QUALITATIVISM:
AN ELUCIDATION AND DEFENSE

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Daniel Scott Murphy
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QUALITATIVISM: AN ELUCIDATION AND DEFENSE
Daniel Scott Murphy, Ph.D.
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My dissertation is about *qualitativism*, the view that the facts constituting the world are, fundamentally, purely qualitative or general. Roughly, non-qualitative facts directly involve particular things (e.g. the fact that Obama is human), whereas qualitative facts do not (e.g. the fact that something is human, or that humanity is instantiated). One might get a handle on qualitativism through this metaphor: to create the world, God would not decree any non-qualitative facts; once the qualitative is decreed, the non-qualitative is thereby determined. Robert Adams put qualitativism on the table in an influential 1979 article, and the thesis has recently received significant attention. My main aim is to defend qualitativism, though I also have a bit to say about how it should be understood, and about its connections with other metaphysical topics. Here I will touch on the three main lines of thought that I pursue.

It is initially natural to think that qualitativism is incompatible with the idea that there could have been a pair of qualitatively indiscernible but numerically distinct individuals. This would be a problem for qualitativism, inasmuch as many find it intuitive that there *could* be such a pair. (Imagine, for example, a spatially symmetric universe containing just two iron spheres, *a* and *b*, that perfectly resemble each other.) Recent work on qualitativism affirms its compatibility with this kind of possibility, but I do not think that such compatibility has been sufficiently justified. So I seek to do so, thereby resolving the apparent problem. The main challenge is to explain how the identity properties of the relevant individuals (for example, the property of being *a* and the property of being *b*) could be determined by purely qualitative matters, despite those individuals' indiscernibility. I develop a novel proposal for meeting this challenge (with some conceptual antecedents in work by Kit Fine and Shamik Dasgupta) that involves taking the properties to be qualitatively determined in a *holistic* fashion.

It is also initially natural to think that qualitativism is incompatible with *haecceitism*, the view that there are some pairs of qualitatively indiscernible but numerically distinct possible worlds. This would be a problem for qualitativism, inasmuch as many find it intuitive that there *are* such pairs. (Consider, for example, a world in which sphere *a* exists for five seconds and sphere *b* for six, and a world in which *b* exists for five seconds and *a* for six.) Here I part company with recent work on qualitativism by denying such incompatibility: I propose a novel account of qualitativism that would render it compatible with haecceitism. The key idea turns on a notion of what I call an "ultimately qualitative" fact. A non-qualitative fact is ultimately qualitative if every constituent by virtue of which it is non-qualitative has a qualitative "real definition". By only requiring the fundamental facts to be ultimately qualitative, as opposed to qualitative, the qualitativist can accept haecceitism. I also argue that this account of qualitativism is independently motivated by reflections about the nature of time, and that prominent arguments for qualitativism do not discriminate between the novel and traditional account. With that said, I do not argue that qualitativism as traditionally understood is false, and I explain how haecceitism can be resisted.

If I am on the right track with these two broadly defensive lines of thought, some important hurdles to a serious consideration of qualitativism are overcome. In the third main part of the dissertation, I develop a novel positive line of argument for qualitativism. I argue that qualitativism accords better than any other theory of the world's fundamental structure with the multi-location ban, i.e. the common-sense judgment that individuals cannot be located in multiple places at the same time. More precisely, I argue that (1) the multi-location ban gives us reason to affirm some theory of the world's fundamental structure according to which the identities of individuals are fundamentally extrinsic, and that (2) this proposal is best implemented in terms of qualitativism.

BIOGRAPHICAL SKETCH

Daniel Murphy lived in Texas up through high school, went to Greenville College (receiving a B.A. in philosophy), and then attended Westminster Seminary California (M.A. in theology), Western Michigan University (M.A. in philosophy), and University of Oxford (M.Phil. in philosophical theology). He is now completing his Ph.D. in philosophy at Cornell University.

ACKNOWLEDGMENTS

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Abstract: Robert Adams has argued from the possibility of qualitatively symmetric situations for the fundamentality of non-qualitative aspects of reality. Any two individuals differ in non-qualitative properties (e.g. *being Castor*). Accordingly, if there are two individuals with identical qualitative properties (as in a symmetric situation), some individuals differ in non-qualitative properties without differing in qualitative ones. Adams responded to such property-entailment failures by embracing the fundamentality of non-qualitative matters. In so doing, he rejected *qualitativism*, the view that fundamental reality is purely qualitative. Though recent work on qualitativism affirms, *pace* Adams, its consistency with these entailment failures, I think this verdict has yet to be sufficiently justified. In this paper, I rebut Adams's anti-qualitativism argument. In particular, I develop an alternative response to the entailment failures that takes the relevant non-qualitative matters to be holistically determined by qualitative ones.

1. Preliminaries

In an influential 1979 article, Robert Adams asked:

> Is the world – and are all possible worlds – constituted by purely qualitative facts, or
> does thisness hold a place beside suchness as a fundamental feature of reality?[1]

Adams went on to argue that thisness indeed holds a place beside suchness as fundamental. In so doing, he rejected what some philosophers have recently called *qualitativism*, the view that fundamental or ultimate reality is purely qualitative or general.[2] Adams's anti-qualitativism argument can be seen as consisting of two steps. First, he attacked a particular version of the so-called "Principle of the Identity of Indiscernibles", namely:

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[1] Adams 1979, p. 5. Any subsequent bare page references are to this article.
[2] See Dasgupta 2009, 2014, forthcoming, Kment 2012 (especially pp. 578–584), Russell 2013, and Turner forthcoming.

(PII) Necessarily, for any individuals x and y, if x and y have identical qualitative

properties, then x and y are identical.

Second, Adams moved from PII's falsity to qualitativism's falsity. Adams devoted most of

his effort to the first step, and much of the discussion his article has catalyzed revolves

around adjudicating PII. But I think the second step of his argument is vulnerable to

criticism, and recent discussions of qualitativism, in fact, affirm its consistency with PII's

falsity.[3] My main aim in what follows is to establish that this is indeed the case, that is, that a

purely qualitative view of fundamental reality is consistent with the possible existence of

qualitatively identical but numerically distinct individuals.

Here is the plan for what follows. In the remainder of this section, I cover the basic

relevant concepts. In §2 I elucidate Adams's anti-qualitativism argument, and I explain in §3

how it problematizes recent explications of qualitativism. I rebut Adams's argument in §4

through §6, and I wrap up in §7. Since I will grant PII's falsity, and since Adams's argument

exhibits (I take it) the primary grounds upon which one might think qualitativism depends on

PII, my rebuttal constitutes a defense of qualitativism's consistency with PII's falsity.

Let us say that a *matter* is a fact, property, or relation. There is an intuitive distinction

between *qualitative* and *non*-qualitative matters. It is commonly said that non-qualitative

matters are those that "involve" or are "about" *particular* concrete particulars in some sort of

direct way. This gloss suggests that non-qualitative matters include, for example, the

property of being Obama, the relation of flanking Biden, and the fact that Obama and Biden

are five feet apart; and that qualitative matters include, for example, the property of being

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[3] See Kment 2012, pp. 579–580, and Dasgupta 2014, p. 7.

blue, the fact that there are two individuals that are five feet apart, and the fact that sphericity is instantiated.[4]

The notion of a *fundamental* matter is also intuitive, if more controversial. Fundamental matters enjoy a distinctively metaphysical kind of basicness or ultimacy, and non-fundamental (or *derivative*) matters are *determined by* the basic.[5] There are different ways of making sense of fundamentality and determination. Suppose fact *p* determines fact *q*, and that *p* is fundamental. We might take one or both of these types of locution ('…determines…', '…is fundamental') as primitive. Alternatively, we might flesh out fundamentality and determination in terms of other notions. For example, we might understand *p*'s determining *q* in terms of *p*'s constituting a *real definition* of *q*,[6] or in terms of *p*'s *grounding q*.[7] Or we might take a more linguistic approach and understand *p*'s determining *q* in terms of a *p*-expressing sentence's constituting a *metaphysical semantics* for a *q*-expressing sentence.[8] And we might understand *p*'s fundamentality in terms of *p*'s lacking a real definition, or lacking grounds, or being expressed by a sentence wholly composed of parts that "carve reality at the joints".[9] My purposes in this paper do not depend

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[4] 'Qualitative' and 'non-qualitative' are not always used to get at the particular distinction I am after. For example, Hawley 2009 (p. 102) extends 'non-qualitative' to matters involving the identity and parthood relations. On this use, not only would the fact that Obama and Biden are five feet apart be "non-qualitative," but the fact that there are *two* individuals that are five feet apart would as well. Alternatively, one might use 'qualitative' as an adjectival form of 'quality' or 'property' (see Paul 2012). On this use, a trope would be a "qualitative" entity, whereas on mine, no particular is qualitative or non-qualitative. Another wrinkle: though the text's gloss should suffice for present purposes, I am not sure it perfectly captures the relevant distinction. Suppose there are *haecceities*, by which I mean a primitive property the having of which determines the possessor's being the very entity it is (cf. e.g. Adams 1981, pp. 12–18, Lowe 2003, pp. 86–89, and Mackie 2006, p. 21). A haecceity for a concrete particular would intuitively be non-qualitative, but it may not directly involve particular concrete particulars.

[5] See e.g. Schaffer 2009b, Sider 2011, and Bennett forthcoming. It might be objected that my gloss of derivativeness makes it a conceptual truth that, if there are derivative matters, there are fundamental ones. For one might think that there might have been no fundamental matters, but nevertheless matters that are determined by others that are determined by others *ad infinitum*. However, my gloss helps fix the intuitive idea, and for present purposes the assumption that everything derivative is determined by something fundamental is innocent.

[6] See e.g. Rosen 2010, pp. 122f.

[7] See e.g. Rosen 2010, Fine 2012, and Dasgupta 2014.

[8] See Sider 2011, pp. 112f.

[9] See ibid., pp. 115–116.

upon a particular approach, though I will raise a worry for a ground-theoretic perspective in §3. For now, I will just take 'fundamental' and 'determines' as primitive.

Now let us say that qualitativism is this thesis:

(Qualitativism) Necessarily, the fundamental matters are all qualitative.

That is, the fundamental facts, properties, and relations are necessarily all qualitative. Now, one might prefer to strike the modal operator, defining qualitativism as a purely this-worldly thesis.[10] However, in the present context there is an advantage to defining qualitativism as I have. It is unclear to what extent Adams took himself to be arguing for the *actuality* of some fundamental non-qualitative matters. For the bulk of his argumentation revolved around non-actual worlds, and relatively little space was devoted either to motivating a result about the actual world or to elucidating what that result would amount to.[11] But to the extent that Adams was arguing for the actuality of some fundamental non-qualitative matters, he did so by way of arguing for their *possibility*. So however qualitativism should be defined, Adams's anti-qualitativism argument can be resisted by defending the given thesis.

2. The Argument From PII's Falsity

As I have indicated, Adams's anti-qualitativism argument can be seen as consisting of two steps. First, he tries to undermine PII:

(PII) Necessarily, for any individuals x and y, if x and y have identical qualitative properties, then x and y are identical.

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[10] And there are intermediate options in which the necessity is qualified (see Kment 2012, pp. 581–582).

[11] See p. 13 for a brief discussion of the argument's alleged import for the actual world.

Adams does this by exhibiting the intuitive possibility of worlds in which two individuals

satisfy the antecedent but not the consequent in PII. Consider the following kind of world,

similar to one Adams discusses.[12] Suppose two spatially separated iron spheres come to exist

ex nihilo, persist unchanged for five seconds, then wink out of existence. Suppose they have

identical qualitative properties, intrinsic and extrinsic. For example, both are iron, spherical,

a particular distance from something iron and spherical, etc. This qualitative identity can be

grasped in terms of the spheres' being divided by an axis of spatial symmetry, such that each

is a "mirror image" of the other. Let 'Alef' denote such a world, and 'Castor' and 'Pollux' its

spheres. Castor and Pollux satisfy, in Alef, the antecedent but not the consequent in PII.

Accordingly, if Alef is possible, PII is false. There are ways of trying to save PII from

apparent counterexamples like Alef,[13] but I am content to grant this step of Adams's

argument. PII *is* counterintuitive, and I will assume that Alef is possible and PII false.

The second step of Adams's argument is to get from PII's falsity to qualitativism's

falsity. Here the argument becomes less clear, but the following passage is crucial:

> [I]f it is possible for there to be distinct but qualitatively indiscernible individuals, it is
>
> possible for there to be individuals whose thisnesses are both distinct from all
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> suchnesses and necessarily equivalent to no suchness.[14]

By 'thisness' and 'suchness' Adams is referring respectively to *identity properties* of

individuals (e.g. *being Obama*) and qualitative properties. Although Adams seems to take his

argument as establishing the fundamentality of some (possible) non-qualitative *facts*, he

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[12] Cf. Black 1952.

[13] For three tactics, see, respectively, Hacking 1975, Hawthorne 1995, and Hawley 2009. Adams
(1979) addresses Hacking's tactic, and Hawley also provides general discussion. For recent work on
Hawthorne's tactic, see Demirli 2010 and Curtis 2014.

[14] P. 13. Cf. p. 24 and Adams 1981, p. 4.

conducts his argument in terms of identity properties and qualitative properties, and I will exploit this narrow categorial focus in my rebuttal.

Adams's point in this passage can be illustrated with reference to Castor in Alef. Suppose Alef were actual, and consider any qualitative property F (however complex). If Castor has F, Pollux does too, so F is not sufficient for Castor's identity property. That is, F does not *entail* the identity property, where one property entails another just in case it is necessary that anything that has the former has the latter. On the other hand, if Castor lacks F but has the qualitative property of *possibly* having F, Pollux does too, so F is not sufficient for *being Castor*. So *no* qualitative property is sufficient for *being Castor,* so no qualitative property is equivalent (*a fortiori* identical) with *being Castor*. (*Mutatis mutandis* with Pollux's identity property.) Discharging our supposition of Alef's actuality, we may conclude, given Alef's possibility, that it is *possible* for there to be some identity properties of individuals that are not equivalent (and hence not identical) with any qualitative properties.

But how exactly does this deliver the falsity of qualitativism? That is, how does the possibility of some identity properties of individuals that are not equivalent (and hence not identical) with any qualitative properties deliver the possibility of some *fundamental* non-qualitative matters?[15] Presumably the threat to qualitativism stems from the appearance that

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[15] I am skirting over an exegetical issue here: is it a mistake to look for anything *more* from Adams beyond a demonstration that there might have been some non-qualitative matters that are non-equivalent and non-identical with all qualitative matters? It may be admitted that Adams conducts his argument in terms of modal-theoretic concepts and identity, not in terms of any fundamentality-theoretic ideology *per se*. (To be sure, he often uses 'distinct' instead of 'non-identical', and for some philosophers, to say that two things are "distinct" is to say more than that they are non-identical. But as far as I can tell, Adams uses 'distinct' and 'non-identical' interchangeably.) On the other hand, the wider context in which he *frames* his argument is that of a dispute characterized in intuitively fundamentality-theoretic terms. It certainly seems that Adams takes his argument to establish that some non-qualitative matters are "metaphysically primitive" and constitute a "fundamental feature of reality". If Adams is after a fundamentality-theoretic conclusion (that is conceptually irreducible to a modal- and identity-theoretic one), as I am inclined to think, it is appropriate to ask the question I have asked in the text. If Adams is not, the qualitativist has nothing to fear, at least as far as Adams's intentions go. Even then, however, we might think Adams's argument can be extended into a genuine anti-qualitativism argument, and it would be worth exploring how such an argument would go.

Castor's and Pollux's identity properties, or related non-qualitative properties,[16] are fundamental. (I just spoke about these identity properties in the indicative mood, without framing this, as I did above, by supposing that Alef were actual. I will continue to do this about matters in Alef generally as a convenience.) Whence this appearance? Presumably not from the non-identity between the identity properties and all qualitative properties, for determination is commonly taken to *imply* non-identity.[17] Nor from the non-equivalence, for some conceptions of determination permit that. For example, on a ground-theoretic approach, something's being red may determine its being colored. Intuitively, the appearance of fundamentality turns on the reason for the failure of equivalence, namely the failure of sufficiency: no qualitative property entails either identity property.

This suggests that we should complete Adams's argument with a principle that takes us from the relevant failures of *entailment* to failures of *determination*. Consider:

(Link-1) Necessarily, for any property G, if G is not entailed by any qualitative properties, then G is not determined by any qualitative properties.

This links the failure of a property to be entailed by qualitative properties to its failure to be determined by qualitative properties. So consider *being Castor* in Alef. Since it is not entailed by any qualitative properties, Link-1 implies that it is not determined by any qualitative properties. However, what the anti-qualitativist really needs, it seems, is that *being Castor* is not determined by *any* qualitative matters. So let us replace Link-1 with:

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[16] For example, perhaps the identity properties of certain constituents (e.g. parts or tropes) of the spheres are fundamental, or perhaps the spheres or certain constituents have haecceities (see note 4) that determine their identity properties.

[17] See e.g. Jenkins 2011.

(Link-2) Necessarily, for any property *G*, if *G* is not entailed by any qualitative

properties, then *G* is not determined by any qualitative *matters*.

This is stronger than Link-1, inasmuch as any property is a matter but not vice versa, but I

think we need Link-2 to get a valid anti-qualitativism argument.

Consider, now, this argument:

(1) It is possible for there to be a non-qualitative property that is not entailed by any

qualitative properties. (from Alef's possibility)

(2) It is possible for there to be a non-qualitative property that is not determined by

any qualitative matters. (from (1) and Link-2)

This does not yet get us qualitativism's falsity, because we do not yet have the possibility of a

fundamental non-qualitative matter. (We could replace Link-2 with a principle that

exchanges 'is not determined by any qualitative matters' for 'is fundamental', but that would

be implausible. One might think that a non-qualitative property may be undetermined by any

qualitative matters and yet determined by some non-qualitative ones, in which case it would

not be fundamental.) However, (2) already looks bad, I submit, from a qualitativist

perspective, and I will target the inference to (2) in my rebuttal. Here is one way to finish the

argument. Let us assume that, necessarily, if there are any matters, there are some

fundamental ones, which collectively determine any others.[18] This gives us

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[18] This is one way of spelling out a "completeness" condition on fundamentality, the intuitive idea
being that fundamental matters provide a "complete" determination base for everything else. See Sider 2011,
pp. 105–106, and Bennett forthcoming, ch. 4.

(3) If qualitativism is true, it is necessary that every non-qualitative property is determined by some qualitative matters,

which along with (2) delivers qualitativism's falsity.

Here, then, is my reconstruction of Adams's anti-qualitativism argument (or more cautiously, an anti-qualitativism argument naturally drawn from Adams):

(1) It is possible for there to be a non-qualitative property that is not entailed by any qualitative properties.

(Link-2) Necessarily, for any property G, if G is not entailed by any qualitative properties, then G is not determined by any qualitative matters.

(2) It is possible for there to be a non-qualitative property that is not determined by any qualitative matters. (from (1) and Link-2)

(3) If qualitativism is true, it is necessary that every non-qualitative property is determined by some qualitative matters.

(4) Qualitativism is false. (from (2) and (3))

Let us call this "the argument from PII's falsity". Before turning to my rebuttal, let me distinguish this from another kind of anti-qualitativism argument that might be advanced.

Consider this thesis:

(Antihaecceitism) Necessarily, the qualitative facts entail all the facts.[19]

(A fact entails another just in case it is necessary that if the former holds the latter does.) *Haecceitism* is antihaecceitism's negation. Recall that, in Alef, Castor and Pollux each exist for five seconds. Now consider an otherwise similar world, Bet, in which Castor exists for five *more* seconds, and also an otherwise similar (to Alef) world, Gimel, in which *Pollux* exists for five more seconds. Here are some pictures:
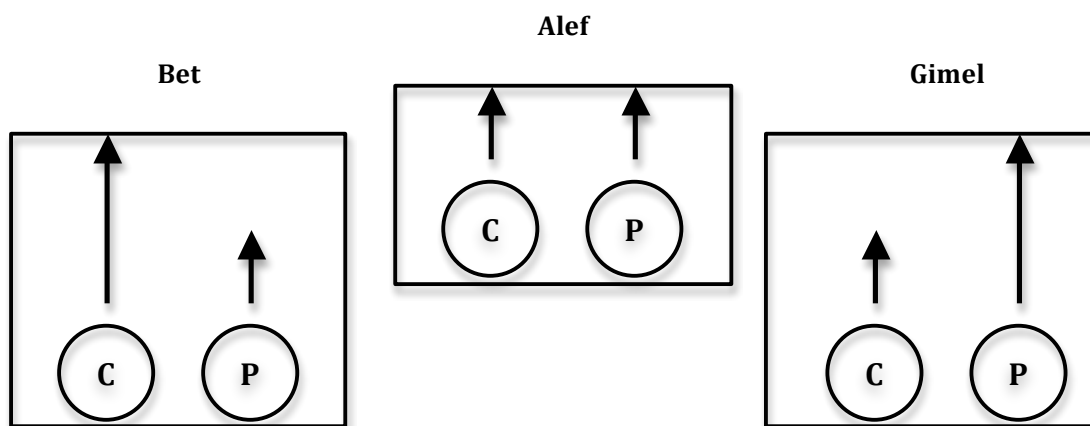
If Bet and Gimel are possible, they would seem to together constitute a counterexample to antihaecceitism. For suppose that Bet were actual. Inasmuch as Gimel seems to contain identical qualitative facts, it seems that, if Gimel is possible, the qualitative facts fail to entail all the facts. For example, they fail to entail the fact that Castor outlives Pollux, since these very qualitative facts could have held without that non-qualitative fact's holding. Discharging our supposition of Bet's actuality, if Bet and Gimel are possible, it seems *possible* that the qualitative facts fail to entail all the facts, contra antihaecceitism.

We may say that we have *intra-world* qualitative symmetry when we have, *within* a single world, a pair of qualitatively identical but numerically distinct individuals; and that we have *trans-* or *inter-world* qualitative symmetry when we have a pair of worlds that are

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[19] See Skow 2007 and e.g. Mackie 2006, pp. 42–45.

themselves qualitatively identical but numerically distinct. PII forbids intra-world qualitative symmetry, and accordingly single worlds, such as Alef, can constitute counterexamples to PII.[20] But antihaecceitism forbids trans-world qualitative symmetry, and accordingly it takes a pair of worlds, such as Bet and Gimel, to constitute a counterexample to antihaecceitism.

Now although I have attributed the anti-qualitativism argument from PII's falsity to Adams,[21] it should be admitted that his article also contains the raw materials for an anti-qualitativism argument from *antihaecceitism's* (alleged) falsity.[22] (The basic difference is that, whereas the former tries to get from an alleged failure of *property* entailment to the fundamentality of some non-qualitative matters, the latter would try to get there from an alleged failure of *fact* entailment.) However, Adams's stated aim in discussing the relevant cases of *trans*-world symmetry is neither to buttress the anti-qualitativism argument from PII's falsity nor to develop an additional anti-qualitativism argument. Rather, he takes the conclusion of the argument from PII's falsity, which he calls "primitive thisness", for *granted* and goes on to argue, by appeal to the relevant cases of trans-world qualitative symmetry, for what he calls the "the primitiveness of transworld identity".[23] Of course, this exegetical point does not obviate the propriety of fleshing out and evaluating an anti-qualitativism argument from antihaecceitism's alleged falsity, and I do so elsewhere.[24] (I think it can be resisted.) But my aim here is to tackle the argument from PII's falsity, an anti-qualitativism argument squarely based on considerations pertaining to *intra*-world qualitative symmetry.

3. Interlude on Qualitativism and Fundamentality

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[20] The possibility of Bet or Gimel, individually, would also undermine PII. For example, consider Castor in Bet. Though Castor is qualitatively unique, it can be divided into qualitatively identical halves.
[21] See my note 15 for a qualification.
[22] See pp. 22–23, and cf. e.g. Armstrong 1997, p. 108, Melia 2001, p. 21, Kment 2012.
[23] See pp. 5–6, 19ff., and note the article's title: 'primitive thisness and primitive identity'.
[24] See my "Qualitativism, Haecceitism, and Time."

In recent work qualitativism tends to be described as a view about *facts*, to the effect that the fundamental facts are all qualitative.[25] This may be largely due, at least in some cases, to a tendency to think about fundamentality and determination from a grounding-theoretic perspective, along with the fact that, on one standard way of thinking about grounding,[26] the canonical units of fundamentality and relata of determination are restricted to *fully propositional* aspects of reality – facts, if we reify them. However, I have characterized qualitativism as a thesis about matters (facts, properties, and relations), to the effect that (necessarily) the fundamental matters are all qualitative. I did this in order to accommodate Adams' argument, for that argument seems to trade on the apparent fundamentality of some *sub-propositional* aspects of reality – properties and relations, if we reify them.[27]

But why accommodate this argument in this way? An alternative is to ignore Adams's attempt to exhibit the fundamentality of some non-qualitative properties, on the basis of the thought that qualitativism is a thesis that only bears on facts. I reject this response, because even though I deny the cogency of Adams's argument, I do think it *prima facie* threatens the idea that fundamental reality is purely qualitative. If a given understanding of qualitativism is not even *sensitive* to this threat, there is, it seems to me, a problem with that understanding of qualitativism. And I have adopted one simple way of countenancing the threat: (i) admit properties as canonical units of fundamentality; and (ii) include a condition on properties in qualitativism's definition.

