characterize two familiar ways of responding to grounding failure: either by adding a special ontology of haecceities which provide grounds in the problem cases, or by accepting an ideology of metaphysical indeterminacy that re-describes the cases. In the following sections, we aim to undermine this dichotomous approach. In section 3, we show that in some significant cases of grounding failure there are ontological alternatives to haecceities. And in section 4, we argue that even if an ideological response to cases of grounding failure is sought, a more modest form of indeterminacy, *referential* indeterminacy, is preferable to the heavyweight metaphysical variety.

2. Grounding Failure and Metaphysical Indeterminacy

Grounding, as we understand it here, is a primitive relation between facts. When a fact *B* is grounded in a fact *A*, we say that *B* is less *fundamental* than *A*; equivalently, *B* is a derivative fact, deriving as it does from *A*. The most fundamental facts – or *absolutely* fundamental facts – are not grounded in further facts, whereas each derivative fact is ultimately grounded in fundamental facts via a chain of grounds. We call the sort of metaphysics corresponding to this picture of reality *fundamental metaphysics*. It is against the backdrop of fundamental metaphysics that grounding failure has been taken to motivate metaphysical indeterminacy.[1]

1 See, for example, Barnes (2014), who discusses cases of grounding failure in a framework of fundamental metaphysics. It should be noted, though, that our arguments in this article do not rest on fundamental metaphysics, that is, metaphysics in which there is an absolutely fundamental level. Instead, we explore whether cases of grounding failure make serious trouble for fundamental metaphysics. It is an important question, for another time, whether such cases also make trouble for relative, not absolute, fundamentality.

Cases of grounding failure are those puzzle cases in which a certain fact would initially appear to be grounded in a certain way, and yet argument appears to show that it is not so grounded after all – but nor does it appear to be the sort of fact that should be regarded as fundamental.[2] There are a number of such cases in the literature. One widely discussed example has been formulated by Tim Maudlin's discussion of quantum entanglement in the philosophy of physics:

> Suppose there are two electrons, well separated in space (perhaps at opposite ends of a laboratory), that are in the Singlet State. If the principle of Separability held, then each electron, occupying a region disjoint from the other, would have its own intrinsic spin state, and the spin state of the composite system would be determined by the states of the particles taken individually, together with the spatio-temporal relations between them. But … no pure state for a single particle yields the same predictions as the Singlet State, and if one were to ascribe a pure state to each of the electrons, their joint state would be a product state rather than an entangled state. The joint state of the pair simply cannot be analyzed into pure states for each of the components. (Maudlin, 2007, p. 57)[3]

One would expect facts about the joint state of the electrons to be grounded in *something*, and so not be fundamental. Most plausibly, we would expect facts about the pair to be grounded in facts about "each of the components" in the "pure state" of the particles taken individually. Yet Maudlin argues that because Separability does not hold, the joint state of the pair is not grounded in the pure states of each component – and nothing else appears to provide grounds for it, either. As such, this qualifies as a case of grounding failure.

Similarly, consider Max Black's (1952) universe in which there are two qualitatively identical spheres, Castor and Pollux, two miles apart from each other. Again, we would expect that facts about the two spheres are grounded in facts about each, and are not fundamental. Yet one standard response to Black's case is to say that the fact that there are two qualitatively identical and yet numerically distinct spheres is not grounded in more fundamental facts about Castor and Pollux. Elizabeth Barnes (2014, p. 353) summarizes the point as follows:

> [W]e might … describe Black's world as another instance of grounding failure … Rather than a world in which there are two things that differ haecceitistically, we can instead say that Black's world is one in which the global facts about how many things there are fails to be grounded in or determined by individual identity facts.

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2 Given our characterization, it would be useful to know what it is for a fact to appear as non-fundamental. Part of this, displayed by the examples we go on to consider, appears to lie in the *complexity* of the facts. This indicates that there may be (at least) two notions of fundamentality at issue in debates in fundamental metaphysics: fundamentality as *groundlessness*, and fundamentality as *simplicity.* Exploring this is beyond the scope of the current article.

3 This passage is quoted from Barnes (2014, p. 350). See also Schaffer (2010, p. 53).

Cases of grounding failure present a distinctive problem for fundamental metaphysics. For this picture of metaphysics imposes a requirement that these cases cannot emerge, since each fact is ultimately grounded in fundamental facts, but the cases of grounding failure present facts that are not derived but not fundamental either.

There are broadly two ways for proponents of fundamental metaphysics to face this challenge: add some ontology so as to ground the anomalous facts (the ontological approach) or add some ideology so as to re-describe them (the ideological approach). Focusing on the case of Black's universe – as we will do for the rest of this article – the ontological approach postulates haecceities: the numerical diversity of the qualitatively identical spheres can be grounded in their haecceity properties, where a natural candidate for the haecceity of an object *a* is the property of *being identical to a.* Haecceities, however, are controversial: they would make our knowledge of true identity statements mysterious. For in order to know a true identity statement that *a is identical to b*, we should also have to know that *a* possesses the same haecceity as *b* does. It is not at all clear, though, how we could come to know such facts. In addition, haecceitism makes any account of identity and distinctness trivial: every object *a* is numerically distinct from all other objects, simply in virtue of its possessing the property of *being identical to a.*

It has been proposed that to avoid haecceities and explain grounding failure in Black's universe, an ideology of metaphysical indeterminacy should be introduced. Barnes (2014, p. 353), who supports the ideological approach, has put the point as follows:

> If we have the resources of [metaphysical] indeterminacy, we can say that determinately there are two things in the Black world, but that it's indeterminate which thing is which. That is, it's determinate that we have two things – Castor and Pollux. But it's indeterminate which thing is Castor, and likewise indeterminate which thing is Pollux.

In the following two sections, we suggest that the choice between haecceities and metaphysical indeterminacy is too restrictive a way of explaining grounding failure. On the *ontology* side, in section 3, we propose that facts about the numerical diversity of the spheres can be grounded in qualitative relations, avoiding haecceities altogether. And on the *ideology* side, in section 4, we propose that the introduction of the framework of referential indeterminacy is preferable to the doctrine of metaphysical indeterminacy.

3. Grounding by Relations

In this section, we defend and develop James Ladyman's suggestion that in Black's universe (and similar cases), the numerical diversity of the spheres can be

grounded in the symmetric and irreflexive relations they bear to each other: each sphere is at a distance from the other, but it is at no distance from itself; and this suffices to ground the fact that there are two numerically distinct spheres. Since, on this view, the numerical diversity of the spheres can be grounded in the relations they bear to each other, no appeal need be made to haecceities (see Ladyman, 2007, 2016).[4] Thus, we shall defend the thesis that the fact that the spheres are two miles apart from each other (call it Distance) suffices to ground the fact that there are two numerically distinct spheres (call it Cardinality). But how exactly can Cardinality be grounded in Distance?

The main thought is that positive distance relations are symmetric and irreflexive. That is, if one sphere is two miles from the centre of another, the other sphere is two miles from the centre of it, and no sphere is two miles from the centre of itself. The fact that the spheres are two miles apart from each other explains or grounds why there are two distinct spheres in Black's universe.

However, according to an important line of argument against this mode of grounding, the holding of an irreflexive relation between the spheres fails to ground their distinctness, because it already *presupposes* the distinctness of its relata. In general, the obtaining of an irreflexive relation requires that its relata are numerically distinct – but if so, then how is the numerical distinctness of the relata supposed to be grounded in the relation being irreflexive? Let us call this the *circularity objection* (see, among others, Hawley, 2009).