Perhaps there are other ways of countenancing the threat of Adams's argument to qualitativism. One might think that his argument for the fundamentality of some non-qualitative properties can basically be *translated* into an argument for the fundamentality of some non-qualitative facts. In a relatively brief treatment of Adams's argument, Shamik

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[25] See Kment 2012, p. 578, Russell 2013, pp. 21–22, Dasgupta 2014, p. 6, and forthcoming, p. 3. However, Russell discusses a more general thesis about properties as well (see pp. 24f.)

[26] See e.g. Schaffer 2009b for an exception.

[27] Adams: "I want the word 'property' to carry as light a metaphysical load here as possible" (p. 6).

Dasgupta acknowledges Adams's emphasis on properties and then reconstructs the argument in terms of facts (in line with Dasgupta's general emphasis on facts in his article).[28] Let us consider, instead of Castor's and Pollux's identity properties, the facts (in Alef) that Castor exists and that Pollux exists. Very quickly put, the reconstructed anti-qualitativism argument turns on the thought that we cannot plausibly maintain *either* that these two facts are grounded in identical qualitative facts, *or* that they are grounded in diverse ones; and so it seems we must grant some fundamental non-qualitative facts.

However, I do not think any translation strategy can succeed in countenancing the threat of Adams's argument. For this argument turns on the fact that Alef exhibits certain failures of property entailment: by virtue of the world's qualitative symmetry, no qualitative properties entail either sphere's identity property. And no analogous point holds for facts. (Dasgupta does not claim otherwise; his reconstructed anti-qualitativism argument does not turn on alleged entailment failures at all.) To be sure, a certain kind of haecceitist will deny that certain non-qualitative facts in Alef, such as that Castor exists and that Pollux exists, are entailed by any qualitative facts. For a certain kind of haecceitist will think that there are possible worlds that are qualitatively identical to Alef but that lack Castor and Pollux.

Alef **Shmalef**
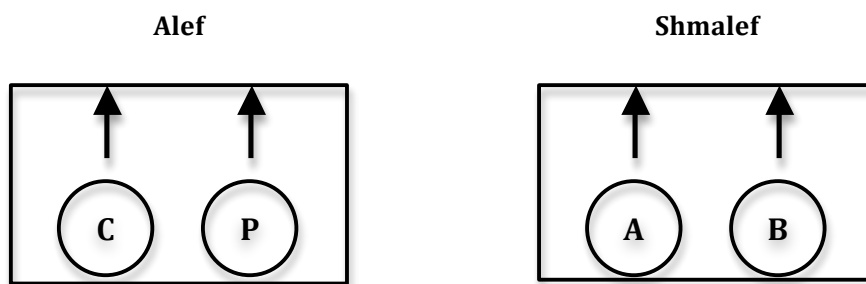
But no such failures of fact entailment are exhibited by Alef itself. Alef's qualitative symmetry is perfectly consistent with the view that the world's qualitative facts entail all of

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[28] See Dasgupta 2014, pp. 25–26.

its non-qualitative facts, and Adams gives no reason to deny such entailments.[29] This is so

even if we consider those parts of Adams's article that constitute an argument for

haecceitism, for he does not even claim – much less argue – that *Alef*'s qualitative facts fail to

entail its non-qualitative ones. (Think rather of worlds, like Bet and Gimel, that differ over

how qualitative properties are distributed across a *fixed stock* of individuals, not over which

individuals *there are*.) So regardless of the merit of Dasgupta's reconstructed anti-

qualitativism argument (Dasgupta himself is a qualitativist and has a response to it), it does

not preserve the substance of *Adams's* anti-qualitativist argument. After all, there might be

multiple Alef-based anti-qualitativism arguments that are worthy of consideration.

However, the qualitativist could, it seems, countenance the threat of Adams's

argument by, not translating it into an argument for the fundamentality of some non-

qualitative facts, but rather somehow *extending* it into such an argument. For example, one

might accept some sort of principle that takes us from a failure of property determination to a

failure of fact determination. For example, if the property of being Castor is not determined

by any qualitative matters, this may be taken to imply that there is some Castor-involving fact

that is not determined by any qualitative matters. On this approach, Adams's argument can

be taken to threaten qualitativism, even if both (i) qualitativism is defined solely as a view

about facts and (ii) it is granted that Adams seeks to attack qualitativism, at least in the first

instance, on the *sub*-propositional front. I imagine that many would find such a property-to-

fact principle plausible, and it would seem that Adams does as well, inasmuch as he seems to

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[29] This might be contested by someone following Menzel 2008's gloss of Adams 1979. According to this, (roughly) Adams argues that we can take Alef, "expand" it to get a four-sphere world, then "contract" the latter to get a two-sphere world like Shmalef. Though some might find this an intuitive way of getting a counterexample to antihaecceitism (cf. e.g. Hawthorne 2001, p. 374), I find no such argument in Adams 1979.

take his argument concerning non-qualitative properties to deliver the fundamentality of non-qualitative *facts*.[30]

So it seems we can countenance the threat of Adams's argument either by understanding qualitativism itself as a thesis that partly bears on sub-propositional matters (as I have done, for the sake of discussion), or by assuming some sort of connecting principle(s) between the fundamentality of sub-propositional matters and the fundamentality of fully propositional matters. It would take us too far afield to pursue the matter further. My main aim in this interlude has just been to explain how Adams's anti-qualitativism argument, whether ultimately cogent or not, problematizes recent explications of qualitativism. Adams has intuitively presented an argument that threatens a purely qualitative view of fundamental reality, and yet that argument distinctively turns on considerations pertaining to sub-propositional matters, which have been neglected in recent characterizations of qualitativism.

4. Holistic Determination

I think the anti-qualitativism argument from PII's falsity is unsound, and that qualitativism – or something very much like it – is true, but my aim here is just to show that anyone antecedently inclined toward qualitativism is well within their rights to reject the argument's premises. In particular, I will challenge Link-2. The guiding idea behind my rebuttal is this: whereas the non-qualitativist, or at any rate the non-qualitativist who endorses the argument from PII's falsity, takes Alef's symmetry to point to the *fundamentality* of non-qualitative matters, an alternative is to take it as pointing to the fact that non-qualitative matters are *holistically* determined by qualitative ones. What this amounts to will become clearer as we proceed.

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[30] For example (my emphases): "Is the world…constituted by purely qualitative *facts*, or…" (p. 5); and: "We shall not be concerned here with these doubts, but rather with what can be said…against those philosophers who think that all properties are suchnesses and all *facts* purely qualitative (p. 9).

Let *F* be a maximally specific intrinsic qualitative property shared by Castor and

Pollux, and *R* a maximally specific qualitative relation in which Castor and Pollux stand. So,

R comprehends the spheres' spatial separation, as well as "totality" facts to the effect that

there is nothing else. Ignoring for simplicity the existence of any particulars other than the

spheres (such as any constituents or distinct space), Alef's qualitative character is captured by

R's holding between two possessors of *F*. Now consider these qualitative matters:

A: $\exists x \exists y$(*x* has *F* & *y* has *F* & *x* and *y* stand in *R*)

x has *B* =$_{\text{df}}$ *x* has *F* & $\exists y$(*y* has *F* & *x* and *y* stand in *R*)

x and *y* stand in *C* =$_{\text{df}}$ *x* has *F* & *y* has *F* & *x* and *y* stand in *R*.

A is a fact holding in Alef, *B* a property had by Castor *and also by* Pollux in Alef, and *C* a

relation in which Castor and Pollux stand in Alef. Further, these matters are modally

equivalent, in the sense that, necessarily, *A* holds just in case *B* is instantiated just in case *C* is

instantiated. Now consider these non-qualitative matters:

A*: $\exists x \exists y$(*x* has *F* & *y* has *F* & *x* and *y* stand in *R* & *x* is

                                        Castor & *y* is Pollux)

x has *B** =$_{\text{df}}$ *x* is Castor & $\exists y$(*y* has *F* & *x* and *y* stand in *R* & *y* is

                                        Pollux)

x and *y* stand in *C** =$_{\text{df}}$ *x* is Castor & *y* is Pollux.

A* is a fact holding in Alef, *B** a property had by *Castor alone* in Alef, and *C** a relation in which Castor and Pollux stand in Alef.

Now by virtue of Alef's qualitative symmetry, *B* does not entail *B**. (Pollux has the former but not the latter.) This is not surprising: we have already seen that no qualitative property entails *being Castor*; *a fortiori* none entails a property of which *being Castor* is a "conjunctive part". However, as I explained in §3, it is consistent with Alef's symmetry that *A* both entails and determines *A**, and it is also consistent with such symmetry that *C* both entails and determines *C**. (A relation entails another just in case it is necessary that any entities standing in the former stand in the latter.)[31] Let us assume that *A* and *C*, respectively, do indeed entail and determine *A** and *C**. This is dialectically safe, for we are not arguing for qualitativism *per se*, but rather examining how an anti-qualitativism argument might be resisted. And anyone antecedently inclined toward qualitativism, I think, should be inclined to accept this assumption. As I explained in §3, Adams gives no reason to deny it. Moreover, one might even accept haecceitism, thereby granting a crucial premise of an anti-qualitativism argument from antihaecceitism's alleged falsity, and still find it plausible that *A* and *C*, respectively, entail and determine *A** and *C**. (For example, suppose one accepts the possibility of both Bet and Gimel but denies Shmalef's possibility.)

Now given that *A* both entails and determines *A**, there is an intuitive sense in which *being Castor* is both modally settled, on the one hand, and determined, on the other, by qualitative matters in Alef, despite the fact that it is neither entailed nor determined by any co-exemplified qualitative properties (*mutatis mutandis* with *being Pollux*). For *A* entails and

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[31] Here is an argument that *C* cannot entail *C**. Premise 1: Castor and Pollux stand in *C* in that order, and also in the opposite order. Premise 2: it is false that Castor and Pollux stand in *C** in both orders. One possible reply: premise 1 is false, for the relevant relations are simply not the kind of relation that could "differentially apply" to their relata, or apply to their relata in different ways or orders (see Fine 2000). Another: "*C**" can be reconstrued so that premise 2 turns out false, by ensuring that which relatum is Castor and which is Pollux is left unspecified. For example: "*x* and *y* stand in *C** $=_{df}$ (*x* is Castor & *y* is Pollux) v (*x* is Pollux & *y* is Castor)". I prefer the first reply, though there is no space to discuss the matter.

determines *A**, the holding of which seems to consist in the distribution of *being Castor* and *being Pollux* across a pair of individuals. The same point could be made with *C* and *C** (as well as with related matters that have gone unmentioned, such as properties of the spheres' mereological sum). We might say that *being Castor* is indeed connected, in both a modal and determinative sense, to qualitative matters in Alef; it is just that the *locus* of that connection, so to speak, lies in something other than *Castor*. Specifically, the locus of that connection may be seen as lying in the world itself, and it may be seen as lying in the spheres taken together. That is, though there is no way *Castor* is in qualitative respects (such as *B*) that modally settles its being the particular way it is in non-qualitative respects (namely *B**), and hence no way Castor is in qualitative respects that determines its being the particular way it is in non-qualitative respects, there *is* a way the *world* is in qualitative respects (namely *A*) that modally settles and determines *its* being the particular way it is in non-qualitative respects (namely *A**) – a way that partly consists in the instantiation of *being Castor*. And there *is* a way the spheres *are* in qualitative respects (namely *C*) that modally settles and determines *their* being the particular way they are in non-qualitative respects (namely *C**) – a way that partly consists in the instantiation of *being Castor*. (*Mutatis mutandis* with *being Pollux*.)

Here is the upshot of these considerations. If the identity properties of Castor and Pollux are indeed connected to qualitative matters in Alef, both in a modal and determinative sense, it looks like Link-2,

(Link-2) Necessarily, for any property *G*, if *G* is not entailed by any qualitative properties, then *G* is not determined by any qualitative matters,

a premise in the argument from PII's falsity, is false. For example, *being Castor* is not entailed by any qualitative properties, but it *is* determined by some qualitative matters,

namely *A* and *C*. The problem with Link-2, the qualitativist may say, is that it imposes too narrow of a constraint on what kind of modal connection must undergird determination. It demands, in effect, that the *bearer* of a non-qualitative property *G itself constitute* a locus of modal connection between qualitative matters and *G*: there must be a way *it* is in qualitative respects that modally settles its having *G*. This is admittedly unattainable with some non-qualitative properties in a symmetric world, but the qualitativist may say that the proper response is not to infer the presence of something fundamentally non-qualitative, but rather to *look elsewhere* for the locus of modal connection – and, by extension, determination.[32]

This response to the argument from PII's falsity avoids the fundamentality of non-qualitative matters in Alef at the cost of taking such matters to be qualitatively determined in a *holistic* fashion. This holism has two intimately related facets. First, we have a kind of holism about *objects* of determination: some "larger-scale" non-qualitative matters are determined in a way that is not mediated by the determination of "smaller-scale parts". For example, *A** (*C**) is determined by *A* (*C*), and this is not mediated by any determination of the intuitive constituents *being Castor* and *being Pollux*. Second, we have a kind of holism about *determination itself*: some non-qualitative matters are determined *together*, in a way that is irreducible to one's being determined like so and another's being determined like so. For example, *being Castor* and *being Pollux* are determined together, in connection with the determination of *A** (*C**) by *A* (*C*), and neither property is determined on its own.[33]

5. Real Definition and Holistic Determination

I have presented the substance of my challenge to Link-2, and hence to the argument from PII's falsity. Now I want to develop this challenge more carefully and concretely, by

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[32] If we substitute Link-1 for -2, the argument becomes invalid: (2) does not follow from (1) and Link-1. We can get a valid argument with Link-1 if we replace 'matters' in (2) and (3) with 'properties'. However, in that case the thrust of my argument justifies the qualitativist's rejecting the modified (3).

[33] Dasgupta 2014 develops this kind of idea with respect to facts rather than properties.

selecting a particular concept for understanding fundamentality and determination, namely *real definition* (mentioned in §1), and a particular, canonical way of deploying that concept. Now as I admitted in §3, qualitativism is often understood in terms of *grounding*. However, as I also noted, grounding is often restricted to fully propositional matters, and Adams's argument focuses our attention on determination connections, or the lack thereof, involving sub-propositional matters. Conducting the argument in terms of real definition should not be seen as tendentious. If anything, it might be thought to make my job harder, inasmuch as real definitions between qualitative and non-qualitative matters would ascribe an intuitively *stronger* connection between the two than would grounding connections, since real definitions provide modally necessary and sufficient conditions, not just sufficient. Let me also say that I see no in principle barrier to extending the relevant notion of grounding to sub-propositional matters, and hence to conducting the argument from a grounding-theoretic perspective. But that is beyond my scope here. Before beginning, let me emphasize the main intuitive idea behind the argument: the qualitativist can (i) take one or more loci of modal connection between qualitative matters and a given sphere's identity property (e.g. the world itself, or the pair of spheres) as revealing the locus of determination whereby that property is qualitatively determined, and (ii) take Link-2 to be defective by virtue of imposing too narrow of a constraint on what kind of modal connection must undergird determination. In what follows, I will set A and A^* aside and focus on C and C^*.

We may write something of the form

What it is for it to be that φ is for it to be that ψ,

where 'φ' and 'ψ' are sentence-variables. Replacing them with *closed* sentences yields a real definition of a fact, namely the fact expressed by what replaces 'φ'. For example: what it is

for it to be that a city exists is for it to be that…. Replacing 'φ' and 'ψ' with *open* sentences

yields a real definition of a feature (i.e. property or relation). For example: what it is for it to

be that *x* is a city is for it to be that *x* is… (where '*x*' is a variable, not a constant). It may be

more natural to write something of the form

> What it is to φ is to ψ,

where 'φ' and 'ψ' are predicate-variables. For example: what it is to be a city is…. But this

kind of natural English gloss is unavailable in any sort of systematic way with relations.[34]

So canonical claims of real definition express real definitions of facts in terms of

facts, in the sense of conveying what it is for them to hold, or express real definitions of

features in terms of features, in the sense of conveying what it is to instantiate them.[35] In

what follows, if *x* has a real definition in terms of *y*, I may say that *x* is real-defined by *y*.

Now if we want to understand fundamentality in terms of real definition, we might be

initially tempted to say:

> (Fundamentality$_{RD}$) *x* is fundamental =$_{df}$ *x* is not real-defined

> (Determination$_{RD}$) *x* is determined =$_{df}$ *x* is real-defined

(We may want to restrict what '*x*' ranges over, to keep items canonically ineligible for real

definition from counting as fundamental.) On this approach to fundamentality, a fact's being

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[34] If 'φ' and 'ψ' are replaced with open sentences, the sentence operator 'what it is for it to be that __ is for it to be that __' should be taken to bind those sentences' free variables, for the sentence as a whole is closed, not open, and intuitively expresses a proposition or "complete thought". Cf. Dorr 2008.

[35] Cf. Rosen 2010, pp. 122f. These kinds of real definition should be distinguished from a "real definition" of an entity *as such*, in the sense of "what it is" *simpliciter* (see e.g. Fine 1995a and 1995b).

fundamental amounts to its being real-definitionally ultimate or basic: nothing more informative or ampliative can be said about what it is for it to hold. (Similarly with features.)

Now consider the following schema:

(S_C) What it is for it to be that x is Castor is for it to be that $\phi(x)$.

S_C has no true instance in which a *qualitative* monadic predicate is substituted for '$\phi(x)$'. For example, it is false that what it is for it to be that x is Castor is for it to be that x has F & $\exists y(y$ has F & x and y stand in R) (i.e., that x has B). For in order for an instance of S_C to be true, the property constituting the *definiens* must entail *being Castor*, and by virtue of Alef's qualitative symmetry, no qualitative property does this. So, it *may seem* that *being Castor* has no qualitative real definition, in which case accepting Determination$_{RD}$ would lead us to conclude that *being Castor* is not determined by any qualitative matters. (We need not conclude that *being Castor* is fundamental, for it may have a *non*-qualitative real definition.) This is also where Link-2 would lead us, given the failure of *being Castor* to be entailed by any qualitative properties, and it would be a mistake.

Given our assumption that C^* is determined by C, we may affirm:

(5) What it is for it to be that x is Castor & y is Pollux is for it to be that x has F & y has F & x and y stand in R.

That is, C^* is real-defined by C. Now how could *being Castor* fail to be determined by any qualitative matters, given that C constitutes, in effect, what it is for a pair of individuals to be such that one of them has it? Conversely, were *being Castor* not determined by any qualitative matters, presumably the same would go for *being Pollux*, in which case C^* would

surely *not* be real-defined by *C*, contra (5). That is, supposing that *being Castor* is not

qualitatively determined (*a fortiori*, that it is fundamental) would seem to jeopardize (5) –

strongly suggesting that (5) ensures that *being Castor* is qualitatively determined.

We can reach the same conclusion, namely that *being Castor* is determined by

qualitative matters, via an alternate route. Let us allow a canonical statement of real

definition to be plural on the side of the *definiendum* and/or the *definiens*. For example:

What it is for it to be that ϕ_1 and ϕ_2 is for it to be that ψ (plural on the side of the

definiendum, i.e. "*definiendum*-plural")

What it is for it to be that ϕ is for it to be that ψ_1 and ψ_2 (plural on the side of the

definiens, i.e. "*definiens*-plural").

Now many *definiendum*-plural real definitions may hold by virtue of a plurality of

definiendum-singular ones. For example, a real definition of the form

What it is for it to be that *x* is human *and y* is equine is for it to be that $\psi(x, y)$

(the italics emphasizes the plural as opposed to singular-but-conjunctive character of the

definiendum) might hold by virtue of two real definitions of the form

What it is for it to be that *x* is human is for it to be that $\psi(x)$

What it is for it to be that *x* is equine is for it to be that $\psi(x)$.

For intuitively, what it is for a pair of individuals to be such that one is a human and the other a horse just boils down to what it is, on the one hand, for something to be a human, and on the other, for something to be a horse.[36]

However, we might think there can be *irreducibly definiendum*-plural real definitions, i.e. *definiendum*-plural real definitions that do *not* hold by virtue of a plurality of *definiendum*-singular ones. Examples might include something in the vicinity of one or more of these:

What it is for it to be that x is a pitcher *and y* is a catcher (in a baseball game) is for it to be that $\psi(x, y)$

What it is for it to be that x is a lock *and y* is a key is for it to be that $\psi(x, y)$

What it is for it to be that x is an x-axis *and y* is a y-axis *and z* is a z-axis (in a coordinate system) is for it to be that $\psi(x, y, z)$

What it is for it to be that x is Holmes *and y* is Watson is for it to be that $\psi(x, y)$.[37]

Returning specifically to Castor and Pollux, suppose we affirm:

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[36] We might understand the notion of one real definition's "holding by virtue of" another itself in terms of real definition. So, we might write something of this form:

What it is for it to be that [what it is for it to be that x is human *and y* is equine is for it to be that $\psi_1(x, y)$] is for it to be that [what it is for it to be that x is human is for it to be that $\psi_2(x)$] *and* [what it is for it to be that x is equine is for it to be that $\psi_3(x)$].

This "higher-order" real definition is *definiendum*-singular and *definiens*-plural. That is, it has this form:

What it is for it to be that ϕ is for it to be that ψ_1 and ψ_2.

[37] I owe the first two examples to Harold Hodes and Derk Pereboom respectively. The fourth is inspired by Fine (1995b, p. 66).

(6) What it is for it to be that x is Castor *and* y is Pollux is for it to be that x has F & y has F & x and y stand in R.

This differs from (5) in that the *definiendum* is plural as opposed to singular-and-conjunctive. Because there is no true instance of either S_C

(S_C) What it is for it to be that x is Castor is for it to be that $\phi(x)$

or S_P

(S_P) What it is for it to be that x is Pollux is for it to be that $\phi(x)$

in which the *definiens* is qualitative, (6) constitutes an irreducibly *definiendum*-plural qualitative real definition of the spheres' identity properties.[38] If (6) is true, we can say that *being Castor* and *being Pollux* together *are* real-defined by C, despite the seeming fact that neither identity property *is* real-defined by anything qualitative.[39]

Now how could *being Castor* fail to be determined by qualitative matters, given that C constitutes, in effect, what it is for a pair of individuals to be such that one of them has it (now construing this in terms of (6), not (5))? Conversely, were *being Castor* not determined by qualitative matters, presumably the same would go for *being Pollux*, in which case *being Castor* and *being Pollux* would surely *not* be real-defined together by C. That is, supposing that *being Castor* is not qualitatively determined (*a fortiori*, that it is fundamental) would

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[38] Dasgupta 2014 discusses the irreducibly plural grounding (as opposed to real definition) of facts (as opposed to properties). Further, the notion of an irreducibly plural real definition of some identity properties may be compared with Fine's idea of "simultaneous definition" (1995a, pp. 282–284) or "relational essence" (1995b, pp. 65–66)

[39] I owe this 'are' / 'is' distinction to Dasgupta.

seem to jeopardize the judgment that *being Castor* and *being Pollux* are real-defined together by *C* – strongly suggesting that (6) ensures that *being Castor* is qualitatively determined.

The moral seems to be that Link-2 is false, and it is a mistake to think that being entailed by qualitative properties is necessary for being qualitatively determined. For given (5) or (6), surely *being Castor* is qualitatively determined. Now one might also think that Determination$_{RD}$ is a bad definition, by virtue of the thought that it is mistaken to think that being real-defined is necessary for being determined. For *being Castor*, it may seem, is not qualitatively real-defined, and yet, given (5) or (6), it is qualitatively determined. (The same kinds of considerations call Fundamentality$_{RD}$ into question, for it may seem mistaken to think that failing to be real-defined is sufficient for being fundamental.[40]) However, one might try to salvage Determination$_{RD}$ by saying that, if (6) is true, Castor's identity property *is* qualitatively real-defined – just not "on its own". On this perspective, the mistake lies, not in the thought that being real-defined is necessary for being determined, but rather in the thought that S$_C$'s having a true instance is necessary for *being Castor*'s being real-defined. Supposing that (6) is true, and hence that the spheres' identity properties *are* real-defined, I am not sure that anything substantive hangs on whether we go on to say that a given sphere's identity property *is* real-defined. We should just be clear about how we are using the language. But whatever we say about Determination$_{RD}$, Link-2 appears false.

Let me be more careful by qualifying this moral in a particular way. One might try to salvage Link-2

(Link-2) Necessarily, for any property *G*, if *G* is not entailed by any qualitative properties, then *G* is not determined by any qualitative matters

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[40] Dasgupta 2014 makes an analogous point with respect to ground and facts.

by using 'determine' so that only *definienda* of canonical real definitions count as "determined". On such a use, *being Castor* is admittedly not qualitatively "determined", despite the fact that *C* is* (given (5)), and that *being Castor* and *being Pollux* together *are* (given (6)). This would preserve Link-2 and hence the inference to (2):

> (2) It is possible for there to be a non-qualitative property that is not determined by any qualitative matters. (from (1) and Link-2).

However, on this use of 'determine' I see no reason for the qualitativist to accept (3):

> (3) If qualitativism is true, it is necessary that every non-qualitative property is determined by some qualitative matters.

Rather, he should accept:

> (3^) If qualitativism is true, it is necessary that every non-qualitative property is determined^ by some qualitative matters;

where 'determined^' picks out some sort of *determination-like, fundamentality-precluding* relation with a broader extension than determination proper, which we are currently restricting to canonical cases of real definition. For example, given (5), '*C* determines *C**' will be true and '*C* determines *being Castor*' false, but both '*C* determines^ *C**' and '*C* determines^ *being Castor*' will be true. Intuitively, the qualitativist is committed to the idea that qualitative matters categorically underpin non-qualitative ones in a determination-like way that rules out their fundamentality. If it is insisted that 'determines' be used only in

connection with canonical cases of real definition (such as (5) and (6)), the qualitativist can opt for (3^). And the argument from PII's falsity is invalid if (3^) is substituted for (3).