Although it has been widely discussed, the circularity objection has not received a precise formulation. The situation is as follows: suppose we want to ground the numerical distinctness of a pair of objects in some form of difference or discernibility between them. We would not be satisfied just to find that they are different in some respect. In addition, we want to find that their numerical distinctness could be grounded in some difference between them, which is not, in turn, grounded in the fact that they are numerically distinct. The point of the circularity objection is that grounding in terms of symmetric and irreflexive relations could not do that job. For once we adopt the idiom of grounding, then the fact that one stands in such relations to another is grounded in their numerical distinctness, and hence these relations cannot, in turn, ground the fact that the objects are distinct.

But what does the last claim mean? In our view, there are at least two ways to spell it out. According to the first way, what is objectionable seems to rest on the thought that a fact cannot be grounded in one of its logical consequences, and grounding in terms of symmetric and irreflexive relations (such as distance

4 We shall apply Ladyman's thesis in the context of grounding failure, and defend it against what we call the *circularity objection.*

relations) violates this prohibition. For let x and y range over spheres, and R stand for a distance relation. Since R is irreflexive, it logically follows that it holds between two distinct objects. That is, R is irreflexive just in case for any x, $\neg Rxx$ holds, which entails that for any x and y, if Rxy then, by contraposition on the indiscernibility of identicals, $x \neq y$. Thus, we can say that the numerical distinctness of the spheres is a logical consequence of the fact that R holds of the spheres, together with the fact that R is irreflexive. So, the above prohibition rules out grounding Cardinality in terms of Distance.[5]

Yet this account of what is objectionable about circularity over-reaches, catching in its net the legitimate grounding of numerical diversity in *monadic* properties. Where F is a monadic property, if $Fx \wedge \neg Fy$, then by contraposition on the indiscernibility of identicals, we have $x \neq y$. But it is very plausible that the numerical diversity *of* x and y is grounded in the fact that distinct monadic properties hold of each of them. Thus, there appears no general prohibition on grounding a fact in one of its logical consequences, and hence no problematic circularity has so far been presented for grounding Cardinality in Distance. (A further reason to reject the general prohibition on grounding facts in their logical consequences is that facts of the form $A \wedge B$ are plausibly grounded in the fact A and the fact B. But A and B each are logical consequences of $A \wedge B$.)

The second way of spelling out what is objectionable about circularity lies in the *impredicative* use of criteria of identity to ground the numerical diversity of objects. To illustrate, consider Davidson's (1969) proposed criterion of identity for events, which states that for any events x and y, x is identical to y if and only if x and y have the same causes and same effects:

$$(D)\forall x\forall y\,((\text{Event}\,(x) \wedge \text{Event}\,(y)) \rightarrow (x = y) \leftrightarrow \forall(z)\,(\text{Event}\,(z) \rightarrow ((\text{Cause}\,(x,z) \leftrightarrow \text{Cause}\,(y,z)) \wedge (\text{Cause}\,(z,x) \leftrightarrow \text{Cause}\,(z,y))))).$$

(D) is impredicative in the sense that what grounds the numerical distinctness of events is precisely what a criterion of identity for events is supposed to convey. That is, in order to ground the distinctness of x and y, we must first verify whether they have the same causes and effects. Now, consider a symmetric world in which x causes y and is caused by y. How can we verify whether x and y are numerically distinct? The cause of x is y, and the cause of y is x. In this world, which is structurally similar to Black's world, we cannot determine whether x and

5 See Shapiro (2008, p. 288, n. 2), where he argues that in order to formulate the claim that R is an irreflexive relation, one needs to "presuppose" non-identity. And this renders the grounding task "trivial and unilluminating".

y have the same cause before we have established whether *x* is identical to *y*.[6] This provides a second form of pernicious circularity: grounding the numerical diversity of *x* and *y* presupposes their own numerical distinctness.

The important question here is whether the use of impredicative criteria of identity is permissible or not. This question can best be addressed when we ask what criteria of identity are for. There are two main understandings of their roles: *epistemological* and *metaphysical* (for more discussion, see Horsten, 2010, sections 4 and 5). Any criterion of identity specifies the conditions under which a class of objects are identical or distinct. On the metaphysical construal of criteria of identity, these conditions tell us what unique "sort", "kind" or "ontological category" the objects under question belong to. For example, the axiom of extensionality in set theory tells us that sets are just those entities which are individuated in terms of their members. Thus construed, a criterion of identity associated with a class of objects encodes facts about the nature of those entities.