Let us take stock. In the previous section, I maintained that Alef's qualitative symmetry is perfectly consistent with certain cases of entailment and determination between qualitative and non-qualitative matters, cases that anyone antecedently inclined toward qualitativism is entitled to assume – at least in a dialectical context of adjudicating the *anti*-qualitativism argument from PII's falsity. Having assumed some such cases of entailment and determination (e.g. from *C* to *C**), I sketched an argument against Link-2. In this section, I have developed that argument in more detail in the context of a real-definition-theoretic approach to determination. I have tried to show that, given (5) or (6) (which basically result from filtering the assumption that *C* determines *C** through real definition), Link-2 is false. (More precisely, either Link-2 is false or 'determines' is given a restricted meaning that leads to other problems for the argument from PII's falsity.) For given (5) or (6), *C* intuitively determines *being Castor* (as well as *being Pollux*), despite the fact that the identity property is not entailed by any qualitative properties.

6. Oblique Determination

Although I have argued that, given (5) or (6), *C* determines *being Castor*, it must be acknowledged that there is an important distinction between the determination connection from *C* to *C** (alternatively, from *C* to *being Castor* and *being Pollux* together), on the one hand, and the determination connection from *C* to *being Castor*, on the other – a distinction that might be obscured by just talking about "determination" full stop. We might be tempted to say that the latter connection holds by virtue of the former, or that *C* determines *being Castor* by virtue of determining *C** (alternatively, by virtue of determining *being Castor* and

being Pollux together). Or alternatively: it is *in* or *by* determining *C** (alternatively, *being Castor* and *being Pollux* together) that *C* determines *being Castor*.

We might try to capture the two kinds of determination connection with the following terminology. Let us say that *C directly* determines *C** (alternatively, *being Castor* and *being Pollux* together) and *obliquely* determines *being Castor*. The glosses in the previous paragraph suggest that direct determination is somehow metaphysically "prior" to oblique determination. And it seems to me that direct determination is conceptually prior. We can make sense of direct determination simply through our preferred canonical way of expressing claims of determination. For example, given the real-definition-theoretic approach adopted in the previous section, (5) and (6) would express cases of direct determination. Cases of oblique determination will then be delivered by judgments to the effect that certain matters cannot be fundamental, *given* certain cases of direct determination, even if those matters are not themselves objects of direct determination. For example, *being Castor* intuitively cannot be fundamental, given (5) or (6), even though *being Castor* is not itself an object of direct determination. (The truth of an instance of S_C would be required for that.)

I acknowledge that I have given no rigorous account of oblique determination, including conditions for exactly when something is obliquely determined in connection with a case of direct determination. However, in my argument above I found it compelling that the (direct) determination of *C** (and of *being Castor* and *being Pollux* together) precluded the fundamentality of *being Castor*, and I also gave a quick argument: taking *being Castor* to be fundamental would intuitively jeopardize the relevant case of direct determination. (*Mutatis mutandis* with *being Pollux*.) This line of thought generalizes: one can test the claim that a given matter *m* is obliquely determined in connection with a given case *c* of direct determination by reflecting on whether taking *m* to be fundamental would undermine *c*.

Recall that I said in §4 that my response to the argument from PII's falsity avoids the fundamentality of non-qualitative matters in Alef at the cost of taking them to be holistically determined by qualitative matters. I mentioned two respects in which the relevant determination is holistic. First, it is holistic vis-à-vis objects of determination, in that some larger-scale non-qualitative matters (e.g. C^*) are determined in a way that is not mediated by the determination of smaller-scale parts (e.g. *being Castor* and *being Pollux*). Second, it is holistic vis-à-vis determination itself, in that some non-qualitative matters (e.g. *being Castor* and *being Pollux*) are determined irreducibly *together*. The first facet of this holistic picture pertains to direct determination, the second to oblique, and they are bound together, inasmuch as oblique determination only occurs in connection with direct. For example, *being Castor* and *being Pollux* are each obliquely determined in connection with the direct determination of C^* (a la (5)). Alternatively: the identity properties *are* directly determined (a la (6)), and accordingly each *is* obliquely determined.

We can say that it is cases of direct determination that limn what I have called the "locus" (or loci) of modal and determinative connection between fundamental and derivative matters in a world. For example, given that *being Castor* is not directly determined, we can grant that it is false that Castor is the way it is, non-qualitatively (i.e. B^*), by virtue of being the way it is, qualitatively (i.e. B). But given that C^* is directly determined (alternatively, that *being Castor* and *being Pollux* are directly determined), we can affirm that the spheres are the way they are, non-qualitatively (i.e. C^*), by virtue of being the way they are, qualitatively (i.e. C). We can then say that matters that are *only* objects of oblique determination (e.g. *being Castor*) are matters that are derivative despite failing to exactly occupy the "joints" or "fault-lines" of a world's "determination structure". The qualitativist may say that *this* is the really interesting thing about symmetric worlds like Alef: *not* that

they highlight the possibility of fundamental non-qualitative matters, but that they highlight the possibility of reality's having a holistic as opposed to atomistic determination structure.

7. Conclusion

Counterexamples to a qualitative version of the Principle of the Identity of Indiscernibles constitute situations in which we have non-qualitative properties that are manifestly not entailed by qualitative ones. When we come upon such a non-qualitative property, one response is to conclude that we have hit upon a *fundamentally* non-qualitative aspect of reality. However, an alternative is to conclude that we have to look elsewhere for the determination-tracking entailments whereby this *derivative* portion of reality is qualitatively underpinned. For example, if a given individual's identity property (e.g. *being Castor*) is not entailed by any qualitative properties, this could either be because it is indeed not qualitatively determined, *or* because it is *obliquely* determined in connection with the qualitative determination of a more comprehensive non-qualitative matter (e.g. *C**) that *is* entailed by qualitative matters.

I have not directly argued, here, that the second response is better: perhaps fundamental non-qualitative matters are to be preferred to holistically determined ones. I do not think so, but my main aim here has just been to articulate an insufficiently considered way of reacting to the property-entailment failures bound up with qualitative symmetry. At a minimum, I hope to have established the coherence or intelligibility of such a response. If I have, then a purely qualitative view of fundamental reality is consistent with such symmetry.

Qualitativism, Haecceitism, and Time

Abstract: According to *qualitativism*, fundamental or ultimate reality is purely qualitative or general. My main aim here is to explore the relationship between qualitativism and both the nature of time and (anti)haecceitism, where antihaecceitism is (roughly) the view that qualitatively identical possible worlds are identical *simpliciter*. Recent work affirms that qualitativism implies antihaecceitism, in which case objections to the latter constitute objections to the former, and I discuss a *prima facie* powerful objection in this vein. I argue that, on any "dynamic" view of time on which the future is "open", qualitativism as it is commonly understood succumbs to the objection. However, I also argue that, on dynamic views of time in general, it is unclear that the common understanding of qualitativism is adequate. I then develop an alternative account of qualitativism and argue that it is consistent with haecceitism.

1. Preliminaries

In an influential 1979 article, Robert Adams asked:

> Is the world – and are all possible worlds – constituted by purely qualitative facts, or
>
> does thisness hold a place beside suchness as a fundamental feature of reality?[41]

Several recent papers have explored something in the vicinity of the first of these views (which Adams rejected), a view of fundamental reality as purely qualitative.[42] Following others, I will call this *qualitativism*. My main aim in this paper is to explore qualitativism's relationship to both the nature of time and haecceitism (in one sense of that word), and I will do so by way of developing and assessing a *prima facie* powerful objection to qualitativism that turns on considerations pertaining to both haecceitism and time. As far as I am aware,

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[41] Adams 1979, p. 5.

[42] See Dasgupta 2009, 2014, forthcoming, Kment 2012, pp. 578–584, Russell 2013, and Turner forthcoming.

qualitativism's relationship with theories of time has not yet received attention, and though its relationship with haecceitism has, I will call previous work on this into question.

Here is the plan. In the remainder of this section, I cover some basic relevant concepts. In §2 I present the objection to qualitativism to be assessed. The worry is that qualitativism seems to imply antihaecceitism, and antihaecceitism seems false, because of a particularly intuitive alleged counterexample. I argue in §3 that, given our initial account of qualitativism, would-be qualitativists who subscribe to one view of the nature of time succumb to the counterexample, but that those affirming other views can resist it. However, in §4 I call this initial account of qualitativism into question, develop an alternative account, and argue that it is consistent with the relevant counterexample to antihaecceitism – and hence with haecceitism. In §5, further defend the qualitativist credentials of this alternative account, and I wrap up in §6.

There is a familiar and intuitive distinction between *qualitative* and *non*-qualitative properties, relations, and facts. It is commonly said that non-qualitative items are those that "involve" or are "about" *particular* concrete particulars in some sort of *direct* way. This gloss suggests that non-qualitative items include, for example, the property of being Obama, the relation of flanking Biden, and the fact that Obama and Biden are five feet apart; and that qualitative items include, for example, the property of being blue, the fact that there are two individuals that are five feet apart, and the fact that sphericity is instantiated.[43]

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[43] 'Qualitative' and 'non-qualitative' are not always used to get at the particular distinction I am after. For example, Hawley 2009 (p. 102) extends 'non-qualitative' to items involving the identity and parthood relations. On this use, not only would the fact that Obama and Biden are five feet apart be "non-qualitative," but the fact that there are *two* individuals that are five feet apart would as well. Alternatively, one might use 'qualitative' as an adjectival form of 'quality' or 'property' (see Paul 2012). On this use, a trope would be a "qualitative" item, whereas on mine, no concrete particular is qualitative or non-qualitative. Another wrinkle: though the text's gloss should suffice for present purposes, I am not sure it perfectly captures the relevant distinction. Suppose there are *haecceities*, by which I mean a primitive property the having of which explains the possessor's being the very thing it is (cf. e.g. Adams 1981, pp. 12–18, Lowe 2003, pp. 86–89, and Mackie 2006, p. 21). A haecceity for a concrete particular would intuitively be non-qualitative, but might not directly involve particular concrete particulars. Admittedly, however, properly adjudicating this would require saying more about what it is for a property to "directly involve" something.

The notion of a *fundamental* property, relation, or fact is also intuitive, if more controversial. Fundamental items enjoy a distinctively metaphysical kind of basicness or ultimacy, and non-fundamental, or *derivative*, items are *determined by* the basic. There are different ways of making sense of fundamentality, and I will adopt a *ground*-theoretic approach. I follow Kit Fine in taking grounding to be a form of constitutive determination,[44] and I will follow him and others in taking it to be a relation that holds, at least canonically or in the first instance, between facts.[45] Whereas we might say that a given statue exists at a time t because of certain earlier activities of a sculptor (conveying a causal explanation), we might say that the fact that the statue exists at t is *grounded* in facts about the existence and properties of a certain quantity of matter at t (conveying a constitutive explanation). Hereafter I will use 'grounds' instead of 'determines', and I will say that a fact is fundamental just in case it has no grounds.[46] I assume this principle about grounding:

(G-Entailment) Necessarily, for any facts x_1, x_2, etc., and any facts y_1, y_2, etc., if x_1, x_2, etc. ground y_1, y_2, etc., then x_1, x_2, etc. entail y_1, y_2, etc.[47]

(Some facts entail others just in case it is necessary that if the former hold, the latter do.) And I assume this thesis about fundamentality in a ground-theoretic context:

(G-Completeness) Necessarily, if there are any facts, there are some fundamental ones, which collectively ground any other facts.[48]

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[44] See e.g. Fine 2012, pp. 37, 39.
[45] See e.g. Rosen 2010, Fine 2012, and Dasgupta 2014.
[46] See Dasgupta 2014.
[47] Some philosophers admittedly do not think that grounds always modally suffice for what they ground, in the sense of entailing it (see e.g. Leuenberger 2014). However, many find it plausible that grounds do entail what they ground (see e.g. Rosen 2010, p. 118, Audi 2012b, p. 698, and Dasgupta forthcoming, p. 3), and even philosophers who deny this can grant that grounds modally suffice for what they ground in a weaker sense captured by a global supervenience claim (see Leuenberger again, as well as e.g. Bricker 2006). For my purposes here, the assumption of G-Entailment simplifies things but is ultimately dispensable.

The idea behind the name is that fundamental facts provide a complete determination base (and, given G-Entailment, a modal base) for all others. So, on this approach to fundamentality, fundamentality is (in the first instance) a property of facts, and the fundamental facts are those that are ultimate or primitive in a specifically ground-theoretic sense: they are facts that hold but are not themselves constituted by any further facts, and that collectively constitute any others.

Now let us say, at least for now, that qualitativism is the following thesis:

(Qualitativism) Necessarily, the fundamental facts are all qualitative.[49]

One might weaken the definition's modal import by qualifying the necessity or striking the modal operator altogether. However, the definition captures the view that fundamental reality is purely qualitative in a modally deep or stable way, and that is the kind of view I want to explore (compare the quotation from Adams above). The objection to qualitativism to be discussed attempts to motivate the *possibility* of some fundamental non-qualitative facts, and I am inclined to think that if there are possibly any fundamental non-qualitative facts, there are actually some as well. But I will not argue that here, so let me just flag that one conceivable response to the objection to follow is that the fundamental facts are only *contingently* all qualitative.

G-Entailment, G-Completeness, and the given definition of qualitativism presuppose that reality has a "tenseless locus of actuality". By this I mean that the facts constituting the world do not hold *at* times *per se*, but rather simply hold full stop, or *simpliciter*, or

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[48] Cf. Sider 2011, pp. 105–106, and Bennett forthcoming, ch. 4. As I have formulated it, this assumption implies that grounding is well-founded, in the sense that all grounding "chains" terminate in fundamental, ungrounded facts (see e.g. Bliss 2014, p. 245). For my purposes here, assuming well-foundedness simplifies things but is ultimately dispensable.

[49] Cf. Kment 2012, p. 578, Russell 2013, p. 21, and Dasgupta 2014, p. 6, and forthcoming, p. 3.

tenselessly, while involving times in their *content*. (Compare how reality presumably has a "spaceless" locus of actuality: the facts constituting the world do not hold *at* places, but may involve them in their content. For example: the fact that there is a desk at place *p* involves *p*, but it is not as if the fact *holds at p*.) This is appropriate on the so-called "B-theory" of time, according to which reality is ultimately "static", not susceptible to genuine temporal becoming. (The intuitive picture is that of reality as a four-dimensional "block", having events located at different times as parts.) So suppose there was war yesterday but peace today. The B-theorist will say, in accord with the given form of G-Completeness, that there are, *simpliciter*, some fundamental facts that collectively ground, *simpliciter* – and hence, by G-Entailment, entail – yesterday's and today's respective goings-on. (For example, the grounded goings-on might include facts to the effect that there is war earlier than peace, or war at time t_1 and peace at time t_2.) And if she is a *qualitativist*, she will say that the fundamental facts are, *simpliciter*, exclusively qualitative.

Suppose, by contrast, that reality has a *tensed* locus of actuality, meaning that the facts constituting the world hold at times. This is appropriate on the so-called "A-theory" of time, according to which reality is ultimately "dynamic", susceptible to genuine temporal becoming. If there was war yesterday but peace today, the A-theorist will say that there *were* some fundamental facts that collectively grounded (*then*) the war-like state of things, but that there *are* (*now*) some fundamental facts that collectively ground (*now*) the presence of peace. And if she is a qualitativist, she will say that the fundamental facts are *always* (yesterday, today, etc.) exclusively qualitative. So, the A-theorist should adopt these formulations of G-Entailment, G-Completeness, and qualitativism:

> (G-Entailment) Necessarily, *always*, for any facts x_1, x_2, etc., and any facts y_1, y_2, etc., if x_1, x_2, etc. ground y_1, y_2, etc., then x_1, x_2, etc. entail y_1, y_2, etc.

(G-Completeness) Necessarily, *always*, if there are any facts, there are some fundamental ones, which collectively ground any other facts

(Qualitativism) Necessarily, *always*, the fundamental facts are all qualitative.

To sum up: inasmuch as history may exhibit variation across time, we can say that, if the facts constituting the world hold *at* times, the fundamental and derivative facts may *change*. The A- and B-theory of time respectively affirm and deny this, and accordingly call for different formulations of G-Entailment, G-Completeness, and qualitativism.[50]

The B-theory of time is often called *eternalism*. The A-theory ramifies into various more specific theories that differ in terms of the ontological stance taken toward the past and future. For example, on *presentism*, (always) only present goings-on exist. On the *growing block* view, (always) only past and present goings-on exist. And there are other views. But what unifies them is the idea that reality is ultimately dynamic, or has a tensed locus of actuality.[51]

2. Qualitativism, Antihaecceitism, and a Candidate Counterexample

Qualitativism is naturally associated with *antihaecceitism*, by which I mean:

(Antihaecceitism) Necessarily, the qualitative facts entail all the facts.[52]

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[50] See Sider 2011, ch. 11, for discussion of the B-theory as well as various versions of the A-theory with an emphasis on the nature of the fundamental facts.
[51] See e.g. Miller 2013. 'Eternalism' is sometimes used to only pick out the ontological stance that past, present, and future goings-on all exist. This view, in and of itself, is consistent with the A-theory. (The combination of "eternalism" in this sense and the A-theory has been called the "moving spotlight" view.)
[52] See Skow 2007 and e.g. Mackie 2006, pp. 42–45.

Haecceitism is antihaecceitism's negation. Suppose it is possible for the world to be exactly as it actually is qualitatively, but such that Obama and Biden "swap" *qualitative roles*, where by a qualitative role I mean a qualitative property that is maximally specific in intrinsic and extrinsic respects. (Imagine a picture of the history of our universe, with labels attached to Obama and Biden: now swap the labels.) This possibility implies haecceitism. For given this possibility, it is *actually* the case that the qualitative facts fail to entail all the facts (such as facts about what qualitative properties Obama and Biden respectively have), and hence *possible* that they do. Let me emphasize that the given definition of antihaecceitism presupposes a tenseless locus of entailment. (Note the absence of an 'always' operator.) The idea is that the way reality is qualitatively, *across all time*, modally fixes the way it is *simpliciter*, *across all time*. An A-theorist can, I take it, understand what this thesis amounts to, even if she cannot ultimately countenance this way of conveying it.[53]

Now qualitativism and antihaecceitism are different: the former is a thesis about what is fundamental, while the latter is a purely modal thesis. However, it seems that qualitativism implies antihaecceitism.[54] For given G-Completeness, the fundamental facts ground any others, and given G-Entailment, it follows that they entail any others. And since any facts entail themselves, the fundamental facts entail all the facts. So given qualitativism's definition, it is *necessary* that the *qualitative* facts entail all the facts, i.e. antihaecceitism.

Though I have defined (anti)haecceitism in terms of modal operators, it will be helpful in what follows to talk about "possible worlds". Let us say that a (possible) world is a (possible) maximally specific way for reality to be (across all time). Antihaecceitism implies

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[53] Were the A-theorist to simply add an 'always' operator (call the resulting thesis 'antihaecceitism*'), the result would be an intuitively *stronger* thesis. For example, consider a two-way eternal world (i.e. a world that, relative to any time therein, has an infinite past and an infinite future) in which a particle originates *ex nihilo*, ceases to exist, originates *ex nihilo*, ceases to exist, etc., where every cycle involves a qualitatively identical but numerically distinct particle. Antihaecceitism is, but antihaecceitism* is not, consistent with the possibility of such a world. Admittedly, however, this example turns on the compossibility of the A-theory and two-way eternality, which one might doubt.

[54] Cf. Kment 2012, pp. 580–582, and Dasgupta 2014, pp. 7–8, and forthcoming, p. 3.

that there are no worlds *w* and *v* that are *duplicates* (i.e. have identical qualitative facts), *distinct* (i.e. have non-identical facts), and *both possible*. For suppose, first, that there were such a *w* and *v*, and, second, that their shared qualitative facts were to hold. The qualitative facts fail to entail all the facts. For example, they fail to settle whether *w* is actual. Discharging the second supposition, it is *possible* that the qualitative facts fail to entail all the facts, i.e. haecceitism. It may also clarify things to spell out haecceitism's threat to qualitativism in terms of worlds. Notice that any fact over which any two worlds differ is not entailed by any facts they share. So supposing that *w* and *v* are duplicates, distinct, and both possible, *w* (*v*) has some non-qualitative facts that are not entailed by any qualitative facts in *w* (*v*). Suppose that *w* (*v*) were actual, and consider such a non-qualitative fact, *p*. Given G-Completeness, qualitativism requires that *p* is grounded in some qualitative facts. But given G-Entailment, it is not.

Let us say that a pair of duplicate distinct worlds is a *candidate counterexample pair* to antihaecceitism. If they are also both possible, we have a *genuine* counterexample pair. For example, the actual world and a world *w* in which Obama and Biden swap roles constitute a candidate counterexample pair, and, if *w* is possible, a genuine counterexample pair. Now antihaecceitism – and hence qualitativism, as defined – is false if there is so much as one genuine counterexample pair. However, were antihaecceitism false, interesting disputes would arise concerning which *kind* of haecceitism is true, where kinds of haecceitism can be distinguished in terms of different views about the *extent* of genuine counterexample pairs. Let me also emphasize here that philosophers have not used the terminology of '(anti)haecceitism' univocally, and that my interest in what follows is with "(anti)haecceitism" as I have defined them.[55]

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[55] For example, David Lewis uses 'antihaecceitism' for the view that no two "possible worlds" differ in what they represent without differing qualitatively (Lewis 1986a, p. 221). This is virtually equivalent with antihaecceitism, i.e. my "antihaecceitism", given my use of 'world' as a maximally specific way for reality to be. However, if "possible worlds" are *not* taken to be (or represent) *all* the possible maximally specific ways for

Now anyone antecedently inclined toward antihaecceitism will presumably reject straightaway the suggestion that Obama and Biden could have swapped roles – i.e. that the actual world and a world in which they do is a *genuine* counterexample pair. And since qualitativism implies antihaecceitism, anyone antecedently inclined toward qualitativism may as well. Likewise, anyone antecedently inclined toward qualitativism or antihaecceitism will presumably reject the suggestion that there is a genuine counterexample pair consisting of the actual world and a world in which Obama's actual role is played by an actually non-existent individual. However, I do not think all candidate counterexample pairs are created equal, and in what follows I will explore what I take to be the most powerful kind, in the sense of having the best chance of being dialectically effective vis-à-vis someone *antecedently* inclined toward antihaecceitism – and, by extension, qualitativism.

In order to properly introduce the candidate counterexample pair I want to dwell on, we need to consider this version of the so-called "principle of the identity of indiscernibles":

(PII) Necessarily, for any individuals *x* and *y*, if *x* and *y* are qualitatively indiscernible, then *x* and *y* are identical.

Let us say, for present purposes, that *x* and *y* are "qualitatively indiscernible"[56] just in case they are indiscernible in both of these ways:

(QI-1) For any qualitative property, *x* has it just in case *y* does

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reality to be, Lewis's "antihaecceitism" is consistent with there being maximally specific ways for reality to be that are duplicates, distinct, and possible, i.e. with haecceitism. Lewis himself arguably rejected antihaecceitism, despite affirming his "antihaecceitism", and he explicitly maintained that his "antihaecceitism" could accommodate, at least to an extent, haecceitist intuitions – such as the judgment that Obama and Biden could have swapped roles (see e.g. ibid., pp. 220ff., Skow 2007, and Russell 2013). The antihaecceitist thinks such intuitions are *mistaken*.

[56] See e.g. Quine 1976 for different ways in which entities might be "indiscernible".

(QI-2) For any qualitative relation, *x* bears it to *y* just in case *y* does to *x*.

Just as with my definition of antihaecceitism, the A-theorist can presumably understand what PII amounts to, even if she cannot ultimately countenance this way of expressing it.[57]

Now PII has well-known apparent counterexamples, such as the following.[58] Consider a world in which two qualitatively indiscernible iron spheres simultaneously originate *ex nihilo* at some spatial distance from each other, persist unchanged for five seconds, then wink out of existence. We can go some way toward grasping this qualitative indiscernibility by thinking of the spheres as divided by an axis of spatial symmetry, such that each is a "mirror image" of the other. Let 'Alef' denote such a world, and 'Castor' and 'Pollux' its spheres. Castor and Pollux satisfy, in Alef, the antecedent in PII. For instance, Castor is iron just in case Pollux is, a particular distance from something spherical just in case Pollux is, and so on for any qualitative property. And any qualitative relation that Castor bears to Pollux (for instance, the relation that one thing bears to another just in case the former is iron and the latter spherical) is also borne by Pollux to Castor. However, Castor and Pollux do not satisfy the consequent in PII. Accordingly, if Alef is a *possible* world, PII is false.

There admittedly are ways of trying to save PII from apparent counterexamples like Alef,[59] but I am content to grant Alef's possibility and PII's falsity. Any dissidents may at least acknowledge that PII is controversial enough to render interesting a discussion of what would or would not follow, were it false.

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[57] Were the A-theorist to simply add an 'always' operator (call the resulting thesis 'PII*'), the result would be an intuitively *weaker* thesis. For example, consider a two-way eternal world containing two particles of the following sort: at any time, one is green and the other blue, and they swap colors every five seconds. PII* is, but PII is not, consistent with the possibility of such a world. Admittedly, however, this example turns on the compossibility of the A-theory and two-way eternality, which one might doubt.

[58] Cf. Black 1952 and Adams 1979.

[59] For three different tactics, see, respectively, Hacking 1975, Hawthorne 1995, and Hawley 2009. Hawley also provides general discussion, and see Demirli 2010 and Curtis 2014 for recent work on Hawthorne's tactic.

Now, one might think there is a more or less direct conflict between qualitativism and *PII*'s falsity. Adams (whom I quoted at the start of this paper) seemed to think so.[60] However, I address Adams' argument elsewhere,[61] and I do not think there is anything about qualitatively symmetric worlds like Alef, considered in and of themselves, that undermines the view that the fundamental facts are necessarily all qualitative.[62] My aim here is to explore how PII's falsity may be taken to threaten qualitativism less directly, by being used to motivate counterexamples to *antihaecceitism*. Even if qualitativism does not depend on PII, we have seen that it does depend on antihaecceitism.

We might try to motivate a genuine counterexample pair by performing, so to speak, two *world expansion* operations of a specific kind on Alef.[63] Let us expand Alef in the temporal dimension by supposing that Castor exists for ten seconds instead of five, and let us expand Alef again by supposing that Pollux does instead. Call these two "expansions" 'Bet' and 'Gimel'.

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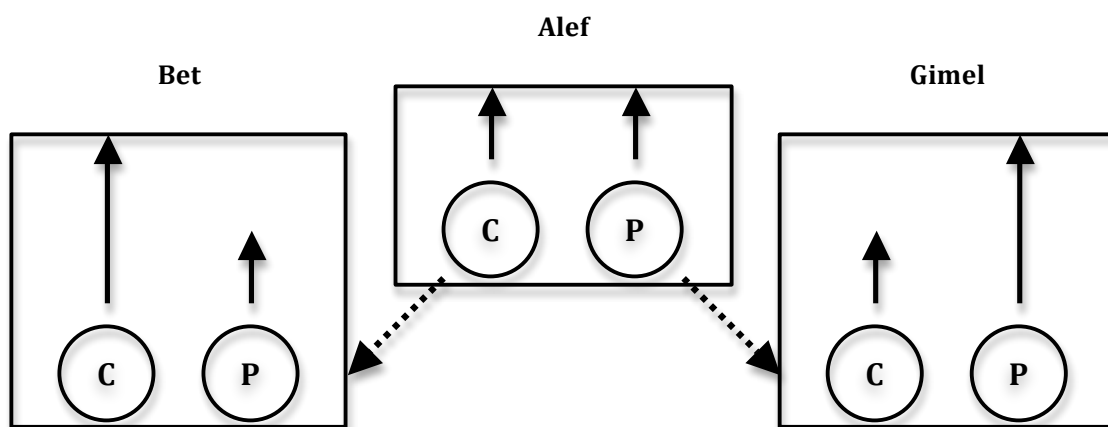
[60] Adams 1979. Note in particular: "The purely qualitative conception of individuality stands or falls, rather, with a certain doctrine of the Identity of Indiscernibles" (p. 11).
[61] See my "Qualitativism and the Identity of Indiscernibles."
[62] Cf. Kment 2012, pp. 579–580, and Dasgupta 2014, p. 7.
[63] Cf. Adams 1979, pp. 22–23, Armstrong 1997, p. 108, Melia 1999 and 2001, p. 21, and Kment 2012.

Bet and Gimel are duplicates, having identical qualitative facts (roughly, such and such a sphere exists for ten seconds and so and so a sphere exists for five), and they are distinct (differing over *which* sphere exists for ten seconds and which for five).[64]

So Bet and Gimel constitute a candidate counterexample pair, and, if Alef is possible and possibility is preserved through the expansion operations, a *genuine* counterexample pair. It seems to me that this is the most powerful kind of potential counterexample to antihaecceitism, in the sense of having the best chance of being dialectically effective vis-à-vis someone antecedently inclined toward antihaecceitism.[65] This is largely because of the role of *time* in the candidate counterexample. Because the two qualitative roles that the salient individuals swap in Bet and Gimel differ only with respect to *future* qualitative matters (relative to some initial time), it may seem especially intuitive that they could be distributed across the individuals in *two different ways*. Moreover, the following quick argument might be given for the genuineness of the counterexample. It seems that Alef, Bet, and Gimel are exactly the same for the first *four* seconds of their histories, differing only in terms of how a shared initial segment of history is extended. And if this is right, then inasmuch as this segment can, given Alef's possibility, be extended in a way resulting in Alef's actuality, it seems that it both can be extended in a way resulting in Bet's actuality and can be extended in a way resulting in Gimel's actuality.

Let us take stock. Qualitativism, as typically defined and as I have defined it here, implies antihaecceitism, such that objections to the latter constitute objections to the former. And we have a challenge to antihaecceitism: the pair of Bet and Gimel looks like a genuine counterexample.

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[64] Some might worry about Bet's and Gimel's distinctness, for, unlike the pair of the actual world and a world in which Obama and Biden swap roles, we do not actually have genuinely referring names for the role swappers. If you do, suppose Bet and Gimel were introduced in something like the following way: "Possibly $\exists x \exists y (x$ and y are such and such & possibly (x continues to exist while y vanishes) & possibly (y continues to exist while x vanishes))". Cf. Adams 1979, p. 22, n. 24, and Kment 2012, p. 583.

[65] See Melia 1999 for a variety of candidate counterexample pairs of the relevant kind.

3. The Candidate Counterexample and the Nature of Time

We should distinguish two questions. First: *can* anyone antecedently inclined toward qualitativism reject the genuineness of this candidate counterexample to antihaecceitism? Second: *how plausible* would it be to do so? I will focus on the first question in what follows, though I will say a bit about the second later. I will first argue that Bet and Gimel are either both possible or both impossible. This is relevant for assessing the candidate counterexample pair, inasmuch as it will follow that, if so much as *one* of Bet and Gimel is possible, *both* are and the counterexample is genuine. I will then argue that, on some views of the nature of time, the would-be qualitativist *can* deny the possibility of both worlds, but that on another kind of view, the would-be qualitativist *cannot*.

Recall that, in Alef, Castor and Pollux are qualitatively indiscernible. Now qualitative properties and relations respectively include modal properties and relations. For example, the property of *possibly* co-existing with an iron sphere is a modal property that is qualitative (by contrast with, for example, the property of possibly co-existing with Pollux), and the relation that one thing bears to another just in case they are *possibly* such that the former is iron and the latter spherical is a qualitative modal relation. By virtue of Castor's and Pollux's having identical qualitative modal properties, any qualitative possibility for the one is a possibility for the other. And by virtue of Castor's and Pollux's bearing identical qualitative modal relations to each other, any qualitative possibility for the pair, in a given order, is a possibility for the pair in the opposite order.

Now let Q_{10} and Q_5 be, respectively, the qualitative roles had by the "ten-second" and "five-second" spheres in Bet and Gimel. And consider this qualitative modal relation:

x bears R to y =$_{df}$ possibly (x has Q_{10} & y has Q_5).

By virtue of Castor's and Pollux's qualitative indiscernibility in Alef, Castor bears R to

Pollux, in Alef, just in case Pollux bears R to Castor. It follows that, in Alef, Bet is possible

just in case Gimel is. And given that Alef is possible, and that what is possibly possible is

actually possible,[66] it follows that it is actually the case that Bet is possible just in case Gimel

is.[67]

So, if one of Bet and Gimel is possible, both are and the counterexample is genuine.

Can a would-be qualitativist deny that either is possible? One might do this by denying that

any world that duplicates Bet and Gimel is possible – that is, by denying that Bet's and

Gimel's qualitative character constitutes a possible way for reality to be, qualitatively. But

this seems unmotivated,[68] and I will assume there is a world that duplicates Bet and Gimel

and is possible. The question becomes whether there is any such world in which the spheres

are *Castor and Pollux – those* very individuals. If there is, then Bet or Gimel is possible, and

hence – given the previous argument – both are.

Let us first suppose that our would-be qualitativist is a B-theorist, and accordingly

takes facts about the entire sweep of history to hold tenselessly. It seems *open* to her to say

that, were Alef's qualitative character to tenselessly hold, the existence of *Castor and Pollux*

would be tenselessly grounded, resulting in the actuality of Alef; but that, were Bet's and

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[66] I assume here that metaphysical modality is governed by a logic at least as strong as S4.

[67] The relevant qualitative indiscernibility between the spheres is a stipulated feature of Alef. However, now that we have explicitly called attention to modal qualitative features, one might wonder whether Alef's possibility should have been granted in the first place. For one thing, it might be noted that while the possibility of spatial symmetry does intuitively deliver the possibility of qualitative indiscernibility vis-à-vis non-modal qualitative matters, it is less clear that it delivers the possibility of qualitative indiscernibility vis-à-vis modal qualitative matters. (Let me note, in passing, that denying the possibility of the latter kind of qualitative indiscernibility gives us another tactic for defending PII, one not covered in note 59.) However, I would think that most philosophers who are inclined to accept the possibility of the former kind of qualitative indiscernibility would also be inclined to accept the possibility of the latter kind. Further, sticking with Alef's possibility makes things harder for the qualitativist.

[68] The argument of Melia 1999 (see pp. 649 and 652 in particular) implies that (a) any possible world that duplicates Bet and Gimel would be a world without deterministic laws of nature. (This is because Melia maintains that determinism implies that individuals that are initially qualitatively indiscernible will remain qualitatively indiscernible.) If one accepts this and also thinks (b) determinism is metaphysically necessary, one should deny the possibility of any duplicate of Bet and Gimel. However, (b) would obviously be very controversial, and I also think (a) is susceptible to challenge.

Gimel's qualitative character to tenselessly hold, the existence of a *different* pair of spheres would be tenselessly grounded, resulting in the actuality of a duplicate of Bet and Gimel other than Bet or Gimel.[69] Given G-Entailment, this renders Bet and Gimel impossible, inasmuch as their shared qualitative facts entail the actuality of some *other* world. Accordingly, the B-theorist qualitativist *can* deny that possibility is preserved through the "expansion operations" on Alef whereby Bet and Gimel were introduced (in §2). "Modifying" Alef by supposing that one of the spheres outlives the other involves modifying the world's fundamental tenseless character, and she can say that this kind of change delivers a change in *which* individuals exist.

However, let us now suppose our would-be qualitativist subscribes to the A-theory of time. On this theory, the history of the world does not hold tenselessly, but rather unfolds gradually over time. Now suppose the *beginning* of Alef's history were actual. (Given that Alef is possible and necessarily begins in the way it does, this beginning is possible.) So, our would-be qualitativist thinks it is now the case that there exists such and such a pair of iron spheres. Given that existentially quantificational facts have witnesses, she thinks there is a particular pair of spheres such that it is now the case that *they* exist.[70] Given G-Completeness, she takes this non-qualitative fact to be grounded now in some currently fundamental qualitative facts. Given G-Entailment, she takes this non-qualitative fact to be entailed by those qualitative grounds. Now, our would-be qualitativist must take the relevant

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[69] I am intentionally conducting the argument in a way that does not commit us to any particular view about the nature of the fundamental qualitative facts. According to one view, some fundamental facts existentially quantify over particulars and attribute qualitative features to them. According to another view, the fundamental facts exclusively involve qualitative features (in the vein of something like a "bundle theory"). These views have been respectively called "quantifier generalism" and "algebraic generalism" (see Dasgupta 2009 and forthcoming, and Turner forthcoming). Both views can countenance the existence of individuals (such as iron spheres), though the algebraic generalist must deny that any individuals participate in *fundamental* facts, and the quantifier generalist must deny that any individuals are "*named*" in fundamental facts (cf. Kment 2012, p. 579).

[70] This claim and the previous claim are neutral between quantifier and algebraic generalism (see note 69). For algebraic generalism does not deny the holding of qualitative facts that quantify over particulars, but only denies that any such facts are fundamental.

spheres to be *Castor and Pollux*, for otherwise Alef would be impossible: the qualitative facts with which it (necessarily) begins would entail its *non*-actuality.

Now we have seen that, in order to preserve antihaecceitism and hence qualitativism, our A-theorist needs to deny the possibility of both Bet and Gimel. Further, we are assuming there is a possible duplicate of Bet and Gimel. Call it '*d*'. Now our A-theorist faces the following question: do Alef and *d begin* in the *same* way, qualitatively? That is, are the qualitative facts that would hold, were the beginning of Alef actual, the same as the qualitative facts that would hold, were the beginning of *d* actual? *Prima facie* the answer seems to be yes, for it seems that the first five-second interval of Alef's history duplicates the first five-second interval of *d*'s history. But if the answer is indeed yes, qualitativism is false. For we have just seen that the very qualitative facts with which Alef begins entail the existence of Castor and Pollux. So if *d* begins with these qualitative facts, *d* contains Castor and Pollux. And in this case, *d* is either Bet or Gimel, depending on which of Castor and Pollux outlives the other. So, given that Bet and Gimel are both possible if either is, it follows that both *are* possible, resulting in qualitativism's falsity.

However, it is *open* to the A-theorist to deny that Alef and *d* begin the same way, qualitatively. Let us say that on the "*open* future A-theory", there is sometimes no fact of the matter about what the future will be like in at least some respects (the future is partly "open"), whereas on the "*closed* future A-theory", there is always a fact of the matter about what the future will be like in every respect (the future is "closed"). The *closed* future A-theorist can say that Alef and *d* begin differently, qualitatively. She might do this by combining the A-theory with an ontological stance according to which future goings-on exist. Alternatively, she might invoke future-tensed facts. Let me illustrate with the latter approach. The A-theorist can say that Alef begins with a qualitative fact to the effect that such and such a pair of spheres exist and *will* go on existing for exactly five seconds, and that

d begins with a qualitative fact to the effect that such and such a pair of spheres exist, one of which will go on existing for exactly five seconds, the other of which will go on existing for exactly ten. Now if our would-be qualitativist indeed denies that Alef and *d* begin the same way, qualitatively, she *can* follow the B-theorist qualitativist in denying the possibility of Bet and Gimel. She can say that, were matters to begin with the holding of qualitative facts appropriate to Alef's history, the existence of Castor and Pollux would be grounded, but that were matters to begin with the holding of qualitative facts appropriate to *d*'s history, the existence of different spheres would be grounded. Given G-Entailment, this renders Bet and Gimel impossible, inasmuch as the qualitative facts with which they begin entail their *non-actuality*.[71]

Let me sum up. I said in §2 that Bet and Gimel seem to constitute an especially plausible candidate counterexample to antihaecceitism, and indicated that its genuineness might be supported by the following quick argument:

(1) Alef, Bet, and Gimel are exactly the same for the first four seconds of their histories, differing only in terms of how a shared initial segment of history is extended.

(2) If (1) and the relevant segment can be extended into Alef, then both: it can be extended into Bet; and it can be extended into Gimel.

(1) plus Alef's possibility delivers the truth of (2)'s antecedent, which, given (2), delivers the genuineness of the counterexample. But the B-theorist qualitativist can deny (2). She can

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[71] Some versions of the A-theory are *ipso facto* versions of the closed future A-theory, e.g. the "moving spotlight" view. Other versions can be developed in either direction, e.g. presentism and the growing block view. (It might seem that the growing block view is *ipso facto* a version of the open future A-theory, but it is not. For example, though it is committed to the non-existence of future outposts on Mars, it is consistent with the present truth of future-tensed facts to the effect that there will be such outposts. See Sider 2011, p. 264.)

say that, even if there is a sense in which Alef, Bet, and Gimel share an initial segment of history, and hence a sense in which Alef's actuality would constitute an "extension" of such a segment, the fundamental qualitative facts hold tenselessly and comprehend the *entire* sweep of history "all at once", and *which* spheres tenselessly exist is sensitive to the contours of this history. And the *closed* future A-theorist qualitativist can deny (1). However, the *open* future A-theorist cannot salvage qualitativism. On this view (unlike the closed future A-theory), Alef, Bet, and Gimel must be taken to share an initial segment of history, and (unlike the B-theory) non-qualitative facts about which spheres exist must, if qualitativism is to be preserved, be taken to be settled by what *this* segment is intrinsically like, qualitatively. As I have explained, this leads to the possibility of Bet and Gimel, and hence to qualitativism's falsity.

The particular argument I have given for the falsity of qualitativism on the open future A-theory depends on the assumption of G-Completeness, G-Entailment, the possibility of Alef, and the possibility of a duplicate of Bet and Gimel. I invoked these assumptions in conducting the argument itself, but it may be helpful to list them in one place. Let me emphasize that I have not strictly argued, here, that *antihaecceitism* is false on the open future A-theory: since the argument traded on the assumption of qualitativism, when qualitativism is abandoned in response to the argument, the threat to antihaecceitism dissolves. I do think it can be cogently argued that antihaecceitism is false on the open future A-theory, but I will not get into that here.

4. Qualitativism and the Nature of Time

Let us take stock. I have been exploring the following objection to a purely qualitative view of fundamental reality, i.e. qualitativism: qualitativism implies antihaecceitism, but antihaecceitism is false, since Bet and Gimel constitute a genuine counterexample pair, i.e., a

pair of worlds that are duplicates, distinct, and both possible. I have argued that, on either the B-theory of time or the closed future version of the A-theory, it is open to the qualitativist to deny the possibility of Bet and Gimel, whereas on the open future version of the A-theory, the would-be qualitativist succumbs to the counterexample.

At this point, the prospects for qualitativism may seem rather dim. Qualitativism is not even an option on some views of time. And while the possibility of Bet and Gimel *can* be resisted on other views, the candidate counterexample may strike many as intuitively compelling. (Recall my distinction in §3 between the question of whether the counterexample *can* be resisted and the question of *how plausible* it would be to do so.) However, I think the prospects for qualitativism are better than they may currently seem, for two reasons. Since space is limited and I think the second reason is more significant, I will breeze through the first: though I have only argued here that the qualitativist *can*, given certain theories of time, block the counterexample, I think the tactic I described for doing so is not *ad hoc*, but rather quite natural, for anyone antecedently inclined toward a purely qualitative view of fundamental reality. The basic idea is that qualitativism suggests a kind of *holism* about fundamental matters, to the effect that tampering with *part* of history changes *all* the fundamental facts,[72] and this holism can be invoked to positively motivate the impossibility of Bet and Gimel.

The second reason I think qualitativism's prospects are better than they may currently seem is this: it is not clear that a purely qualitative view of fundamental reality really implies antihaecceitism. To be sure, qualitativism as I have defined it thus far (in accord with the recent literature) does. But I think there is another thesis in the vicinity that preserves a purely qualitative view of fundamental reality, or at least something much like it, and yet is consistent with haecceitism.

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[72] See Dasgupta 2009, pp. 55–56, and forthcoming, pp. 9–10.

I will first explain why, independently of any concerns about haecceitism, an A-theorist might be unsatisfied with the given definition of qualitativism. I will then develop an alternative definition, and then explain how it is consistent with the possibility of Bet and Gimel – and hence with haecceitism. (I also think the B-theorist can accept this alternative thesis along with the possibility of Bet and Gimel, but I will not get into that here.)

Assume the A-theory, and suppose a mereologically simple particle, Fred, originates *ex nihilo*. A would-be qualitativist will presumably say that all Fred-involving facts are grounded in some currently fundamental qualitative facts. In particular, suppose that it is currently a fundamental fact that there is something that is like so, where 'like so' abbreviates a particular qualitative description that only Fred satisfies, and that this fact grounds various Fred-involving facts (such as that Fred exists, or that Fred is like so).[73] Now suppose Fred *endures* through time for a bit. Something has changed (or, at any rate, time has passed), and we still have Fred, this particle that is, quite literally and strictly, one and the same as the particle we started with.[74] Now let us ask: what are the fundamental facts *now*?

According to the given definition of qualitativism, our would-be qualitativist must refrain from invoking any non-qualitative facts. In particular, she must say that all Fred-

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[73] So I am assuming quantifier generalism (see note 69). I suspect the line of reasoning could be developed from an algebraic generalist perspective, but that is beyond my scope here.

[74] What this specific kind of persistence, namely "endurance" (also sometimes called "three-dimensionalism") amounts to is a matter of controversy. The intuitive idea is that a particular that persists through an interval of time by enduring exists "as a whole" at every time in the interval, as opposed to "stretching across" or "spanning" the interval (as, for example, a yardstick spans a certain bit of space). I do not think an analysis or more rigorous account is necessary for our purposes here. In the present context, in which we are assuming the A-theory and working with a mereologically simple particular, it seems to me that the endurance is intuitively unproblematic. Fred exists, and (wait a bit), one and the same particular *still* exists. We might add: this still-existing particular does *not* still exist by virtue of the existence of a momentary co-located particular that came into existence just now, replacing a distinct particular that used to exist and be co-located with the still-existing particular. In other words, Fred's existence across time has not been grounded in the existence of distinct short-lived particulars. (See Hawthorne 2006, pp. 99–100, and Fine 2012, p. 42.) Let me also add that the relevant endurance may be most tractable if we assume, not just the A-theory in general, but presentism in particular, though I do not think that the line of thought being developed depends on presentism. (Incidentally, if we do not assume presentism, ambiguity threatens when it comes to talk such as 'Fred still exists' or 'we still have Fred'. It might mean that (a) Fred is still *present*, or that (b) the world is still such as to include Fred in its comprehensive, totally unrestricted "ontological inventory" or domain. Anything that is "still with us" in sense (a) is in sense (b) as well, but not vice versa. For example, on the growing block view, World War 2 is "still with us" in sense (b) but not (a). I do not think that this distinction matters for present purposes, though admittedly many philosophers might find it odd to think of Fred as "enduring" if it still exists *only* in sense (b).)

involving facts are grounded in some currently fundamental qualitative facts. However, it is not clear that it would jeopardize a purely qualitative view of fundamental reality to say that some Fred-involving facts are currently fundamental. After all, Fred-involving goings-on *just were* qualitatively grounded. Does commitment to a purely qualitative view of fundamental reality require saying that they have to be qualitatively grounded "all over again"? Or to put the point anthropocentrically: why should our would-be qualitativist refrain from directly referring to Fred (e.g. with 'Fred' or 'this') in stating currently fundamental facts, given that Fred-involving goings-on were just grounded?

Let me sharpen the intuitive thought. I am *not* invoking a general idea to the effect that facts that are initially derivative, i.e. grounded, become fundamental, i.e. ungrounded, if they endure. Consider a pile of bricks, Pete, that originates *ex nihilo*. (So we now have two distinct scenarios on the table, one involving Fred, the other Pete.) I think Pete-involving facts are derivative at every time at which they hold. For example, even if the fact that Pete exists was just grounded, it presumably *does* have to be grounded "all over again" if it is to continue to hold. Why not say the same about Fred?

Intuitively, when Pete originates, its *existence* and *identity* (i.e. "thisness," that facet of it that consists in its being the very entity it is) are both "underpinned" or "sustained" by further goings-on, namely goings-on involving particular bricks. That is, goings-on involving particular bricks intuitively underpin both the existence of a pile of bricks and that pile's being this very pile (Pete). However, when Fred originates, it seems that only its *identity* is underpinned by further goings-on, namely qualitative goings-on. That is, it seems that Fred's *existence* upon origin is brute or basic. After all, given that it is a fundamental fact that there is, i.e. exists, something that is like so, and that Fred is the only thing that is like so, it seems more apt to say that Fred's existence is *constitutive* of, i.e. in some sense a constituent of, the fundamental facts, not underpinned by them. Pete, by contrast, is

presumably not implicated in the fundamental facts in this sort of way. We may suppose, in this case, that we have a fundamental fact to the effect that there is something *x*, something *y*, etc. that are like such, where 'like such' abbreviates a qualitative description only satisfied by a plurality of bricks (or perhaps even smaller particulars). So let us say that an individual *x*'s identity is constitutive of any *x*-involving fact. (For example, Fred's identity is constitutive of the fact that Fred is like so.) And let us say that *x*'s existence is constitutive of any *x*-involving fact *as well as* any existentially quantificational fact that attributes a property to *something* or relation to *some things*, where that feature is only had by *x* or an *x*-inclusive plurality. (For example, Fred's existence is constitutive of the fact that Fred is like so, *as well as* of the fact that there is something that is like so – given that Fred is the only thing that is like so.) Now let us say that *x*'s existence is *brute*, at a time, just in case its existence is constitutive of some *fundamental* fact, at that time, and that *x*'s existence is *sustained*, at a time, just in case its existence is constitutive only of *derivative* facts, at that time; and *mutatis mutandis* with *x*'s identity. Given our characterization of Fred's scenario, it follows that:

(3) Fred's existence, upon origin, is brute.

It also follows that Fred's identity is sustained upon origin, and, given natural assumptions about Pete's scenario, that Pete's existence and identity are both sustained upon origin.

Now let us say that something's enduring is brute just in case that enduring is not *constituted* by anything else (it may have a causal explanation). It seems to me that, given (3), along with our stipulation that Fred endures for a bit, it is very plausible that the following is at least metaphysically possible:

(4) Fred's enduring is brute.

That is, given that Fred's existence is initially brute, it seems at least possible that Fred's subsequent endurance is brute as well. By contrast, the endurance of Pete (supposing Pete could endure at all) would intuitively be constituted by something else, such as the endurance of particular bricks.

Finally, it seems to follow from (4) that:

(5) After Fred has endured for a bit, there are some fundamental Fred-involving facts.

For it seems that, were all Fred-involving facts grounded in non-Fred-involving facts (e.g. qualitative facts), Fred's endurance would *not* be brute, but would be constituted by something else (e.g. qualitative goings-on). But given the bruteness of Fred's initial existence, i.e. (3), it strikes me as counterintuitive to conceive of Fred as enduring in the kind of derivative way that Pete would. *A fortiori*, it seems very counterintuitive that Fred *must* endure in such a derivative way, which is what we would need to block (5)'s possibility.