An important example is the neo-Fregeans' solution to Frege's Caesar Problem. Consider Hume's Principle (HP) as the criterion of identity for numbers, which tells us that the number of *F*s is identical to the number of *G*s precisely when there is a 1–1 correspondence between the *F*s and the *G*s. In Frege's view, although HP determines the conditions under which the number of *F*s is the same as the number of *G*s, it fails to determine whether or not the number of *F*s is Julius Caesar. The neo-Fregeans' solution to this problem is, roughly put, as follows: HP (and more generally, any admissible criterion of identity) associates a unique sort or category to numbers (and any other objects, more generally). Thus, corresponding to each criterion of identity, we have a sort or category such that any object belonging to that category is individuated in terms of the criterion of identity, and so anything that is not individuated in terms of 1–1 correspondence cannot be a number. So persons, including Roman emperors, cannot be numbers (see Hale and Wright, 2001, ch. 14). Thus seen, a criterion of identity associated with a class of objects codifies some information about the nature of those objects.

According to the epistemological construal of criteria of identity, on the other hand, by specifying the identity-conditions of a given class of objects, a criterion of identity provides us with a method to individuate the objects under study. On this view, if it is true that *a* is identical to *b*, then there must be a possible situation in which an agent could either know it to be true or know it to be false. But it should be explained how the agent's judgement of identity or distinctness qualifies as knowledge. A criterion of identity encodes this sort of explanation. Again,

6 This observation is due to Horsten (2010, pp. 434–6). Although he does not directly discuss the circularity objection, he provides a framework to spell it out in terms of impredicativity.

HP is useful here. Suppose that a waiter judges that the number of forks is identical to the number of knives. The natural explanation of this judgement, in terms of HP as the criterion of identity for numbers, is that the waiter knows that there are just as many forks as knives. That is, the fact that the waiter knows that there are just as many forks as knives explains how he comes to know that the number of forks is the same as the number of knives.

Now, in light of this picture, we can say that an impredicative criterion of identity is inadmissible only if it is supposed to play an epistemological role. For if a criterion of identity is impredicative *in the sense illustrated above*, then it fails to explain an agent's judgement of identity or of distinctness. For example, in the symmetric world above, we cannot, on the basis of (*D*), judge whether two putative events are identical or distinct. If criteria of identity are taken to play an epistemological role, that is, if they are supposed to give us a method to provide knowledge of the identity and distinctness of objects, then they must not be impredicative. Thus, impredicative criteria of identity are inadmissible only if they are supposed to undertake an epistemological task.

But things are different if an impredicative criterion of identity is taken to perform a metaphysical role. By specifying the identity-conditions for a given class of objects, a criterion of identity may be used to determine what sort or category those objects belong to. Again, consider (*D*), which fails to provide us with a method to explain our judgements of identity or distinctness. It does tell us, however, what sort of things events are: it makes plain that events are those entities whose nature is exhausted by the network of their causes and effects. They are, in other words, individuated in terms of the causal relations they stand in. Thus, in so far as we adopt this metaphysical conception of criteria of identity, *our inability* to determine, on the basis of an impredicative criterion, that such purely relational entities as events are numerically distinct, does not make the criterion inadmissible or useless.

In sum, there seems to be no objection to using Distance for individuating the spheres, so long as it could be treated as a metaphysical and not an epistemological criterion of identity. So no general objection on the basis of circularity has been given which prohibits grounding Cardinality in Distance. As such, no appeal need be made to the controversial ontology of haecceities.

4. Grounding Failure and Referential Indeterminacy

Just as there are ontological options other than haecceitism, so too are there ideological options other than metaphysical indeterminacy. If grounding failure is to be explained in terms of indeterminacy, this does not yet commit us to *metaphysical* indeterminacy. We suggest that *referential* indeterminacy, in the sense we

shall explain below, can also explain grounding failure. As such, it is a rival to the ideology of metaphysical indeterminacy.

We shall focus on the indeterminacy of singular terms, as opposed to the indeterminacy of vague predicates or the so-called borderline cases – for example, indeterminacy as to whether a given person is in the extension of 'bald'. We shall assume that a concrete singular term such as 'Kilimanjaro' has many reference-candidates, each one of which is as good as any other: there are many distinct entities differing by just one atom, such that each one of them has an equally good claim to be *the* referent of 'Kilimanjaro'. For there are no linguistic, causal, geographical or sociological features that can pick out one of these entities as the referent of the word. In this sense, 'Kilimanjaro' is a referentially indeterminate term, for there is a range of entities none of which either determinately is or determinately is not the referent of 'Kilimanjaro': facts about our linguistic usage, together with all relevant non-semantic background facts fail to narrow down the reference of our terms to uniqueness. In this sense, we can say that on this account, both our linguistic usage and "the way the world is" are involved in the explanation of referential indeterminacy.[7]

Thus construed, it would be misleading to think of referential indeterminacy as a purely "semantic" notion. It is more accurate to understand it as a "metasemantic" notion, having to do with the relation between terms and assignments of semantic properties to them. There are, of course, cases in which indeterminacy is *purely* the result of failure in our semantic conventions. The most obvious case is "incomplete definitions". For example, consider the definition of 'dommal', which is introduced only by the following two sentences:

(1) If x is a dog, then x is a dommal.
(2) If x is a dommal, then x is a mammal.

This definition is incomplete, in the sense that it does not provide any answer to a question such as "Is a cat a dommal?"[8] The indeterminacy arises purely from some features of our linguistic conventions. As a result, 'dommal' is semantically indeterminate, simply because (1) and (2) do not say enough to ensure that cats are dommals. However, the metasemantic conception of indeterminacy does not arise purely from failures in our linguistic conventions. As said above, both the way we use language *and* non-semantic background facts are involved in the explanation of referential indeterminacy.

7 See McGee and McLaughlin (2000) for more discussion on this reading of Unger's (1980) problem of the many as an argument for the referential indeterminacy of terms purporting to refer to concrete objects.
8 The example is due to Williamson (1994, p. 213).

While the world is not, on this picture, pictured as being indeterminate, it nonetheless plays an important role in generating indeterminacy. For, in our example, it fails to co-operate to ensure that there is only one particular object picked out as the referent of 'Kilimanjaro'. In this case, the indeterminacy is due to the plurality of equally permissible reference-candidates, which ensures that nothing determines that by using 'Kilimanjaro', only one of them is referred to. We believe that the same kind of explanation plausibly holds for 'Castor' and 'Pollux'. Black's universe does not co-operate to ensure that either Castor or Pollux is the referent of one or other term. In this case, indeterminacy is due to the symmetry of the world, which ensures that nothing determines that, by using 'Pollux', one sphere is referred to rather than the other.

It is interesting to note that in her recent discussion of metaphysical indeterminacy, Barnes understands the referential indeterminacy of 'Castor' and 'Pollux' as a byproduct of metaphysical indeterminacy in Black's universe. She writes:

> [B]ecause nothing grounds the difference between the two spheres, there's nothing which can make it the case that "Castor" refers determinately to one sphere and not to the other (and likewise for "Pollux") … There's a sense in which this is referential indeterminacy. But it doesn't follow that the indeterminacy is therefore primarily semantic (rather than metaphysical) in origin or explanation. And that's because it's referential indeterminacy that arises *because of what the world is like.* (Barnes, 2014, p. 354)[9]

As is plain from our metasemantic understanding of referential indeterminacy, we agree with Barnes that "what the world is like" is central to the explanation of indeterminacy in Black's world. However, we do not think that metaphysical indeterminacy best characterizes what the world is like. According to our story, since Black's world is symmetric, swapping the spheres results in one and the same state of affairs. And thus, while there is a sense in which the world does not help uniquely determine the reference of 'Castor' and 'Pollux', the indeterminacy involved is about the relation between the world and our words, with no implication about metaphysical indeterminacy.