Let me sum up the argument. (3) is a claim about the nature of an individual's existence, which I take to render plausible the possibility of (4), a claim about the nature of that individual's persistence. And I take (4) to imply (5), a claim about the nature of the fundamental facts. Let me emphasize that we have been assuming the A-theory. The B-theorist can make sense of Fred's brutely enduring *without* invoking fundamental Fred-involving facts, e.g. by saying that there is, tenselessly or *simpliciter*, an individual x, a time y, and a later time z, such that, tenselessly or *simpliciter*, x is like so at y and endures from y to z.[75] But on the A-theory, it seems that the brute endurance of particulars delivers

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[75] This statement is just meant as an intuitive illustration of how the B-theorist can make sense of brute endurance in a purely qualitative way. I am not making any claims about how the B-theorist ought to understand endurance (e.g. in terms of a primitive three-place predicate 'x endures from y to z'), or even about whether the B-theorist should accept that anything endures. One sort of option turns on making sense of the

fundamental non-qualitative facts. So if (4) is indeed possible, it follows that (5) is, resulting

in the falsity of qualitativism as defined. Now in light of our stipulations about Fred's

scenario, accepting (5) would lead us to say that Fred's *identity* is initially sustained (upon

Fred's origin) but subsequently brute (upon enduring), and this might seem *prima facie* odd.

However, though I think it is plausible that an individual's *existence* is brute or alternatively

sustained essentially, i.e. brute or alternatively sustained at every time at which the individual

exists, it is not clear that an individual's identity must follow suit. Perhaps the identity of an

enduring individual whose existence is brute is the sort of thing that can be "generated" at a

time and thereafter persist, along with the individual's existence, "on its own steam" or

brutely. To delve more into metaphor, were God to decree the qualitative facts that initially

constitute Fred's identity, God could presumably subsequently decree Fred's endurance by

way of a *Fred*-involving decree (e.g. 'let *that* continue to exist'). To put it another way, God

could just "act on" *Fred* directly, "pushing" it through time, as it were.

　　If this argument is at least somewhat plausible, one admittedly might take it as

constituting *another* challenge to qualitativism on the A-theory: *not only* does the would-be

A-theorist qualitativist, at least on any open future variety of the A-theory, succumb to our

particular candidate counterexample to antihaecceitism, but general reflections about

persistence through time, on the A-theory, *also* call qualitativism into question.[76] However, I

am inclined to think that these reflections about A-theoretic persistence are better seen as

calling into question the assumption that a purely qualitative view of fundamental reality

stands or falls with the given definition.

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intuitive notion of existing "as a whole" in terms of bearing some sort of location relation – e.g. "being wholly located at" (see Parsons 2007, pp. 212, 218), or "exactly occupying" (see Gilmore 2007, p. 179) – to a spatiotemporal region. Something could then endure by bearing such a relation to multiple spatiotemporal regions, and we might make sense of "brute" endurance in terms of the idea that the relevant particular does *not* bear the relevant relation to the relevant regions *by virtue of* something further (e.g. its *parts'* bearing the relevant relation to *sub*-regions).

[76] I do not mean to imply that the A-theory is committed to the view that some particulars persist by enduring. But that is surely a very natural view for the A-theorist to take. Let me also repeat that the argument traded on the assumption of quantifier generalism, though I suspect a similar result could be achieved from an algebraic generalist perspective.

So suppose we in fact have, after Fred has endured for a bit, some fundamental Fred-involving facts. In particular, let us suppose that the fact that Fred is like so is currently fundamental. Given that Fred's identity was initially sustained by qualitative goings-on, this *non*-qualitative fact bears some sort of metaphysically interesting relation to *purely qualitative* matters. We might say that, though the fact that Fred is like so is non-qualitative, it is "*ultimately* qualitative". There may be multiple ways of elucidating ultimate qualitativeness, but I will just explore one here.

Let us say:

(Ultimate qualitativeness) Fact *p* is *ultimately qualitative* just in case either *p* is qualitative or any constituent by virtue of which *p* is non-qualitative has a qualitative real definition.

So the fact that there is something that is like so is ultimately qualitative, since it is flat-out qualitative. And the fact that Fred is like so is ultimately qualitative if Fred, the constituent by virtue of which the fact is non-qualitative, has a qualitative real definition. But what is a real definition?

Let us say that a real definition is expressed by a claim of this form:

What it is for it to be that ϕ is for it to be that ψ.[77]

Replacing 'ϕ' and 'ψ' with closed sentences yields a real definition of a fact. For example: what it is for it to be that a city exists is for it to be that…. Replacing 'ϕ' and 'ψ' with open sentences yields a real definition of a property or relation. For example: what it is for it to be

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[77] Cf. Rosen 2010, pp. 122f.

that x is a city is for it to be that x is…; where 'x' is a variable, not a constant. It may be more natural to say 'what it is to be a city is to be…', but this kind of natural English gloss is unavailable in any sort of systematic way with relations.[78]

So claims of real definition express real definitions either of facts, in the sense of conveying "what it is" for them *to hold*, or of features, in the sense of conveying "what it is" *to instantiate* them.[79] However, we can define up a real definition of something x *as such* in terms of a canonical real definition for x's *identity property*, the property of being x. So, for example, we may say

What it is for it to be that x is Fred is for it to be that x has F,

or more intuitively, 'what it is to be Fred is to have F' – conveying a canonical real definition for Fred's identity property, but also, by (nominal) definition, a real definition for Fred (full stop).

So, the fact that Fred is like so is ultimately qualitative if Fred's identity property has a real definition in terms of a (perhaps complex) qualitative property. Suppose that being like so constitutes a real definition of Fred in this sense.[80] Then although we have, in the shift from Fred's originating to Fred's enduring, a shift from exclusively qualitative fundamental

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[78] If 'ϕ' and 'ψ' are replaced with open sentences, the sentence operator 'what it is for it to be that __ is for it to be that __' should be taken to bind those sentences' free variables, for the sentence as a whole is closed, not open, and intuitively expresses a proposition or "complete thought". Cf. Dorr 2008.

[79] These kinds of real definition should be distinguished from a "real definition" of a thing *as such*, in the sense of "what it is" *simpliciter* (see e.g. Fine 1995a and 1995b).

[80] According to Rosen's "Grounding-Reduction Link" (2010, pp. 122f.), any *fact* that has a *real definition* in terms of another (and that holds) is *grounded* in the other. On the line of thought I am developing, the fact that Fred is like so may be ultimately qualitative and yet fundamental, i.e. ungrounded. This does not strictly conflict with Grounding-Reduction Link, because the ultimate qualitativeness of the fact that Fred is like so does not imply that this *fact* has a qualitative real definition, but only that Fred's *identity property* has one. However, were we to assume a principle to the effect that facts (e.g. that Fred is like so) *inherit* real definitions from the identity properties of certain constituents (e.g. Fred), a conflict would arise. If the fact that Fred is like so *itself* has a real definition in terms of a qualitative fact, e.g., that there is something that is like so, then Grounding-Reduction Link and the fundamentality of the fact that Fred is like so are inconsistent.

facts to partially non-qualitative fundamental facts, the fundamental facts are *constantly*

ultimately qualitative. So let us distinguish two theses:

(Qual-1) Necessarily, (always,) the fundamental facts are all qualitative.

(Qual-2) Necessarily, (always,) the fundamental facts are all ultimately qualitative.

(The B-theorist will strike 'always'.) Qual-1 is our original definition of qualitativism. It

implies Qual-2, since any fact that is flat-out qualitative is ultimately qualitative. However,

our discussion of Fred suggest that Qual-2 does not imply Qual-1. For if it is indeed possible

for us to have a shift over time from fundamental facts that are exclusively qualitative (and

hence exclusively ultimately qualitative) to fundamental facts that are exclusively ultimately

qualitative but *not* exclusively qualitative, then we get a possible situation that falsifies Qual-

1 but not Qual-2. Further, that Qual-2 does not imply Qual-1 follows from the claim, which I

will now motivate, that Qual-2, unlike Qual-1, is consistent with the possibility of Bet and

Gimel – and hence with haecceitism.

Let us assume the *open future* A-theory, and suppose that the beginning of the history

shared by Alef, Bet, and Gimel were actual. And let us suppose that the current fundamental

facts are exclusively qualitative, and in particular, that it is a fundamental fact that there is

something *x* and *y* that are like such, where 'like such' abbreviates a qualitative description

satisfied only by the plurality of Castor and Pollux. Now suppose that Castor and Pollux

endure for a bit, and let us ask: what are the fundamental facts *now*?

Notice how the application of our discussion of Fred to this case would lead us to think that there are currently some fundamental Castor- and Pollux-involving facts.[81] Further, recall my argument in §3 that Qual-*1* is false on the open future A-theory. Hence, we have two lines of reasoning that converge on the thought that there are currently some fundamental non-qualitative facts: (a) general reflections about persistence on the A-theory have led us to think that there are; and (b) in *this particular case* involving Castor and Pollux, we are *unable* to hang on to exclusively qualitative fundamental facts throughout time. (Supposing we try, exactly one of Bet and Gimel will turn out to be possible, contradicting the fact that Bet and Gimel are both possible if either is.) So let us suppose there are in fact some currently fundamental Castor- and Pollux-involving facts. Having done so, we can easily grant the possibility of both Bet and Gimel. We can imagine matters unfolding through time such that Pollux vanishes, in which case certain fundamental non-qualitative facts will hold (e.g. that Castor is alone); and we can imagine matters progressing such that Castor vanishes instead, in which case other fundamental non-qualitative facts will hold (e.g. that Pollux is alone). Now here is the crucial step: if Castor and Pollux have a qualitative real definition, then the fundamental non-qualitative facts over which Bet and Gimel differ are *ultimately qualitative*, and we have preserved Qual-*2*.

To be sure, neither sphere has a qualitative real definition "on its own". That is, there are no truths of the following forms in which the *definiens* is qualitative:

($*_C$) What it is for it to be that x is Castor is for it to be that $\psi(x)$

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[81] One might think that Castor and Pollux, being (presumably) composite objects (iron spheres), do not brutely endure, and hence are more like Pete than like Fred. However, I have been simplifying matters by ignoring any concrete particulars there may be other than the spheres (such as, e.g., any constituents of the spheres or any distinct spacetime), and in principle what I am saying about the spheres could be said about other particulars instead. The shift from exclusively qualitative fundamental facts to partially non-qualitative fundamental facts only turns on the idea that we have some sort of brutely enduring particulars.

($*_P$) What it is for it to be that x is Pollux is for it to be that $\psi(x)$.

For one property must entail another if the former is to real-define the latter, and no qualitative property entails *being Castor* (*being Pollux*). That is, in order for it to be true that what it is to be one way is to be another, being the second way must be sufficient (not to mention necessary) for being the first way, and there is no qualitative property the having of which is sufficient for being Castor (Pollux). For by virtue of the spheres' qualitative indiscernibility in Alef, any qualitative property possibly had by one is possibly had by the other.

However, the spheres may have a qualitative real definition "together." That is, we may take a claim of real definition to be *plural* on the side of the *definiendum*, and take there to be a truth of the form

($**$) What it is for it to be that x is Castor *and* y is Pollux is for it to be that $\psi(x, y)$

in which the *definiens* is qualitative. (The italicized 'and' signifies the plural, as opposed to singular-but-conjunctive, character of the *definiendum*. That is, we have a real definition of the form 'what it is for it to be that ϕ_1 and ϕ_2 is for it to be that ψ'. The *definiendum* is not a binary relation instantiated by two things just in case they are Castor and Pollux, but rather Castor's identity property *and* Pollux's identity property.) If there is such a truth, then since there are no truths of the forms $*_C$ and $*_P$ in which the *definiens* is qualitative, we would have an *irreducibly* plural qualitative real definition of the spheres' identity properties – and hence of the spheres. The intuitive idea is that, though there is no qualitative *property* the having of which constitutes what it is to be Castor (Pollux), *this* very individual, there may be a

qualitative *relation* the instantiation of which by two things constitutes what it is for them to be Castor and Pollux, *these* very individuals.[82]

I have defended irreducibly plural qualitative real definitions of individuals at greater length elsewhere.[83] I think it is clear that they are, at the very least, perfectly coherent, including in the present case involving Castor and Pollux. If this is right, it is perfectly coherent that the fundamental facts, in both Bet and Gimel, are exclusively *ultimately* qualitative, in which case the genuineness of our candidate counterexample to antihaecceitism does not undermine Qual-*2*. It appears that Qual-2 does not imply Qual-1, and further, that Qual-2, unlike Qual-1, does not imply antihaecceitism.

5. But is It Really Qualitativism?

Since we have covered a lot of ground, let us take stock, here at the beginning of this paper's penultimate section. I have been investigating the relationship between a purely qualitative view of fundamental reality, i.e. qualitativism, and two other topics, namely haecceitism and the nature of time, and I have largely done so in the context of adjudicating a particularly powerful candidate counterexample to antihaecceitism (the pair of Bet and Gimel), the power of which largely trades on considerations about time. Let me sum up what I take to be the most salient results so far.

I have argued (in §3) that qualitativism as typically understood, i.e. Qual-1, is a non-starter on any "dynamic" view of time on which the future is "open", i.e. any open future version of the A-theory. This is because Qual-1 implies antihaecceitism, and the would-be qualitativist open future A-theorist succumbs to our candidate counterexample to antihaecceitism. So, *the prospects for qualitativism, as typically understood, are crucially*

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[82] Dasgupta 2014 discusses the irreducibly plural grounding (as opposed to real definition) of facts (as opposed to properties). Further, the notion of an irreducibly plural real definition of some identity properties may be compared with Fine's idea of "simultaneous definition" (1995a, pp. 282–284) or "relational essence" (1995b, pp. 65–66).

[83] See my "Qualitativism and the Identity of Indiscernibles."

sensitive to the nature of time. However, I have also (in §4) raised independent considerations suggesting that Qual-1 does not sit well with the A-theory in general, and I have developed an alternative candidate definition for qualitativism, i.e. Qual-2, that does. Accordingly, *reflections about time also call into question whether qualitativism must be understood as it typically is*. And since, I have argued (in §4), Qual-2 is consistent with the genuineness of our candidate counterexample to antihaecceitism, and hence with haecceitism, *it may well be that qualitativism is consistent with haecceitism*.

Now, one might worry about whether the thesis I have called 'Qual-2' in fact counts as a form of qualitativism, or as a qualitativist thesis. (More precisely, since Qual-1 implies Qual-2, the issue is whether *mere* Qual-2, i.e. Qual-2 plus the negation of Qual-1, counts as a form of qualitativism.) I have glossed qualitativism as "a purely qualitative view of fundamental reality," and as the view that "fundamental reality is purely qualitative," or that "fundamental or ultimate reality is purely qualitative or general". We might also, following Adams, gloss qualitativism as affirming that "the world" is "constituted by purely qualitative facts," and denying that "thisness holds a place beside suchness as a fundamental feature of reality".[84] If one thinks that the intuitive idea here is uniquely captured by Qual-1, or, at any rate, thinks that Qual-2 fails to adequately accommodate it, then one will balk at the second and third italicized claims in the previous paragraph. On this sort of view, the main upshot of the prior section's considerations pertaining to A-theoretic endurance is not so much that the A-theorist should reject Qual-1 as an *account of* qualitativism, but that the A-theorist should probably *not be a qualitativist*. And the fact, supposing it is a fact, that Qual-2 is consistent with haecceitism does nothing to show that *qualitativism* is consistent with haecceitism. So, I want to wrap up this paper with some remarks about the "qualitativist credentials" of (mere) Qual-2.

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[84] Adams 1979, p. 5, and 1981, p. 3.

It seems to me that the intuitive core behind qualitativism turns on two notions: "the qualitative" and "the fundamental". Both terms have intuitive content, at least for metaphysicians, but in the case of neither is it clear that the intuitive notion is sharp enough to support a uniquely appropriate analysis or real definition. Depending on how we sharpen, or refrain from sharpening, either notion, the amount of conceptual space occupied by "qualitativism" may morph in various ways. In §1, I said a bit about how I am using 'qualitative', as well as 'fundamental', which accordingly determined the thesis expressed by 'necessarily, the fundamental facts are all qualitative', namely Qual-1. Now Qual-2 certainly constitutes a weakening of "qualitativism," so sharpened or precisified. As already argued, Qual-1 implies Qual-2 but not vice versa. But it is not clear to me that Qual-2 constitutes a weakening of, *a fortiori* that it fails to connect with, the intuitive core itself. I am admittedly inclined to think that Qual-1 better captures the idea that the world is "constituted by purely qualitative facts",[85] but I am by no means sure that it better captures the denial that "thisness holds a place beside suchness as a fundamental feature of reality". In fact, I suspect that Qual-2 may be superior here. At any rate, in this section I hope to go some way toward motivating the idea that Qual-2 is at least close enough to the intuitive core for questions about its "qualitativist credentials" to be justifiably overshadowed, if not displaced, by questions about *the merits* of the thesis, regardless of taxonomic practice.

I will take up two points. First, I will address the potential concern that Qual-2 must somehow compromise on the intuitive core, because of its failure to imply antihaecceitism. Second, I will explain how a notable pro-qualitativism argument does not differentially support Qual-1 over mere Qual-2, suggesting, I think, that Qual-2 connects with the intuitive core.

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[85] Cf. Dasgupta forthcoming.

As I noted in §2, qualitativism tends to be cashed out in terms of theses that imply antihaecceitism.[86] And this might seem eminently reasonable. How could fundamental reality (necessarily) be purely qualitative if the way the world is qualitatively does not (necessarily) modally settle the way it is non-qualitatively? However, as I said in §2, all it takes for antihaecceitism to be false is the genuineness of a single candidate counterexample pair. We can then distinguish *kinds* of haecceitism in terms of different views about the *extent* of genuine counterexample pairs. And it seems to me that qualitativism is intuitively consistent with *some* kinds of haecceitism. In particular, I think it is consistent with kinds according to which the genuine counterexample pairs are restricted to those structurally resembling our particular candidate counterexample pair, namely Bet and Gimel. Specifically, we have here pairs of worlds that differ only as to how a shared qualitatively symmetric initial segment of history is extended in a "symmetry-breaking" way. For example, Bet and Gimel start out with the origin of Castor and Pollux, a qualitatively symmetric arrangement, and the worlds only differ in terms of how that symmetry ends up breaking, specifically in terms of which sphere ceases (continues) to exist at a certain later time.

Here is one rationale one might give for haecceitism. Various *possibilia* have *primitive identity*. This might be cashed out in different ways. Imagine a fan of primitive identity surveying a possible duplicate of Bet and Gimel. Call the longer-living sphere 'a' and the shorter-living one 'b'. If something x's having primitive identity is cashed out in terms of a denial of qualitative necessary conditions for being x, or for being part of an x-inclusive plurality, our philosopher will naturally think there is a possible distinct duplicate world in which a and b swap roles. Haecceitism is confirmed. If primitive identity is cashed out in terms of a denial of qualitative sufficient conditions for being x or part of an x-

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[86] See note 54.

inclusive plurality, she will naturally think that there is a possible distinct duplicate in which *a* and *b* do not even exist, being replaced with a distinct pair *c* and *d*. Haecceitism is again confirmed. These two sorts of views can be combined, of course. Generalizing, to the extent that our philosopher takes *possibilia* to have primitive identity, we will get systematic and pervasive genuine counterexample pairs to antihaecceitism. For example, there will be a genuine counterexample consisting of the actual world and a world in which Obama and Biden swap roles, and/or ones in which various classes of actual individuals are replaced with classes of non-actual doppelgangers.

However, recall that, on Qual-2, it is necessary that the fundamental facts are all ultimately qualitative, and that this requires, of any fundamental *non*-qualitative fact there may be, that every concrete particular involved in it has a qualitative *real definition*. So suppose that Qual-2 is true, that Bet and Gimel are possible, and that these worlds differ over some fundamental non-qualitative facts involving Castor and Pollux. This haecceitism-implying position cannot be motivated by the rationale that some *possibilia* supposedly have primitive identity. For given that the fundamental non-qualitative facts in Bet and Gimel are ultimately qualitative, Castor and Pollux have a qualitative real definition. But another kind of rationale for haecceitism naturally emerges. The idea here is that certain qualitative structures possibly instantiated by a partial history of a universe are by their very nature such as to be possibly extended in multiple, qualitatively identical ways. In particular, when we have a qualitatively symmetric initial segment of a universe, such as is shared by Alef, Bet, and Gimel, the proponent of Qual-2 is free to say that such a segment is possibly extended in various ways that constitute violations of antihaecceitism. Notice that this rationale, in and of itself, in no way suggests the explosion of genuine counterexample pairs to which the rationale of primitive identity leads. For example, it provides no basis upon which to accept the possibility of a duplicate of the actual world in which Obama and Biden swap roles, or in

which Obama and Biden are replaced with an actually non-existent pair of individuals. And given that Castor and Pollux have a qualitative real definition, it is flatly ruled out that there is a possible duplicate of Alef, or of Bet and Gimel, in which Castor and Pollux are replaced with a distinct pair of spheres.

The coherence of combining Qual-2 with the possibility of Bet and Gimel shows that these two potential rationales for haecceitism can be pulled apart from one another – or at any rate, that one can accept the second rationale without in any way countenancing primitive identity. And I want to suggest that, once they are clearly distinguished, the intuitive core behind qualitativism should only be taken to be threatened by those kinds of haecceitism that would be underpinned by primitive identity. *Those* are the pernicious "haecceitistic differences," the qualitativist can say, and the *non*-qualitativist cannot legitimately support their existence by calling our attention to the admittedly powerful candidate counterexample pairs instantiating Bet's and Gimel's structure, since the reason *these* candidate counterexamples are genuine (supposing they are genuine) has nothing to do with taking "thisness to be a fundamental feature of reality".

Shamik Dasgupta has developed an argument for qualitativism (vis-à-vis physical reality) that turns on the idea that (A) fundamental "individualistic facts", as he calls them (roughly, facts that are non-qualitative by virtue of involving particular concrete particulars) would be "danglers", and that (B) other things being equal (which they are), one should prefer a theory that dispenses with danglers.[87] These kinds of facts would be danglers in the sense that they would be *empirically undetectable* and *physically redundant*. I will focus on (A) here. The following simple example can help illustrate the line of thought. Suppose there are fundamental non-qualitative facts, and consider a possible world, *w*, that differs from the actual world only in that Obama has been replaced with a merely possible

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[87] See Dasgupta 2009 and forthcoming.

individual, "Shmobama". Simplifying a bit, we may say that it is actually a fundamental fact that Obama exists, and that in *w* it is a fundamental fact instead that Shmobama exists. These facts are empirically undetectable: we cannot distinguish the holding of one from that of the other. And they are physically redundant: which one holds makes no difference to the law-governed course of events. Assuming (B), we should reject the view that gave us these danglers, namely non-qualitativism ("individualism", in Dasgupta's terminology).

Now it seems to me that it is not fundamental non-qualitative facts *per se* that would be danglers, but rather fundamental non-qualitative facts *that are not ultimately qualitative*. If this is right, then Dasgupta's argument does not differentially support Qual-1 over mere Qual-2, and I think this gives us some reason to think that Qual-2 accommodates the intuitive core behind qualitativism.

Suppose that Bet and Gimel are possible, and that mere Qual-2 is true. Specifically, let us assume the open future A-theory, and let us imagine that Bet and Gimel differ in that, whereas it is eventually a fundamental fact in one that Castor is alone, it is eventually a fundamental fact in the other that Pollux is alone instead. Given Qual-2, we suppose that Castor and Pollux have a qualitative real definition, such that these fundamental non-qualitative facts are ultimately qualitative.

Let us consider first empirical undetectability. This seems to be a relational notion: a given fact may be undetectable relative to another, in the sense that we are in principle unable to discriminate between the former's holding and the latter's holding. And given our A-theoretic backdrop, we have another index of relativity: a fact's holding *at a time* is what should be evaluated for undetectability relative to another fact. Now suppose Castor ends up vanishing at the five-second mark, such that it becomes a fundamental fact that Pollux is alone. At this five-second mark, it seems that the actual fundamental fact, namely that Pollux is alone, is undetectable relative to, for example, the fact that Romulus is alone, where

Romulus is some non-actual sphere. For were the universe's history to begin with, say, the origin of Romulus and Remus instead of Castor and Pollux (a qualitatively identical arrangement), we would be none the wiser, and hence we are in no position, at the five-second mark, to be able to tell that the surviving sphere is Pollux instead of Romulus. However, given Castor's and Pollux's qualitative real definition, the relevant fact involving Romulus is *impossible*. The qualitative features instantiated by the spheres upon origin modally suffice for the spheres' being *Castor and Pollux*. Hence we have nothing to worry about here. Let us ask now whether the fact that Pollux is alone, at the five-second mark, is undetectable relative to the fact that Castor is alone. Given the possibility of Bet and Gimel, this fact *is* possible: the course of events might have evolved differently in this respect. However, it also seems that the fact that Pollux is alone *is detectable* relative to this fact. Imagine, for example, an observer with an enduring visual field, with one sphere on the left and the other on the right. She can distinguish Pollux's coming to be alone from Castor's in terms of which part (left or right) of the visual field ceases to contain a sphere.

Turn now to physical redundancy.[88] Candidate counterexample pairs with the structure of Bet and Gimel, namely a pair of worlds with a qualitatively symmetric initial segment of history, which differ in terms of how that symmetry is broken over time, have been discussed by Joseph Melia and Boris Kment, both of whom, though not addressing Dasgupta's argument, give reason to think that Bet's and Gimel's fundamental non-qualitative facts would be physically relevant or non-redundant.[89] Melia maintains that not all kinds of candidate counterexample pairs threaten *determinism*, and that the particular kind instantiating Bet's and Gimel's structure *does*. Intuitively, were Bet and Gimel possible, then were a shared initial segment of their histories to hold, determinism would fail. But were both the actual world and a world in which Obama and Biden swap roles possible, this would

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[88] Dasgupta places more emphasis on the matter of empirical undetectability (forthcoming, p. 6).
[89] Kment 2012 and Melia 1999.

not intuitively threaten determinism. (Imagine someone claiming that there are no deterministic laws of nature, because, a thousand years ago, any laws there may be failed to settle whether *Obama* would play the qualitative role actually played by him, or whether *Biden* would play it instead: it was a matter of "chance" that Obama ended up playing it. This kind of argument against determinism seems spurious, but a parallel argument in the case of Bet and Gimel seems fine.) And Kment fills out the picture by explaining how we might see the genuineness of candidate counterexamples instantiating Bet's and Gimel's structure as being undergirded by indeterministic laws of nature that assign probabilities in particular ways.

Now if a supposed genuine counterexample pair, such as Bet and Gimel, indeed threatens determinism, this suggests that the fundamental non-qualitative facts over which those worlds differ are physically relevant or non-redundant. The laws of nature "notice" *these* non-qualitative differences. However, just as with empirical undetectability, it appears that physical redundancy is relative. For example, the fact that Pollux is alone, holding at the five-second mark, may be physically relevant relative to the non-actual fact that Castor is alone, in the sense that, immediately before, the laws of nature discriminated between these two options (say, by assigning probabilities to them). But the fact that Pollux is alone, holding at the five-second mark, may be physically *ir*relevant relative to the non-actual fact that Romulus is alone, in the sense that the laws of nature would not have affected Romulus and Remus any differently than Castor and Pollux. Once again, mere Qual-2 can make sense of this. By virtue of the spheres' qualitative real definition, the kinds of haecceitistic differences that the laws do not care about (e.g. the difference between this pair of spheres' existing and that pair of spheres' existing) are blocked, while the kinds of haecceitistic differences that the laws intuitively would care about (e.g. the difference between Castor's surviving and Pollux's surviving past the five-second mark) are preserved as possible.

Let me connect this discussion of Dasgupta's dangler argument with my previous discussion of rationales for haecceitism. I want to suggest that the kinds of candidate counterexample to antihaecceitism that *do* threaten determinism are precisely the kinds that *do not* threaten qualitativism, because the genuineness of these kinds of candidate counterexamples does not trace to any sort of primitive identity (which laws of nature do not care about). Rather, it traces to qualitative and structural features of the relevant sort of partial history (which laws of nature may well care about), the initial qualitative symmetry of which provides for haecceitistically different kinds of symmetry-breaking. Notice, however, that Qual-1 seems to be insensitive to this distinction: it sees any and all candidate counterexample pairs to antihaecceitism as mortal threats. So in addition to the fact that Dasgupta's dangler argument fails to support Qual-1 any more than mere Qual-2 (since fundamental non-qualitative facts that are *ultimately qualitative* are not danglers), one might think that the argument is somewhat better suited to a conclusion of Qual-2. For Qual-2 strikes from the world's fundamental structure *exactly* that kind of non-qualitative structure which the dangler argument targets, whereas the logically stronger Qual-1 strikes this *plus further* non-qualitative structure that *does not* "dangle".

6. Conclusion

In this paper I have investigated the relationship between a purely qualitative view of fundamental reality, i.e. qualitativism, and haecceitism, on the one hand, and the nature of time, on the other, largely by way of assessing a particular candidate counterexample to antihaecceitism that turns on considerations about time.

I have argued (in §3) that qualitativism as typically understood, i.e. Qual-1, is a non-starter on any "open future" version of the A-theory of time. So, *the prospects for qualitativism, as typically understood, are crucially sensitive to the nature of time.* However,

I have also (in §4) raised independent considerations suggesting that Qual-1 does not sit well with the A-theory in general, and I have developed an alternative candidate definition for qualitativism, i.e. Qual-2, that does. So, *reflections about time also call into question whether qualitativism must be understood as it typically is*. I have argued (in §4) that Qual-2, unlike Qual-1, is consistent with haecceitism, as well as defended (in §5) the "qualitativist credentials" of this novel thesis. So, *it may be that qualitativism is consistent with haecceitism*. This enhances the prospects for qualitativism, since some candidate counterexamples to antihaecceitism are particularly intuitive, even if (as I argued in §3) the qualitativist has the resources to resist them.

One area for further exploration concerns the relationship between Qual-2 and theories of time. Although I have argued here (in §3) that the B-theorist *can* hold on to Qual-1 and antihaecceitism, and though I have only discussed Qual-2 from an A-theoretic perspective, I am inclined to think the B-theorist can opt for mere Qual-2 along with haecceitism as well. But that is a matter for another time.

Thisness, Fundamentality, and Multi-location

Abstract: In this paper I develop an argument for a purely qualitative view of the world's fundamental structure, i.e. qualitativism. I argue that qualitativism accords better than any other theory of the world's fundamental structure with the multi-location ban, i.e. the common-sense judgment that individuals cannot be located in multiple places at the same time. More precisely, I contend that (1) the multi-location ban gives us good reason to affirm some theory of the world's fundamental structure according to which the identities of individuals are what I call *fundamentally extrinsic*, and that (2) this proposal is best implemented in terms of qualitativism.

1. Introduction

In this paper I will explore how reflections about *multi-location* can give us reasons to adopt particular views about the world's fundamental structure or nature. I will argue that, to the extent that we are inclined to believe that concrete particulars cannot multi-locate, we have reason to accept a purely *general* or *qualitative* view of reality's fundamental structure, i.e. *qualitativism*.[90] Specifically, I will argue that, to the extent we are inclined to deny that particulars can multi-locate, we have reason to adopt a view of the world's fundamental structure according to which the "thisnesses" of particulars are "fundamentally extrinsic" (where this means, roughly, that what it is to be the very particular something is partly consists in what the world is like *outside* that particular), and that this sort of theory is best implemented through qualitativism.

Imagine (at least for expository purposes) the history of the world as a single, spatiotemporally unified four-dimensional block. We might be initially inclined to think that the parts of this block, that is, roughly, the spatial parts of the various temporal parts of the world's history (I will call them "events"), exhibit a robust kind of modal freedom with

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[90] See e.g. Dasgupta 2009 and forthcoming, Kment 2012, pp. 578–584, and Russell 2013.

respect to spatiotemporally extrinsic goings-on. For any such event, *e*, tamper with what the block is like *elsewhere* however you like (delete parts, add parts, or some combination of both), and the result will be a possibility for *e*: *e* could have been like that extrinsically. For example, let *e* be some part of the block consisting in Obama's sitting in a chair for a while. *e* could have (metaphysically) occurred by itself. And *e* could have been spatiotemporally near some non-actual event (e.g. a dragon's sleeping).

Now it seems that this idea is, in fact, rather dubious. For one thing, it seems that events have their constituents essentially, and it is far from clear that every constituent of every event exhibits the required kind of modal freedom with respect to spatiotemporally extrinsic matters. For example, one might think that spatial regions exist, and that, for any such region, it is essential to it that it has the very sub-regions it does and participates in the very super-regions it does.[91] In this case, the space constitutive of *e* cannot exist by itself, and hence *e* cannot occur by itself. Perhaps some sort of intrinsic copy, or *duplicate*,[92] could occur by itself, and perhaps even a duplicate containing that human and that chair could. But *e* could not.

Whether or to whatever extent events are modally free from spatiotemporally extrinsic matters, the following seems right: to the extent that such freedom is absent, to the extent that we have *modal ties*, i.e. necessary connections or exclusions, between would-be spatiotemporally separated events, we are entitled to look for an *explanation* of that. (If Obama's sitting here necessitates Biden's standing there, we have a necessary connection between spatiotemporally separated events. If Obama's sitting here necessitates the absence of a dragon's standing there, we have a necessary exclusion between would-be spatiotemporally separated events. In either case, we have modal ties between would-be spatiotemporally separated events.) For why should what reality is like over here modally

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[91] See e.g. Pooley 2006, pp. 99ff., and Schaffer 2009a, p. 136.
[92] See Lewis 1986a, pp. 61–62.

impinge upon what it is, or is not, like over there? And how could it? Perhaps we will not

always find an explanation, but it would seem to be a theoretical virtue of a metaphysical

package if it can provide one. And it would seem to be a vice of such a package if it has to

take some such modal ties as more or less primitive.

In what follows I want to dwell on a particular kind of *prima facie* plausible modal tie

between would-be spatiotemporally separated events. It is commonly maintained that

particulars cannot *multi-locate*, that is (roughly), exist "as a whole" at multiple

spatiotemporal locations – or at least, that they can only do so under certain circumstances.

For example, perhaps multi-location is possible if restricted to a particular's *enduring* through

time. More exotically, perhaps some particulars could multi-locate by "entending" through

space,[93] or by engaging in some form of "backward time travel".[94] But even if we grant such

exceptions, other kinds of multi-location may remain repugnant to intuition, such as a

particular's coming into existence, as a whole, in exactly two separated places at the same

time, or a particular's existing as a whole in multiple universes (i.e. multiple maximal

spatially or spatiotemporally unified concrete systems). Russell 1912 took it as obvious that

spatial separation between particulars at a time implies their diversity,[95] and, more recently,

Schaffer 2009a (p. 141) affirms that a material object cannot have two spatiotemporal

careers. Call this general idea the *multi-location ban*.[96]

The multi-location ban delivers modal ties between would-be spatiotemporally

separated events, specifically, necessary exclusions between them. It implies, for example,

that Obama's sitting over here, at a time *t*, excludes (i.e. necessitates the absence of) Obama's

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[93] I.e. existing as a whole at every part of a *continuous* region of space. See e.g. Pruss 2013, p. 68.

[94] The relevant kind of time travel could presumably not be analyzed simply in terms of something's engaging in a certain pattern of multi-location, as then an exception for time travel would undermine, rather than qualify, the general prohibition.

[95] Russell 1912.

[96] See also e.g. Quinton 1958, p. 44, Bergmann 1967, p. 48, Adams 1979, p. 14, and Thomas 1995.

sitting over there, at *t*. Perhaps Obama's sitting over here is compossible with a (more or less) duplicate of Obama's sitting over there, but not with Obama's doing so.

Though I refer to "the" multi-location ban, there are really a variety of bans that vary over exactly what is prohibited. For example, one might affirm a ban on any sort of multi-location whatsoever, or a ban on any sort of multi-location on the part of concrete particulars. Or, as already noted above, one might allow particulars to multi-locate through time (by enduring), perhaps with some restrictions (e.g.: no temporally "gappy" or discontinuous multi-location). By 'the multi-location ban' in what follows, I mean a thesis that rules out, at the very least, a concrete particular's coming to exist, as a whole, in multiple separated places at the same time.

I am just going to assume that the multi-location ban is true, while admitting that one way of blocking the argument to follow is to give it up. I take it that enough philosophers find the ban plausible to justify this approach, and further, even those who are not sanguine with the ban may find the argument interesting, if only as helping to exhibit what is at stake in affirming or denying it. Indeed, one way to react to the argument is to take it as giving reason to *give up* the ban. The multi-location ban gives us, I will argue, reason to reject a particular kind of view of the world's fundamental structure, and there is always the option of "tollensing", giving up the ban in order to salvage that view of structure. When I talk, in what follows, about multi-location in the context of its being impossible, I have in mind the specific kind of multi-location targeted above, i.e. a particular's coming to exist, as a whole, in multiple separated places at the same time.

I will also not commit myself to a particular account of what it is, exactly, for something to multi-locate. For one thing, it would be a bit odd, dialectically, to fuss too much about this in a context in which the would-be *analyzandum* is assumed to be impossible. For another, I think that how we make sense of multi-location is sensitive to

auxiliary metaphysical assumptions. For example, in the context of a substantivalist view of spatial or spatiotemporal locations, an individual's having a location can be understood in terms of its bearing some sort of location relation (e.g. "being wholly located at"[97], or "exactly occupying"[98]) to a region of space or spacetime, and an individual's having multiple locations can be understood in terms of its bearing the relevant relation to multiple regions. In the context of a relationalist view of locations, and individual's having a location can be understood in terms of its bearing spatial or spatiotemporal relations to other individuals, and an individual's having multiple locations can be understood in terms of its instantiating a particular pattern of such relations that results in its being at a spatial or spatiotemporal distance from itself.[99] The location, and multi-location, of a region of space or spacetime (another kind of concrete particular) could also be understood alone these lines.

Here is the plan for what follows. The overall argument has the following structure. First, we have a problem. Second, certain views of the world's fundamental structure (view that, I will argue, constitute an interestingly unified category) solve the problem, resulting in evidence that one or more of these views is true. Third, the best versions of these views are qualitativist, resulting in an argument for qualitativism in particular. In the next section (§2), I continue to articulate and motivate the problem itself. Specifically, I argue, first, that the modal ties delivered by the multi-location ban indeed call for explanation, and, second, that some *prima facie* natural ways of trying to explain them are unsatisfactory. In §3, I set up the framework for finding a satisfactory solution to the problem. In §4–§8, I present the theories of the world's fundamental structure that I take to have the resources to solve the problem. In §9, I explain how these theories resemble each other in rendering the thisnesses of concrete particulars fundamentally extrinsic, and in §10 I argue that the best versions of these theories are qualitativist in nature. I wrap up in §11.

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[97] See Parsons 2007, pp. 212, 218.
[98] See Gilmore 2007, p. 179.
[99] See Thomas 1995.

2. The Need for a Substantive Explanation

I have suggested that modal ties between would-be spatiotemporally separated events call for explanation, and have claimed that the multi-location ban delivers such ties, specifically by virtue of delivering necessary exclusions between would-be spatiotemporally separated events. However, one might think that the necessary exclusions delivered by the multi-location ban *in particular* do not call out for explanation, or conversely, are appropriately taken as more or less primitive. For it might be pointed out that these exclusions do not hold between "wholly distinct" entities. For example, the multi-location ban implies that Obama's sitting over here excludes Obama's standing over there. The events modally related in this case share a constituent, namely Obama, and so are not "wholly distinct".

However, the fact that two would-be events e and e^* share constituents is, in and of itself, aggressively unhelpful in adjudicating either whether e and e^* stand in a particular modal relation (e.g. compossibility, necessary connection, or necessary exclusion) or whether a modal relation that in fact holds calls for explanation. a's being green and b's being green share a "constituent", namely "being green", but this in and of itself gives us no reason to think there is a necessary connection or exclusion between them. And supposing there were such a modal tie, we would want an explanation for it, just as much as we would want an explanation for a modal tie between a's being green and b's being round (which share no constituents). Further, a's being green and a's being round share a as a constituent, but once again, we do not yet have any reason to think there is a necessary connection or exclusion between them. And supposing there were such a tie, we would want an explanation. Moreover, suppose, *per impossibile*, that a's being green over here occurred along with a's being green over there (delivering a banned case of multi-location). It seems that there is no necessary connection between these events, notwithstanding the shared constituents, namely

a and "being green". And supposing there were such a connection, it would call for explanation just as much as would a necessary connection between *a*'s being green over here and *b*'s being round over there (which share no constituents).

Of course, many of us are inclined to accept the multi-location ban, and accordingly are inclined to think that there is a necessary exclusion between *a*'s being green over here and *a*'s being green (or round, etc.) over there; and it is not my intention to induce any doubt about this. My suggestion, rather, is that this thought is not rationally supported simply by the observation that the events fail to be "wholly distinct", and accordingly that this observation does not provide, in and of itself, any justification for taking the relevant modal ties to be acceptably taken as primitive.

I have addressed one potential reason for denying that the modal ties delivered by the multi-location ban call for explanation, but what might be said by way of positive support for the claim that they do? Well, it just seems to me that modal ties between would-be spatiotemporally separated events, *flat out*, call for explanation. For (again), why *should* what reality is like over here modally impinge upon what it is, or is not, like over there? And how *could* the way the world is over here modally impinge upon the way it is, or is not, over there? (I will soon say more about these two questions.) The intuitive thought behind these questions does not make an exception for cases in which the event over here and the would-be event over there involve a common particular.

Granting that the relevant modal ties call for at least some sort of explanation, it might then be thought that an explanation is all too easy to find. First, one might think it is simply analytic of certain phrases, such as 'concrete particular', 'space', or 'location', or alternatively, simply built into the corresponding concepts, that a "concrete particular" cannot "multi-locate" across "space" (or "spacetime"). But this just seems false, as evidenced by the ways of making sense of multi-location briefly canvassed in §1. Suppose we think that a

concrete particular, *a*, has a certain location in space. Now suppose we try to conceive of *a* as having an *additional* location. I suggest we can easily do this. In particular, I suggest that, in trying to do so, we are not at all forced to think that – as far as the content of our imagining goes – *a* must not really be a *concrete particular* (say, being a universal instead), or that the "medium" in which *a* exists must not really be *space* (being something else instead), or that *a*'s first putative location must not really be a *location* of *a* (say, being just a proper part of *a*'s location, or just a location of a proper part of *a*). It seems that the modal ties delivered by the multi-location ban are substantive or synthetic, a matter of worldly, metaphysical "law".[100]

So turning from meanings and concepts to matters of objective, metaphysical fact, we might think that an easy account of the relevant modal ties can be found on this front. For one thing, we might appeal to something like a "law of metaphysics" to the effect particulars do not multi-locate (at least in the targeted way). For another, we might appeal to "essence". For example, we might think it is *essential* to being a concrete particular (unlike, for example, a universal) that one not multi-locate in the relevant way. For any putative explanation along either of these lines to work, the relevant notions of "law" and/or "essence" cannot be either identified with or analyzed in terms of metaphysical-modal notions. At any rate, this is the case if we want an account of the relevant modal ties *in general*, as opposed to being satisfied with "one-off" accounts consisting in subsuming particular cases under a general principle. (E.g.: "*Obama* cannot originate both *here* and *there*, because no particular can simultaneously originate in two separated places.") For example, if its being *essential* to particulars that they not multi-locate just is, or is partly analyzed in terms of, its being *necessary* that they not do this, then we cannot explain the relevant impossibilities by appealing to essence. So, let us suppose that the relevant notions of law and/or essence are

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[100] On "laws of metaphysics," in the relevant sense, see e.g. Rosen 2006, e.g. pp. 29, 35, and Sider 2011, pp. 274–278.

not identified with or analyzed in terms of metaphysical-modal notions.[101] For specificity in
what follows, I will focus on a proposal according to which it is essential to being a concrete
particular that one not multi-locate, but I do not think anything turns on this.

Now one worry that might be raised with this sort of proposal is that it is somehow
"explanatorily shallow". One way to unpack this would be to say that the idea of its being
essential to something x's particularity that x not multi-locate is so closely bound to the idea
of its being necessary, of x, that it not multi-locate that we do not really have an explanation
at all. I am uneasy with this concern because of how slippery 'explains' is. I can imagine
contexts in which it would be enlightening to be told that the modal ties delivered by the
multi-location ban are undergirded by essence facts. Another way to unpack this worry about
explanatory shallowness would be to say that the alleged *explanans* calls for explanation just
as much as the *explanandum*. However, it is not obvious that this is either true or relevant. I
find it rather plausible that, for example, it is just a *primitive* matter that it is essential to
being a particular that one not multi-locate. And even were this false, an explanation can be
good even if the *explanans* itself calls for explanation.

My main worry with this sort of explanatory proposal is not that it is false or shallow
per se (it may be neither), but that it is importantly *incomplete*. Consider a particular
necessary exclusion delivered by the multi-location ban. For example, Obama's coming to
be over here necessitates the absence of his coming to be over there. (If we think Obama
possibly originates *ex nihilo*, we can imagine that his appearing over here excludes his
appearing over there. If we think Obama necessarily comes from reproductive material, we
can imagine that his "arising" out of some material over here excludes his arising out of some
material over there. And of course, we can consider that his arising out of some material over
here excludes his appearing out of nothing over there.) I ask: why should what reality is like

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[101] See Fine 1994 for an execution of this with respect to essence, and see Rosen 2006 for a discussion
of two conceptions of metaphysical modality, *one of which* draws a substantive distinction between absolute
metaphysical modality and "metaphysical law".

over here modally impinge upon what it is or is not like over there in this particular way? And I also ask: how *could* what reality is like over here modally impinge upon what it is or is not like over there in this particular way? I think these questions are importantly distinct, and that the kind of proposal being considered is incomplete because it could adequately answer, at most, the first.

Obama originates over here. I also believe it is essential to his particularity that he not *also* originate over there. Why should Obama's originating here necessitate the absence of his originating there? Because the natures of things demands he not be both here and there. But still: how *could* Obama's coming to be over here, plus the relevant facts about the natures of things, *prevent* his coming to be over there too? Supposing God were to create Obama over here, why could not she *also* do it over there? How could Obama's showing up over here, plus the natures of things, *thwart* this?

David Lewis seemed to find certain alleged necessary connections problematic because of an inability to see *how* such connections were supposed to work. I have in mind his criticism of David Armstrong's theory of laws of nature.[102] Suppose it is a law of nature that every F is a G. For Armstrong, this is analyzed in terms of a particular two-place relation, R, holding from Fness to Gness.[103] Now suppose it is necessary that, if it is a law of nature that every F is a G, then every F is a G. Lewis seems to think that, were Armstrong's analysis of the antecedent correct, the necessitation of the consequent would be opaque or mysterious, and that this gives us a reason to reject the analysis. Whatever R is supposed to be, or whatever it is called, how could its holding from Fness to Gness *impose* the regularity? How does it *do its stuff*? Conversely, what *prevents* the antecedent from obtaining along with

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[102] Lewis 1983, p. 366, and 1986b, p. xi.
[103] Armstrong 1983, p. 85.

the consequent's falsity? (The italicized phrases in the three previous sentences are drawn from Lewis.[104])

Whatever the merits of Lewis's criticism of Armstrong on this point, I think this sort of worry naturally arises with respect to the modal ties delivered by the multi-location ban. Suppose that *all* we say by way of explaining the fact that Obama's being here necessitates his absence there is that his being both here and there is precluded by the natures of things (e.g., by the essence of his particularity). How exactly is Obama's showing up here, plus the natures of things, supposed to *go about* keeping or stopping Obama from showing up over there? How do they do their stuff?

Indeed, it might seem that the worry is more acute in this case, because of the would-be spatial or spatiotemporal separation between the relata of the necessary exclusions. Rohrbaugh and deRosset 2004 and 2006 develop an argument for "necessity of origin" theses that crucially turns on a notion of what they call the "locality of prevention."[105] (Recall that Lewis speaks about "prevention" in criticizing Armstrong.) The basic idea, roughly, is that if some particular material (e.g. some particular human reproductive material, or a particular hunk of wood) possibly yields a particular object (e.g. Obama, or a particular table), then it can only be *prevented* from doing so by factors that are *local* to the would-be "production process". For example, some particular material can be prevented from yielding a particular table by destroying that material beforehand, but it cannot be prevented from doing so by building a particular table out of some other particular material in another country. (Here is where the necessity of origin comes in: suppose for reductio that a particular table both could be made out of some particular material over here and could be made out of some particular material over there. Given the locality of prevention, it could turn out that it gets made out of *both*, violating the multi-location ban.)

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[104] Lewis 1986b, p. xi.
[105] See also e.g. deRosset 2009.

An important aspect of Rohrbaugh and deRosset's argument is the idea that *non*-local prevention would seem to be mysterious or viciously inexplicable.[106] Let A and C be hunks of wood, and B a table made out of A. As Ballarin 2013 (p. 358) says, in glossing Rohrbaugh and deRosset's argument:

> The idea then seems to be that if we deny the necessity of origin by conceding that C may produce B, we must conclude counter-intuitively that C has, so to speak, the magic power of affecting A at a distance (non locally). That is, A is affected by what happens to C – its power of making B being inhibited – even if A is in no other way causally affected by the change in C….It is this mysterious power that the locality [of prevention] thesis rejects.

Ballarin here highlights the role that spatial separation can be seen as playing in generating the intuitive worry (for those who have it): non-local prevention might seem to involve a kind of "magical" action "*at a distance*."

Now it seems to me that the basic thought here does not depend on the idea of one thing's being *produced out of* another. Suppose that some particular (e.g. a person, or a physical particle), B, comes to exist *ex nihilo* at a spatial region, A, and that B could have originated at a separate region, C. (If we like, we can even suppose we are considering the content of an initial segment of a universe's history.) B's originating at A prevents its originating at C (and, were B to originate at C, that would prevent its originating at A), but it seems mysterious how such prevention works. How can B's showing up over here keep B from showing up over here? *Prima facie* it looks like such prevention involves a kind of magical action at a distance, *from* here *to* there, that prevents, with metaphysical necessity, B

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[106] See Rohrbaugh and deRosset 2006, p. 382, and deRosset 2009, pp. 165, 171, 176–178.

from showing up over there. It may also be worth highlighting that some intuitive notion of "distance" may be in play in the dispute between Lewis and Armstrong. Though spatial distance *per se* cannot necessarily be invoked in expressing befuddlement over a necessary connection between R's holding from Fness to Gness and the fact that every F is a G, Armstrong seemed to understand the threat to his theory in terms of a kind of "distance" between the relata. Hence, in responding to Lewis, he attempted to (at least somewhat) demystify the necessary connection precisely by "closing the gap" between the relata. He claimed that the connection would be even more mysterious if Fness and Gness were in a Platonic heaven instead of in their instances, and he also proposed that the law of nature itself, i.e. R's holding from Fness to Gness, is immanent in the instances of the imposed regularity.[107]

Let us get our bearings. I have argued that the modal ties delivered by the multi-location ban call out for explanation, as opposed to being acceptably taken as primitive, and further, that they cannot be satisfactorily explained in terms of analytic or conceptual truths. Further, I have argued that any account of such ties in terms of certain general synthetic metaphysical principles banning multi-location (such as might be regimented in terms of essence and/or law) is, at best, importantly incomplete. This is because, when we distinguish the question of *why* a given tie holds ("why should…") from the question of *how* a given tie is efficacious ("how could…"), it seems that such an explanation, in and of itself, provides no satisfactory answer to the second question. Now, this would not be a problem if it were acceptable to take the relevant modal ties to be *primitively* efficacious. For example, perhaps something's being red all over, or having a particular determinate mass, etc., along with certain general principles, just primitively prevents its being green all over, or having a different determinate mass, etc. But this does not seem to be the case with the modal ties we

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[107] Armstrong 1983, pp. 86, 88.

are examining. It is hard to accept that something's being over here, along with certain general principles, could primitively prevent its being over there. For in this sort of case, the would-be relata of the necessary exclusion are spatially or spatiotemporally separated, and these sorts of modal ties *prima facie* seem mysterious in a way that cuts against their being primitively efficacious.