Referential indeterminacy can comfortably embrace the thesis that grounding the numerical diversity of Castor and Pollux fails. The fact that there are two qualitatively identical and yet numerically distinct spheres fails to be grounded in more fundamental facts. But this does not commit us to anything further than the metasemantic conception of the referential indeterminacy of 'Castor' and 'Pollux': there is nothing in our use of 'Castor' and 'Pollux' and the configuration of the universe that can pick out one particular object as the referent of the terms.

9 The thesis that in some cases, referential indeterminacy is induced by metaphysical indeterminacy has also been defended by Williams (2008).

It is important, before ending this article, to address the following worry about the role of stipulations in grounding the numerical diversity of objects. Suppose we stipulate that:

(*L*) Let 'Castor' refer to one of the spheres, and let 'Pollux' refer to the other.

Then, one may say, it is determinately the case that Castor is numerically distinct from Pollux, even if it is indeterminate which of the spheres 'Castor' refers to. Why is it now no longer problematic that this fact is not grounded? How does the recognition of referential indeterminacy help us make this seem more acceptable?[10]

Before addressing this question, we should point out that stipulations such as (*L*) fail to fix reference: in uttering (*L*), 'Castor' and 'Pollux', while appearing as semantically singular terms that should have a particular object as their referent, are really akin to variables that may have any object as their value. Thus, by uttering (*L*), we are not referring to particular objects, for there is nothing in the use of the terms (however generous we understand the notion of use here) that can pick out a particular object as the referent of 'Castor', as opposed to that of 'Pollux'. As a result, on this view, what seems to be a singular term is not a genuine singular term.

It should be noted that this view about the semantics of terms occurring in stipulations such as (*L*) opposes two proposals in the literature. According to the first, in uttering (*L*), 'Castor' (and also 'Pollux') refers to a particular object, but we cannot *know* which object it refers to: the reference of the term is fixed arbitrarily. The other view is that in uttering (*L*), the terms are neither non-referring expressions, nor are they singular terms which refer only arbitrarily. Rather, they refer to an *arbitrary object*: once 'Castor' is introduced by (*L*), it behaves like a semantically singular term in referring to a particular object, albeit the particular object referred to by 'Castor' is a special abstract object, distinct from Castor and Pollux. This arbitrary object is distinguished from Castor and Pollux by its having all and only those properties that they have in common.[11]

Now, granted that (*L*) fails to fix the reference of 'Castor' and 'Pollux' to a particular sphere, we can also see why it fails to ground the numerical diversity of Castor and Pollux. (*L*) does not provide us with an effective tool for grounding their numerical diversity: it only arbitrarily stipulates that they are distinct, and does not supply any explanation about their distinctness. The analogy with arbitrary reference we mentioned above can be useful here: the mere utterance of (*L*) fails to fix the reference of the terms involved to a particular sphere, unless we

10 Thanks to an anonymous referee of this journal for prompting us to think about this question.
11 For the first view, see Breckenridge and Magidor (2012), and for the second, see Fine (1983).

think that reference can be fixed merely arbitrarily; that is, unless we think that facts about singular reference do not need to be grounded in facts about how we use singular terms. However, in our view, the claim that reference is primitive is far from defensible.

To conclude: the several ontological and ideological options discussed here for explaining cases of grounding failure in fundamental metaphysics render the dichotomy between haecceitism and metaphysical indeterminacy false and unmotivated. There are ontological options other than haecceitism for explaining cases of grounding failure – specifically, distance relations – and there are also ideological options other than metaphysical indeterminacy – specifically, the metasemantic conception of referential indeterminacy. Logical space is richer than the dichotomy allows, given these ways of re-describing cases of grounding failure. Such ways bear further consideration before resorting to the doctrine of metaphysical indeterminacy.

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