The upshot is this: (supposing we hang on to the multi-location ban,) we have reason to *expect* the availability of, as well as to *want*, an alternative or at least more complete explanation of the relevant modal ties. In particular, such an explanation will demystify not only *why* particulars cannot multi-locate, but also *how* they are in fact kept, with metaphysical necessity, from doing so.

3. Fundamentality

So we have our problem: the multi-location ban delivers modal ties that call for explanation, and some relatively simple candidate explanations are inadequate. I think we can make progress toward a solution by considering various theories about the world's fundamental structure or nature – about what the world is like, fundamentally.[108]

A theory about the world's fundamental structure may be seen as a theory about how the world is "put together," in a roughly "synchronic" sense of that phrase, and also, perhaps, in a roughly "diachronic" sense. One natural concept to invoke in articulating a theory about the world's fundamental structure is that of a *fundamental fact*. Such a theory, at least in large part, can be understood in terms of views about:

      (1) what the fundamental facts (possibly) are

      (2) the natures of (the constituents of) such facts

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[108] For some general discussion of this issue, see Sider 2011 and Bennett forthcoming, as well as e.g. Schaffer 2009b and Fine 2001 and 2012.

(3) whether such facts are susceptible to various kinds of change (e.g. replacement and/or accumulation)

(4) how such facts give rise to any *derivative* facts there may be.

It is essential that we eventually discuss (4), if only to see what must be said about multi-location vis-à-vis derivative reality. However, for now, I will focus on (1), and I will say a little about (2) and (3) later on.

Consider *a*'s being *F*, where *a* is a material individual and "being *F*" a way *a* is. Intuitively, *a*'s being *F* is, at least *prima facie*, a *fully propositional* aspect of reality, whereas *a* and "being *F*" are certainly *sub-propositional* aspects of reality. By a fully propositional aspect of reality, I mean something structurally apt to correspond to an absolutely true or false judgment. So "facts", "propositions", "states of affairs", and "events" (on some conceptions) would be fully propositional. For example, the event of *a*'s being *F* may correspond to the absolutely true or false judgment '*a* is *F*'. By contrast, *a* itself, for example, corresponds to no absolutely true or false judgment. It may be controversial whether some matters are sub- or fully propositional. For example, if the so-called "B-theory" of time is true, then *a*'s being *F* may be sub-propositional, either corresponding to no true judgment or only to a relatively true one (e.g. one true relative to a time). And if some sort of idealism is true, perhaps *a*'s being *F* fails to be fully propositional by virtue of lacking anything about a representing mental subject. But while we may argue about cases, I trust the distinction between the sub- and fully propositional is intuitively clear.

I spoke above of "fundamental" and "derivative" "facts". By a *fact* I mean a fully propositional aspect of reality that is "worldly," as opposed to abstract, representational, or

conceptual.[109] As I am using 'fundamental' and 'derivative', they are only predicates, at least canonically or in the first instance, of facts, so specified. I understand fundamentality and derivativeness, so specified, in a *ground*-theoretic way.[110] I take grounding to be a relationship of constitutive determination between facts,[111] a *fundamental* fact to be one that is not grounded in, i.e. constitutively determined by, any other facts, and a *derivative* fact to be one that is grounded in further facts.[112] So on this approach to fundamentality, fundamentality is, in the first instance, a property of facts, and fundamental facts are those that are primitive or brute in the given ground-theoretic sense. Intuitively (but perhaps falsely), facts involving cities, societies, and wars are grounded in facts involving their constituent persons, facts involving biological properties are grounded in facts involving chemical properties, and facts involving disjunctive or determinable matters are grounded in facts involving disjunct or determinate matters. More controversially, perhaps facts involving mental matters are grounded in facts involving physical matters (or perhaps the other way around), or perhaps facts involving moral matters are grounded in facts involving non-moral matters.

I assume that grounding is "well-founded" in the following sense: necessarily, if there are any facts at all, there are some fundamental ones, which collectively ground any other facts.[113] This is an ultimately dispensable simplifying assumption, one however that I find plausible. It follows that the fundamental facts provide a *determination base* for any others:

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[109] See e.g. Rosen 2010, pp. 114–115, and Audi 2012a, p. 103. I hesitate to say more about what this worldliness amounts to, since I think there are some difficulties lurking here. Rosen and Audi (and many others), for example, take facts, on the relevant conception, to be (a) built up out of worldly items (e.g. concrete particulars, properties), and further, to be (b) individuated by those worldly constituents and their manner of combination. However, even granting (a), I have reservations about (b), especially if facts must be particulars (as Audi, for example, has it). For it is not obvious to me that there cannot be two fully propositional worldly particulars with the same constituents and manner of composition. Further, I have reservations about (a). It is not obvious to me that every fully propositional worldly item is built up out of sub-propositional worldly items.

[110] See e.g. Rosen 2010, Audi 2012a and 2012b, Fine 2012, and Dasgupta 2014.

[111] See Fine 2001, p. 15, and 2012, pp. 37, 39.

[112] See e.g. Dasgupta 2014.

[113] This is one way of spelling out a "completeness" condition on fundamentality, the intuitive idea being that fundamental facts provide a "complete" determination base for everything else. See Sider 2011, pp. 105–106, and Bennett forthcoming, ch. 4.

all derivative facts are grounded in some fundamental facts. I also assume that grounds modally suffice for what they ground in at least the following sense. The fundamental facts provide a *supervenience base* for any others: no possible worlds differ over any facts without differing over fundamental ones.

Fundamentality and derivativeness, as I am understanding those notions, should not be conflated with other potentially intuitive understandings of 'fundamental' and 'derivative'. Consider the fact that *a* is *F*, or that *Fa*. This fact might be fundamental, in the relevant ground-theoretic sense, without being "fundamental" in other ways. For example, it might *ontologically depend* on other matters (e.g. *a*, "being *F*"), that is, depend on other matters for its "being," or for its "being what it is".[114] Whereas fundamentality and derivativeness pertain to *why* a given fact exists (either brutely, or by virtue of something else), ontological *in*dependence and *de*pendence, as applied to facts, pertain to *what* a given fact *is*.[115] We can see derivativeness and ontological dependence as corresponding to two different kinds of "building".[116] Consider the fact that *Fa & Gb*. Intuitively, this fact ontologically depends on the conjunct facts, namely that *Fa* and that *Gb*, being "built" or "constructed"[117] or "composed"[118] out of them in one sense, and is also derivative on (i.e. grounded in) the same conjunct facts, being "built" out of them in another sense. The first kind of building accounts for *what* the fact *is*, its ontological structure, while the second accounts for *why* it exists, or in other words, why it is the case that *a* is *F* & *b* is *G*. Only on the first kind of building would it seem *prima facie* plausible that the fact that *Fa* is "built" out of *a* and "being *F*". For supposing it could have been the case both that *a* exists without being *F* and that something is

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[114] See Fine 1995a. I use scare quotes around 'being *F*', since that phrase, at least in the token occurrence in the text, is not meant to be a referring term. The idea is that the fact that *Fa* may depend for its being what it is on "the having of *F*", even if this bit of worldly structure on which the fact depends is not, strictly speaking, an *entity*.

[115] See Fine 2012, pp. 79–80, and cf. Carmichael 2015, p. 2.

[116] See Bennett forthcoming, ch. 2.

[117] Wilsch 2015.

[118] Audi 2012b, p. 686, n. 3.

F instead of *a*, it is intuitively false that *a* and "being *F*" together account for *why a is F*. Intuitively, were the fact that *Fa* fundamental, God would create it in creating the world. And intuitively, were this fact ontologically dependent on *a* and "being *F*", God would create it by "combining" the particular and the predicate (more precisely, the bit of worldly structure captured by the predicate). By contrast, were this fact both fundamental and ontologically *in*dependent, God's creating it would presumably amount to something else, and one might even think that 'that *Fa'* would be a misleading name for the fact, inasmuch as that name is naturally taken to convey a kind of ontological structure that the item named fundamentally lacks.[119]

One reason the distinction between fundamentality and ontological independence is important is that it allows us to distinguish two kinds of combinatorial principles. Here is one idea: ontologically independent constituents of fundamental facts can be recombined so as to get other possible fundamental facts. Here is another: fundamental facts can be recombined so as to form possible collections of fundamental facts, i.e. collections of compossible fundamental facts. For example, if the facts that *Fa* and that *Gb* are fundamental, the second kind of principle suggests that we can preserve possibility by "cutting" one of them, resulting in the possibility of *a*'s being *F* without *b*'s being *G*. And if we suppose that these fundamental facts are ontologically dependent on their individual constituents and predicate constituents, these proper constituents themselves being ontologically independent, the first kind of principle suggests that we can preserve possibility by "re-arranging" constituents, resulting in the possibility of, for example, the fundamental fact that *Ga*. By contrast, if one thinks that fundamental facts are ontologically basic or independent, then it is not as natural to think that one can preserve possibility by re-arranging "constituents", for any such (proper) "constituents" ontologically depend on the particular fact containing them.

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[119] We might say that an ontologically independent fact would be a "propositional blob" (I take the phrase from Turner 2011, p. 27).

I will argue in what follows that certain theories of the world's fundamental structure provide good explanations of the modal ties delivered by the multi-location ban. The basic idea is that, by shifting our attention to particular theories about the way in which the world is put together, the mysterious appearance of particular modal ties evanesces. At any rate, if we grant some general principles implying *that* these modal ties hold, attending to particular theories about how the world is put together can dispel any lingering worries about *how* such ties are efficacious. If a given theory of fundamental structure provides a good explanation for the relevant modal ties, then the (supposed) truth of the multi-location ban constitutes evidence for the truth of such a theory. Moreover, in the process we get evidence for the philosophical utility of the ideology of "fundamental structure" itself – as well as one intuitive handle on various distinctions between views of fundamental structure that might otherwise seem dark or spurious. As I have already indicated, I think that the kinds of theory of the world's fundamental structure that best explain the relevant modal ties fall into an interesting and intuitively unified category, namely a category of theories of fundamental structure according to which the "identities" or "thisness(es)" of particulars are "fundamentally extrinsic". And as I have also already indicated, I think that the best versions of these theories are "qualitativist" ones, i.e. ones according to which the world's fundamental structure is purely general or qualitative.

Now that the notion of fundamental facts is on the table, we can consider theories about (1) the "material" for fundamental facts, (2) about how such material can be combined in "forming" a fundamental fact, and (3) about how fundamental facts themselves can be (re)combined. I will call principles pertaining to (1) through (3), respectively, *fact-material* principles, *fact-forming* principles, and *fact-combining* principles. For example, our fact-material principles might comprehend particular point-sized regions of spacetime, as well as particular point-sized individuals, as well as some linking ideology, such as a binary

predicate of occupation linking individuals and regions, and other predicates linking up regions into a spatial manifold. And our fact-forming principles might be such so as to allow us, for example, to form possible fundamental facts such as that *a* occupies *r*, and that *b* occupies *s*, where '*a*' and '*b*' name particular individuals from our fact-material principles, and '*r*' and '*s*' particular regions from them. And our fact-combining principles, then, might allow us, for example, to maintain that each of these facts could have existed without the other, and/or that they possibly exist together.[120]

Now we can suppose that a theory of fundamental structure ensures *that* there are no violations of the multi-location ban, only if that theory's fact-material, -forming, and –combining principles rule out the possibility of a fundamental fact, and of a collection of fundamental facts, immediately constituting such a violation. I say 'only if' because we also have to consider the prospect of multi-location at the level of *derivative* facts, but we will be focusing our attention on the fundamental for a while. And I want to suggest that a particular theory of fundamental structure also provides a satisfactory explanation of *how* the modal ties delivered by the multi-location ban are efficacious if, in order to ensure *that* there are no violations of the ban, there is no need to invoke *non-local constraints* in connection with either fact-forming or –combining principles. In other words, a theory of fundamental structure will provide a satisfactory account of the modal ties delivered by the ban if its fact-material principles either (i) themselves rule out the possibility of any multi-location, or (ii) only require, in order to rule out such possibilities, *local* constraints in connection with either fact formation or fact combination. The sort of theory sketched above, for example, is naturally taken to fail this condition. For example, it is natural to take this sort of theory as

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[120] There is an intuitive affinity between fact-*material* principles and what Sider 2011 calls "structural" notions, and there may also be some affinity between all three kinds of principles and Sider's and Rosen 2006's "laws of metaphysics." However, I emphasize that all three of the kinds of principles I have articulated pertain to the construction of *fundamental* reality. Some authors seem to use 'laws of metaphysics' to encompass *both* the construction of fundamental reality *and* the "connections" from this to *derivative* reality (see e.g. Schaffer 2015), and others seem to use 'laws of metaphysics' specifically with an eye to the *connections* (see e.g. Wilsch 2015 and Glazier forthcoming).

delivering the possible existence of the fundamental fact that individual *a* occupies region *r*, as well as of the fundamental fact that *a* occupies distinct region *s*. Accordingly, in order to rule out multi-location, we need a constraint on fact combination to the effect that we cannot combine *a*'s occupying *r* with *a*'s occupying *s*.[121] But such a constraint is non-local, since it consists in a necessary exclusion between would-be spatiotemporally separated matters. By contrast, suppose it is a possible fundamental fact that *a* is green, and also that *a* is blue. A constraint on fact combination to the effect that we cannot combine these would be local, not non-local.

Here is the plan for what follows. First, I will canvass various theories of fundamental structure that have the resources to meet the specified condition, and accordingly that can adequately account for the modal ties implicated in the multi-location ban. I will touch on five, though they are not all mutually exclusive. The first kind of theory (§4) simply denies that there are, fundamentally, any concrete particulars, and the second kind (§4) simply denies that there is, fundamentally, any spatial framework. The third (§5), fourth (§6), and fifth (§7) take a more nuanced approach to the problem, and can be characterized in slogan form as: "go holistic," "go qualitative," and "go to essence". Second, I will bring in derivative facts (§8), discussing how we might extend an account of the modal ties delivered by the multi-location ban to derivative reality in particular. In §9 I will explain how the canvassed proposals are unified in an intuitively interesting way, and in §10 I will argue that, when we restrict our attention to theories of fundamental structure that adequately account for the modal ties delivered by the multi-location ban, the most plausible ones are qualitativist.

4. What Particulars? What Spatial Framework?

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[121] Cf. Schaffer 2009a, pp. 141–142.

One way to adequately explain the impossibility of fundamental cases of multi-location involves denying the fundamental existence of concrete particulars altogether. One way to do this would be to adopt a fundamental ontology according to which all that exists, fundamentally, are non-particular entities, i.e. universals,[122] and another way to do it would be to adopt a fundamental "ontology" according to which there are no entities at all – ontological nihilism.[123] On either sort of view, our fundamental fact-material principles simply do not contain any concrete particulars *to* multi-locate, and this might seem to immediately account for the modal ties implicated in the multi-location ban. Alternatively, one might say that such a theory of fundamental structure does not so much explain the relevant ties as much as it denies the existence of them in the first place – not by granting the possibility of multi-location, but by not even countenancing the particulars figuring in such putative modal facts. Either way, the problem this paper is centered around is avoided: on this kind of theory of fundamental structure, one can accept the multi-location ban (perhaps as trivially true) without being committed to any objectionably mysterious necessary exclusions between would-be spatiotemporally separated goings-on. If our fact-material principles do not even contain concrete particulars, then such particulars cannot be manipulated in either forming or combining fundamental facts so as to get a violation of the multi-location ban.

Now, though I think adopting a fundamental ontology on which there are no fundamental particulars is a promising way to adequately account for the relevant modal ties, this kind of proposal, as thus far stated, is importantly incomplete – in two respects. First, there is the issue of the presence or absence multi-location vis-à-vis *derivative* reality. We are currently confining our attention to fundamental facts, but a proponent of this sort of

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[122] See e.g. Dasgupta 2009 and forthcoming, and Paul manuscript.
[123] See e.g. Turner 2011.

approach would need to say something about derivative reality as well. (I will take up this issue in §8).

Second, even restricting our attention to fundamental reality, it is not obvious that the intuitive content of the multi-location ban can be violated only if there are concrete particulars. Let 'R' be a distance predicate and a a concrete particular. Here is one way of representing a case of multi-location: 'Raa'. Here are two more: '$\exists x(Rxx)$', '$\exists x \exists y(Rxy\ \&\ x=y)$'. The first is non-qualitative, the second and third qualitative. Now those who deny that there are, fundamentally, concrete particulars nevertheless need to somehow account for putative facts about them. Accordingly, the question arises whether a theory of fundamental structure devoid of concrete particulars nevertheless allows the world to be a certain way that we would intuitively consider as violating the multi-location ban.

Consider a purely property-theoretic view of fundamental structure. One might embrace such a view and yet countenance fundamental, *non*-qualitative "universals." The most natural candidate here would be *haecceities*, in one sense of 'haecceity': primitive non-qualitative properties that explain their possessors' being the very entities they are.[124] Though we might be tempted to pick out haecceities with names like 'being a', 'being Obama', etc., on the current conception they are *not* second-rate or bastardized properties that ontologically depend on particulars. Carmichael 2015 defends a purely property-theoretic conception of fundamental structure that invokes haecceities. Now let R^* be a distance universal that applies to other universals, and let H be a particular haecceity. We can imagine someone taking it to be a possible fundamental fact that $R^*(H, H)$ (cf. that Raa). Is this something that the multi-location ban should be taken as prohibiting?

Even without invoking non-qualitative universals, we might think that there are purely property-theoretic ways of getting a situation that would be intuitively characterized as

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[124] See e.g. Adams 1981, pp. 12–18, Lowe 2003, pp. 86–89, and Mackie 2006, p. 21.

involving a multi-locating particular. For example, Dasgupta 2009 and forthcoming defends a purely property-theoretic conception of fundamental structure that is explicitly designed to be able to account for any sort of putative truth expressible in first-order predicate logic without individual constants. (We might note that haecceities could be invoked to accommodate individual constants.) As we have seen, multi-location can be represented in this idiom. For example: '∃x(Rxx)' and '∃x∃y(Rxy & x=y)'.

Let us turn now to ontological nihilism. Just as with a purely property-theoretic proposal, the nihilist needs to somehow account for the apparent existence of particulars. Now presumably the nihilist *can* also try to account for apparent facts about identity and distinctness between particulars as well. (She might not want to, say, if one of her motivations is to erase these kinds of metaphysical distinctions.) Now however she does this, it would seem that she can set forth fundamental facts that would be seen as intuitively transgressing the multi-location ban, by virtue of representing reality as being a way that would be pre-theoretically seen as involving a multi-locating particular.

The upshot is this: in order to adequately account for the impossibility of fundamental multi-location, it is not clear that the purely property-theoretic fundamental ontologist or the nihilist can *simply* advance their respective fundamental ontologies. For it may be that the intuitive content of the multi-location ban imposes constraints on the way the world could be even in the context of fundamental ontologies devoid of concrete particulars. If this is the case, then the proponent of either nihilism or a purely property-theoretic view would, in order to adequately account for the modal ties delivered by the multi-location ban, need to develop their own theories in a way that avoids the possibility of violating the ban in their own idiom.

I do not intend to take a stand here on whether the multi-location ban should be taken to impose constraints on fundamentally "particular-less" ways for the world to be. I will say, however, that I see no good reason for either the nihilist or the purely property-theoretic

ontologist to *not* want to develop their theories in a way that blocks impressions that they might violate the ban.[125] If the multi-location ban indeed has nothing to say about how these approaches to fundamental structure should be developed, then this paper's problem can indeed be solved (vis-à-vis *fundamental* multi-location) simply by embracing one of these sorts of particular-less fundamental ontologies. If, on the other hand, accounting for the modal ties delivered by the ban does require more care in articulating the details of the theories, then I think these proposals end up *collapsing* into one or more of the three more nuanced solutions to be considered, namely "going holistic", "going qualitative", or "going to essence".

Instead of denying the fundamental existence of concrete particulars, one might deny the fundamental existence of a spatial (or spatiotemporal) framework. That is, one might accept some form of idealism about spatial or spatiotemporal matters. I say 'spatial framework' ('spatiotemporal framework'), as opposed to 'space' ('spacetime'), because I am not singling out substantivalism. The idea is to deny the fundamentality of any spatial regions as well as of any spatial distance predicates. Whereas the purely property-theoretic and nihilistic ontologists deny that there are, fundamentally, any particulars *to* multi-locate, the relevant kind of idealist denies that there is, fundamentally, any spatial framework for any particulars to multi-locate *in*. Our fundamental fact-material principles simply lack a necessary ingredient for forming, and hence combining, any fundamental facts the existence of which would constitute a violation of the multi-location ban.

Just as with the fundamentally particular-less proposals, in this case too we would need to consider what the theory can say about multi-location vis-à-vis derivative reality.

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[125] For example, it seems to me that Dasgupta's own argument for his theory (see his 2009 and forthcoming), if cogent, should lead one to *deny* that we can account for any sort of putative truth expressible in first-order predicate logic without individual constants. For the thought behind the argument is that we should not attribute fundamental structure to the world that is "empirically undetectable" and "physically redundant," and the kind of qualitative structure that would discriminate between, for example, the existence of two duplicate particulars (e.g. '$\exists x \exists y (Rxy \& \sim(x=y))$') and the existence of a single bi-located particular (e.g. '$\exists x \exists y (Rxy \& x=y)$') would seemingly be empirically undetectable and physically redundant.

Further, once again the question arises as to whether the intuitive content of the multi-location ban can be violated in the idealist's peculiar idiom. For example, we might imagine a single particular as "recurring" across some sort of *structure,* in a way that we find intuitively impossible, even if this structure is not literally spatial (spatiotemporal). (We might imagine a structure defined by states of consciousness, and imagine a single agent as occurring twice in it, signifying an agent's having a divided consciousness – the kind of divided consciousness a multi-locating agent would presumably have.) So, once again, it is not clear that the idealist's work is done simply by advancing her particular fundamental ontology.

5. Going Holistic

There are more nuanced ways of adequately explaining the impossibility of fundamental multi-location, ways that do not involve wholesale culling of particulars or spatial frameworks from the world's fundamental structure. I have in mind three strategies, strategies which, as we will see, are not mutually exclusive. In slogan form: "go holistic," "go qualitative," or "go to essence". To make things more concrete, let us work with an example. Imagine we have an initial, very short temporal part of a history of a universe. In order to not beg any questions about the nature of time, we leave it open whether this temporal part constitutes the entire history of the relevant universe. However, we assume that this is the only universe that exists. In this temporal part, we have three mereologically simple individuals, *a*, *b*, and *c*, situated as if on a line – *b* being in the middle, equidistant from *a* and *c*. Let us call this scenario 'Alef'.

Before illustrating the first of these three strategies for effectively accounting for the modal ties implicated in the multi-location ban, namely "going holistic", it will help to briefly cover some *prima facie* intuitive conceptions of Alef's fundamental structure that *fail* to

account for them. Let r_a, r_b, and r_c be, respectively, the spatial regions occupied by a, b, and c. Suppose it is a fundamental fact that a occupies r_a, and likewise with b and r_b, and c and r_c. This suggests a general conception of fundamental structure whose fact-material principles comprehend particular mereologically simple individuals, particular spatial regions, a binary predicate of occupation linking individuals and regions, and some ontology or ideology for connecting up regions into a spatial framework. Let f be some fundamental fact, or collection of such facts, that establishes the spatial framework of r_a, r_b, and r_c. This general view naturally suggests fact-forming principles that deliver the possibility of a fundamental fact to the effect that a occupies r_c. (To anticipate a bit, the strategy of "going to essence", discussed in §7, can be invoked to block this.) But this leads to trouble. For we cannot combine the fact that a occupies r_a, the fact that a occupies r_c, and f, since that would generate a violation of the multi-location ban. (Imagine a world that resembles Alef except that a is substituted for c, resulting in the bi-location of a.) But this looks like a non-local, and hence objectionably mysterious, constraint on fact-combination principles. Hence, this conception of Alef's fundamental structure fails to meet our condition for adequately accounting for the modal ties implicated in the multi-location ban: it is a conception of fundamental structure on which the impossibility of multi-location is only blocked by invoking non-local constraints vis-à-vis either fact-forming or fact-combining principles.

Another example. Suppose there are no fundamental spatial regions, and that, instead, we have fundamental distance predicates applying directly to individuals (delivering a kind of relationalism about space). In particular, let 'R' be such a predicate, and suppose that Alef's spatial framework is established by a single fundamental fact to the effect that $Rabc$. This suggests a general conception of fundamental structure whose fact-material principles comprehend particular mereologically simple individuals and particular distance predicates. Given that our fact-material principles comprehend 'R', a, b, and c, it is initially

natural to think that we can get, e.g., a fundamental fact to the effect that *Raba*. Of course, this violates the multi-location ban, and so we may impose a constraint on fact formation to block it. But once again, this looks like a non-local constraint, this time with fact formation instead of combination: we are mandating that, if a given particular fills one place of a distance predicate, it cannot also fill another. The concern here is *not* over the modal status of that *Raba*. It really does seem impossible. The point, rather, is that this conception of fundamental structure fails to effectively account for its impossibility. It has to invoke a necessary exclusion between would-be spatially separated matters, and this sort of thing seems objectionably mysterious.

We could consider various alternative conceptions of Alef's fundamental structure that run into the same problem. For example, we could run the problem in the context of more atomistic forms of relationalism,[126] such as on which the fundamental distance predicates are binary. We could also deepen the problem on views already explored. For example, on the substantivalist approach considered above, how exactly is the spatial configuration of regions r_a, r_b, and r_c, established? If it is established along the lines that the configuration of *a*, *b*, and *c* is established on the relationalist approach, namely by the application of a distance predicate, then it looks like we need a non-local constraint on fact formation to rule out the possibility of a *region*'s multi-locating. We could also consider supersubstantivalism, the view that there are, fundamentally, spatial (spatiotemporal) regions to which their occupants *are identical*. As just explained, this view does not immediately account for the modal ties of the multi-location ban, since regions are concrete particulars to which the ban applies, and we need an account of why they (and, thereby, their "occupants") cannot multi-locate. I will not further discuss supersubstantivalism, since its ability to account for the relevant modal ties trades on the implementation of one of the three strategies

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[126] See Thomas 1995.

to be discussed, strategies which can also be applied directly to individuals on a relationalist conception of space (spacetime).[127] For the sake of space, as well to simplify matters, in what follows I will tend to focus on the holistic relationalism exhibited above, on which Alef's spatial framework is established by a single fundamental fact to the effect that *Rabc*.

Here is one way of "going holistic". Instead of supposing that our fact-material principles comprehend mereologically simple individuals such as *a*, *b*, and *c*, suppose the only concrete individuals they comprehend are maximally large ones – ones that intuitively "cover" the entirety of concrete reality. (Were there multiple co-existing universes, such a maximal individual would cover all of them.) We might understand "covering" mereologically: such a maximal individual has every other individual as a part. However, that may misleading, inasmuch as, at least when we are talking about the material for *fundamental* facts, there might *be no* such parts. (This is not straightforward. For the fundamental material may comprehend predicates of maximal individuals that involve having parts.) We might think of maximal individuals as "extended simples," but that might also be misleading, inasmuch as these maximal individuals may well have proper parts, albeit *derivatively* existing ones. Let us say that any theory of fundamental structure on which all the fundamental facts (that involve any particulars at all) involve just one particular, and one and the same particular, is a kind of *particular monism*. Intuitively, particular monism is a kind of theory of fundamental structure that is holistic or monistic specifically with respect to concrete particulars. (We will soon consider other kinds of monism.) Letting *m* be a maximal individual, and '*F*' a predicate of *m*, we can suppose that Alef's fundamental

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[127] Schaffer (2009a) takes supersubstantivalism to provide a straightforward account of why material objects cannot multi-locate (pp. 141–142). However, this account seems importantly incomplete, since it does not cover why a region of spacetime cannot multi-locate. If one region could be spatiotemporally separated from itself, then an identical material object could as well. However, Schaffer's account can be completed with an idea Schaffer himself endorses in the same paper, namely that "the whole spatiotemporal manifold is prior to any of its proper sub-regions" (pp. 135–136). Depending on how this is cashed out in terms of fundamental structure, I think it can be subsumed under one or more of the three strategies to be discussed – strategies which do not require supersubstantivalism.

structure consists of a single fundamental fact, namely that *Fm*. Alternatively, we might suppose that there are multiple fundamental *m*-involving facts, e.g., that *Fm*, that *Gm*, etc.

In order for a version of particular monism to account for the modal ties delivered by the multi-location ban, we need to exclude from our fact-material principles any predicates of a maximal individual the satisfaction of which, either individually or collectively, would involve having a multi-locating part. For example, we rule out predicates such as:

$Px =_{df} \exists y \exists z$(*y* is part of *x* & *z* is part of *x* & *y* and *z* are five feet apart & *y=z*).

And supposing our particular monist admits *multiple* fundamental *m*-involving facts, we rule out predicates such as

$P^{1}x =_{df} x$ contains *a* in half h_1

$P^{2}x =_{df} x$ contains *a* in half h_2,

the collective satisfaction of which would deliver fundamental multi-location.

The particular monist must also construe her fact-combining principles such that we cannot combine, for example, any *m*-involving fact with any *n*-involving fact, where *m* and *n* are distinct possible maximal individuals. This is not directly related to accounting for the modal ties delivered by the multi-location ban. After all, were there to exist, *per impossible*, two spatially (spatiotemporally) separated "maximal" individuals, it is not as if we would have a case of multi-location. However, this constraint on fact-combining principles is just a necessary component of particular monism (since the existence of two maximal individuals is incoherent), and it opens up space for a potential objection. I have objected to non-local constraints in fact-combining principles, and it might seem that the constraint just described

counts as a non-local constraint. For would not the existence of one "maximal" individual be a spatially or spatiotemporally distinct matter from the existence of another "maximal" individual?

No; such a constraint on fact combination would be local, not non-local. As I understand particular monism, the maximality of maximal individuals is an essential property of them. For example, take *m*. It is not as if the individual that is *m* only counts as a maximal individual because, as it happens, there are no fundamental facts involving individuals not covered by *m*. Rather, part of what it is to be *m* is to be maximal. Accordingly, since the essence of a maximal individual is partly extrinsic (comprehending the absence of any spatially separated individuals), our inability to combine, e.g., an *m*-involving fundamental fact with an *n*-involving one traces to the *intrinsic* natures of *m* and *n*. Hence, the constraint is analogous to, e.g., a constraint on combining *a*'s being green with *a*'s being blue, or Obama's sitting with Obama's standing. Of course, I have not defended the possibility of fundamental maximal individuals, so elucidated, but my aim here has just been to articulate particular monism, not defend it.

With that potential objection set aside, let us return to particular monism and multi-location. On this sort of view of Alef's fundamental structure, there is simply no way to manipulate our material for fundamental facts, whether in connection with forming possible fundamental facts or combining them, so as to get a fundamental case of multi-location. Whereas the purely property-theoretic fundamental ontologist and the ontological nihilist would account for the relevant modal ties (partly) by denying the fundamental existence of any particulars *to* multi-locate, and the idealist (for whom our description of Alef is presumably crucially underdetermined, since we haven't said anything about mental subjects) would account for the relevant modal ties (partly) by denying the fundamental existence of any spatial framework *within which* any particular could multi-locate, the particular monist

can account for the relevant modal ties by taking there to be exactly one fundamental particular. Indeed, I want to suggest that one might even get an intuitive handle on this view of fundamental structure partly in terms of its ability to account for the modal ties delivered by the multi-location ban. Whereas we can easily imagine, on a more "atomistic" conception of the fundamental facts, getting a fundamental case of multi-location (e.g. by combining *a*'s occupying one region of space with *a*'s occupying a distinct region) – *were* it not for an independent and non-local constraint on fact formation or combination – on the relevant kind of particular monism we cannot make sense of there being a fundamental case of multi-location, since we cannot make sense of there being spatially separated fundamental individuals.

Particular monism is one kind of view about how the spatiotemporal system, consisting of the spatial framework along with its particular occupants, is *put together*. Specifically, it is a view on which the most perspicuous way of carving up reality into fundamental property-bearers, or "substances,"[128] is to take there to be exactly one. It is a holistic conception of how the world is put together, specifically by virtue of this take on fundamental particulars. But there are other ways of going holistic too. Whereas the particular monist takes there to be just one fundamental particular, we might consider *fact* monism, on which there is just one fundamental fact, as well as *feature* monism, on which only one property or relation (more precisely, only one instance) figures in any fundamental facts. If we suppose that Alef consists, fundamentally, of the fundamental fact that *Fm*, then we have all three kinds of monism: particular (*m*), feature (being *F*), and fact (*m*'s being *F*). As already explained, we can drop the feature and fact monism by supposing, e.g., that we have multiple fundamental facts such as that *Fm*, that *Gm,* etc. But we can also hold the fact or feature monism fixed while dropping the particular monism.

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[128] See Schaffer 2009b.

One way to hang on to fact monism while dropping particular monism is to introduce a fundamental identity predicate. By this I do not mean a predicate of being identical to, but rather a predicate that we might pre-theoretically imagine being built out of multiple monadic identity predicates. For example, suppose we introduce the following three-place predicate, '*I*':

$$Ixyz =_{df} x=a \ \& \ y=b \ \& \ z=c.$$

It is admittedly very natural to think that '*I*' is derivative upon 'is identical to *a*', 'is identical to *b*', and 'is identical to *c*'. But suppose '*I*' were fundamental. Let '*F*' be a predicate capturing the intrinsic qualitative character of *a*, *b*, and *c*, and '*R*' be a three-place predicate the holding of which intuitively constitutes Alef's spatial framework. (To simplify matters, we assume relationalism about space.) Now suppose Alef fundamentally consisted in the following fundamental fact: $\exists x \exists y \exists z(Fx \ \& \ Fy \ \& \ Fz \ \& \ Rxyz \ \& \ Ixyz)$. Intuitively: there are three things, each of which is *F*, such that they are *R*, and such that they are *I*. (Thorny questions arise here about the nature of '*R*' and '*I*', specifically with respect to whether they can "apply" to a given collection of items in multiple ways.[129] For example, we can ask whether '*Rxyz & Rxzy*', if inserted in the blank in '$\exists x \exists y \exists z(Fx \ \& \ Fy \ \& \ Fz \ \& \ \_\_)$', would say the same thing twice, or say two things; and we can ask whether '*Rxyz & Ixyz*', as inserted in the same blank, says something different than '*Rxyz & Ixzy*' would. I do not think that anything important for our purposes requires taking up these issues.)

On this sort of view, the spatiotemporal system is put together in an intuitively holistic fashion. But it is not holistic vis-à-vis fundamental particulars, or substances, for we have three, mereologically simple ones. The fact monism itself delivers one respect of

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[129] See e.g. Fine 2000.

holism: fundamental reality consists in the actuality, or actualization, of just a single fact. God would just create one fact in creating the world. The fundamental three-place identity predicate also delivers a respect of holism: although we have three fundamental individuals, the *identities* of those individuals are entangled. The absence of the holism vis-à-vis substances and the presence of holism vis-à-vis the identities of substances can be intuitively grasped as follows. Were God to focus her perceptual attention (e.g. visual, tactile, etc.) to *a*'s location, she would indeed grasp the existence of *an individual that is* F, but she would have to "zoom out" to the whole, the maximal, in order to grasp the identity of that individual – *which* individual it is. By contrast, on particular monism, were God to confine her attention to *a*'s location, she would not apprehend the existence of any concrete particulars. She would have to zoom out to apprehend such. Finally, were it a fundamental fact that *Rabc*, or that *a* occupies region r_a, God would presumably grasp both *a*'s existence and identity, were she to confine her attention to *a*'s location.

How does the fact-monistic but particular-atomistic view of fundamental structure described above lend itself to an adequate account of the impossibility of fundamental multi-location? Consider, first, this alternative: it is a fundamental fact that $\exists x \exists y \exists z$(*Fx & Fy & Fz & Rxyz & x=a & y=b & z=c*). This kind of fundamental fact is *formed* by *material* such as existential quantification, being *F*, being *R*, being *a*, being *b*, and being *c*. Intuitively, we can easily manipulate such material in order to form a different fundamental fact in which we get multi-location. For example: $\exists x \exists y \exists z$(*Fx & Fy & Fz & Rxyz & x=a & y=b & z=a*). Were this fact to exist, intuitively, *a* would replace *c*, resulting in a world similar to Alef except that we have a multi-locating *a*. By contrast, on a view that invokes '*I*' instead of individual identity predicates, we cannot manipulate the fundamental material in this way to get a violation of the multi-location ban. Now, we do need to exclude from our fact-material principles three-place identity predicates such as:

$I^*xyz =_{df} x=a$ & $y=b$ & $z=a$.

But, just as with the particular monist's excluding

$Px =_{df} \exists y \exists z$($y$ is part of x & z is part of x & y and z are five feet apart & $y=z$)

from her fundamental fact-material principles, I am granting that we can unproblematically do this. We are taking for granted *that* some general principles dictate the impossibility of multi-location. The question is whether, in order to implement such "directives," we have to invoke non-local constraints vis-à-vis putting the world together – specifically, vis-à-vis fact formation and combination. And on the view currently being considered, we *do not*. Once the fact-material principles are articulated in the right way, we simply cannot manipulate the material, either in forming or combining facts, so as to violate the ban.

I said in the prior section that, *if* the multi-location ban is taken to impose constraints on fundamentally particular-less ways for reality to be, then it may be that the purely property-theoretic fundamental ontologist, the ontological nihilist, and the idealist may have to articulate their theories in a particular way in order to adequately account for the relevant modal ties. One way for them to do so is to "go holistic". For example, the idealist could take there to be a single fundamental mental subject, the nihilist could take there to be a single fundamental fact, and the purely property-theoretic fundamental ontologist could take there to be a single fundamental universal.

6. Going Qualitative

The second strategy I mentioned above for accounting for the multi-location ban's modal ties is to "go qualitative". The idea here is to take the fundamental facts to be purely qualitative in content – that is, to accept qualitativism. On this sort of approach, there is simply *no fundamental non-qualitative material to manipulate* in order to get a fundamental case of multi-location. Now one way to be a qualitativist is to accept a purely property-theoretic fundamental ontology, where the properties are restricted to intuitively *qualitative* universals. What I want to focus on now is implementing qualitativism within the context of accepting the fundamental existence of concrete particulars. The qualitativist can accept the fundamental existence of concrete particulars, provided she denies the fundamentality of their *identity*.[130] This can be done by taking the fundamental facts to be expressed by existentially quantificational sentences that do not include any names (or other directly referring devices) for any concrete particulars, nor any non-qualitative predicates. For example, whereas our previous *non*-qualitativist fact-monistic proposal had it that Alef consisted in the single fundamental fact that $\exists x\exists y\exists z(Fx \ \& \ Fy \ \& \ Fz \ \& \ Rxyz \ \& \ Ixyz)$, the qualitativist can simply strike '*& Ixyz*', saying that Alef consists in the single fundamental fact that $\exists x\exists y\exists z(Fx \ \& \ Fy \ \& \ Fz \ \& \ Rxyz)$. Recall that we are presently focusing on fundamental facts. The qualitativist does not deny that there are facts about particular individuals, such as *a*, *b*, and *c*, but only denies that any such facts are fundamental. Given that existentially quantificational facts have witnessing facts, any qualitativist whose fundamental facts quantify over concrete particulars must be a realist about (at least some of) derivative reality. In particular, such a qualitativist must accept the existence of derivative non-qualitative witnessing facts.

Qualitativism is naturally implemented in terms of fact monism, since having multiple fundamental qualitative facts introduces the danger of underdetermining the interrelations

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[130] Cf. Kment 2012, p. 579.

between various fundamental particulars.[131] For example, suppose one thing is round and more massive than another thing that is square. While the *non*-qualitativist could invoke fundamental facts such as, for example,

> *a* is round
>
> *b* is square
>
> *a* is more massive than *b*,

the qualitativist has to establish the identity of the round thing with the more massive thing, and the identity of the square thing with the less massive thing, without using individual constants. And invoking fundamental facts such as, e.g.,

> $\exists x(x$ is round$)$
>
> $\exists x(x$ is square$)$
>
> $\exists x \exists y(x$ is more massive than $y)$

obviously fails to do this. So we can invoke a single fundamental fact such as:

> $\exists x \exists y(x$ is round $\&$ y is square $\&$ x is more massive than $y)$.

Hence it is natural for a qualitativist to accept fact monism, though I am not prepared to argue that she must.

Now, the qualitativist *can* accept the possibility of fundamental multi-location, for manipulating fundamental non-qualitative structure is not the only way to get fundamental

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[131] See Dasgupta 2009, pp. 55–56, and forthcoming, pp. 9–10.

multi-location. As explained earlier, multi-location can be represented purely qualitatively.

Adapting those examples to Alef, consider, for example, '∃x∃y∃z(*Fx & Fy & Fz & Rxyz &*

x=z)' and '∃x∃y(*Fx & Fy & Rxyx*)'. The first represents multi-location by using '=', the

second by repeating a bound variable across two places of '*R*'. So, the qualitativist who

wants, first, to accept the multi-location ban and, second, to adequately explain the modal ties

it delivers, has to say something about fundamental fact-material, -formation, and –

combination principles. (The same goes for any kind of *non*-qualitativist proposal that

admits qualitative material into the fact-material principles. For example, in the prior section

I gave an example of a multi-location-implying qualitative predicate of a maximal individual

that the particular monist needed to strike from her fact-material principles.) In the context of

fact monism, most of the interesting action pertains to fact material and formation.

The rest of this section consists in three sub-sections. First, I say a bit about

"primitive identity" and "distinctness." In particular, I untangle three different senses in

which we might accept a case of "primitive" identity or distinctness. Getting clear on this

will help both in articulating and defending a particular qualitativist proposal for accounting

for the multi-location ban's modal ties that I present in the second sub-section. In the third

sub-section, I defend qualitativism from an objection that may naturally arise in the course of

this section's (§6) discussion, and explain how the objection actually plays into the hands of

this paper's central problem.

a. Primitive Identity

Let me first say a bit about identity predicates. We tend to think of identity as dyadic, but

that does not appear to be essential. Instead of parsing '*a* and *b* are identical' as '*a=b*', let us

write it as '=(*a, b*)'. So we can also formulate a triadic identity claim, e.g. '=(*a, b, c*)' ("*a, b,*

and *c* are identical"), etc. And instead of expressing distinctness by negating an identity-

expressing sentence ('~(*a*=*b*)'), let '~=' be a predicate ("are distinct") applying directly to terms, just like '='. So we can parse '*a* and *b* are distinct' as '~=(*a*, *b*)', and '*a*, *b*, and *c* are distinct' as '~=(*a*, *b*, *c*)', etc.

Now by a case of "primitive" identity or distinctness, one thing we might mean is a fundamental fact involving an identity or distinctness predicate. That is, to put the point linguistically, we might have in mind a fundamental fact that "*asserts*" identity or distinctness *of* some things. For example: the fact that =(*a*, *b*); or the fact that $\exists x \exists y \exists z (Rxyz$ & ~=(*x*, *y*, *z*)). Another thing we might mean is a case of identity or distinctness between bits of structure within and/or across fundamental facts. For example, if it is fundamental that *Fa*, and also fundamental that *Ga*, we have a case of primitive identity of the second kind: the bit of structure picked out by '*a*' in 'that *Fa*' is identical with the bit of structure picked out by '*a*' in 'that *Ga*'. And the bit of structure picked out by '*F*' in 'that *Fa*' is distinct from the bit picked out by '*a*' in 'that *Fa*', as well as from the bit picked out by '*G*' in 'that *Ga*'. Third, by a case of primitive identity or distinctness, we might have in mind a fundamental fact that contains *identity itself* or *distinctness itself* in its structure, but where – unlike the first kind of primitive identity or distinctness – the identity/distinctness is not itself "asserted of" things in the fact.

Some examples will help bring out these distinctions. Contrast:

(a) $\exists x \exists y$(*x* is sitting & *y* is thinking & =(*x*, *y*))

(b) *a* is sitting & *a* is thinking

(c) $\exists x$(*x* is sitting & *x* is thinking).

Supposing (a) were fundamental, we would have a case of primitive identity in the first sense: identity is "asserted of" some things in a fundamental fact. Supposing (b) were

fundamental, or alternatively, that its conjuncts were fundamental, we would have a case of primitive identity in the second sense: a bit of structure in a fundamental fact, namely that picked out by '*a*' in the first conjunct, is identical with a bit of structure in a fundamental fact, namely that picked out by '*a*' in the second conjunct. Supposing (c) were fundamental, we would have a case of primitive identity in the third sense. By virtue of the repetition of '*x*' within the scope of quantification in the (c)-expressing sentence, the expressed fact contains *identity itself* in its very structure – specifically, the identity of the sitter and thinker. This is not a case of primitive identity in the first sense, because, unlike with (a), identity is not being "said of" or "asserted of" things. (a) also contains primitive identity of the third sort, by virtue of the relevant sentence's repeating '*x*', as well as '*y*', within the scope of quantification. Notice also that (b) does *not* contain primitive identity of the third sort. In this case, the identity of the sitter and thinker is not *itself* part of the fact's structure; rather, *a* itself, or *a*'s thisness, as it were, is part of the fact's structure, and the identity of the sitter and thinker is achieved via primitive identity of the second sort, namely identity between bits of structure – a kind of identity that can hold *across* fundamental facts just as easily as it can *within* them.

I do not see any good reason, from either a qualitativist or non-qualitativist perspective, to think there are any cases of primitive identity or distinctness in the first sense. This is basically because the non-qualitativist can more plausibly just take there to be primitive identity or distinctness of the second sort, and the qualitativist can more plausibly take there to be primitive identity or distinctness of the third sort, though she might deny that there is any primitive identity and/or distinctness of that sort as well.

Consider non-qualitativism first. Suppose *a* and *b* are identical. Is it plausibly a fundamental fact that =(*a*, *b*)? No. Given that *a* and *b* are identical, along with our worldly view of facts, the fact that =(*a*, *b*) is identical with the fact that =(*a*, *a*). But there seems to be

no good reason for it to be fundamental that =(*a*, *a*) instead of, e.g., that =(*a*, *a*, *a*), or that =(*a*, *a*, *a*, *a*), etc. This concern over arbitrariness can be removed by taking them all to be fundamental, but this trades one concern for another, massive redundancy. Further, suppose it is fundamental that *Fa*. It is natural to think that particular co-existing fundamental facts are detachable from each other, in the sense that any particular one could have existed without any particular other one (even if, in some cases, we cannot remove one without substituting another). But given the necessity of identity, we cannot detach that =(*a*, *a*) from that *Fa*, suggesting that the identity fact is derivative. Moreover, the popular divine creation heuristic for thinking about fundamental matters mitigates against the fundamentality of, e.g., that =(*a*, *a*).[132] It seems implausible that God would need to create such a fact in creating the world. Presumably she can just make the fact that *Fa*.

Suppose, next, *a* and *b* are distinct, and that it is fundamental that *Fa* and fundamental that *Fb*. It is plausibly fundamental that ~=(*a*, *b*)? No. Though it is not clear that an arbitrariness worry arises in this case (one might think that *n*-adic cases of distinctness, for *n* > 2, are grounded in dyadic cases), both the detachability worry and the divine creation worry do, as well as an additional worry. First, given the necessity of distinctness, that ~=(*a*, *b*) is not detachable from the plurality of that *Fa* and that *Fb*, suggesting that the first is not fundamental. Second, it does not seem that God would need to bother making *a* and *b* distinct. Third, supposing that that *Fa* and that *Fb* are detachable from each other, it is natural to think that *a* and *b* each could have existed without the other. But in a possible world in which *a* exists without *b*, *a*'s thisness or monadic identity, its being the very particular it is, has nothing to do with *b*, and *mutatis mutandis* with *b*'s thisness in a possible world in which *b* exists without *a*. So it would seem more plausible to say, in our starting

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[132] Cf. Burgess 2012.

world with both *a* and *b*, that *a* has *primitive thisness*, that *b* has *primitive thisness*, and that *a*'s and *b*'s distinctness is somehow underpinned by their primitive thisnesses.

We can understand this final point in terms of the *second* kind of primitive distinctness. The bit of worldly structure in that *Fa* picked out by '*a*' and the bit of worldly structure in that *Fb* picked out by '*b*' are distinct. Given that these facts are fundamental, we have a case of *primitive* distinctness of the second sort. Although such *sub*-propositional bits of structure, namely *a*'s thisness and *b*'s thisness, are not canonically suitable to *ground* distinctness facts, such as that ~=(*a*, *b*), I suggest that the relevant kind of primitive distinctness can help us see how such distinctness facts can be grounded in *arbitrary a*- and *b*-involving facts. *Mutatis mutandis* for identity facts. For example, I suggest that worldly facts such as that =(*a*, *a*), that =(*a*, *a*, *a*), etc., where *a* is a fundamental particular, are grounded in any *a*-involving fundamental fact (e.g. that *Fa*); and that worldly facts such as that ~=(*a*, *b*), that ~=(*a*, *b*, *c*), etc., where *a*, *b*, etc. are distinct fundamental particulars, are grounded in any *a*-involving and *b*-involving etc. fundamental fact (e.g. that *Rab*), as well as in any plurality of *a*-involving and *b*-involving etc. fundamental facts (e.g. that *Fa*, that *Fb*).

Distinguishing the second sort of primitive identity and distinctness from the first sort also allows us, I think, to solve a puzzle raised by Burgess 2012. Suppose we think, as the above remarks try to motivate, that identity facts and distinctness facts are not fundamental, but rather grounded in other kinds of facts involving the particulars the identity or distinctness of which is in view. For example, suppose that that ~=(*a*, *b*) is grounded in that *Fa* and that *Fb*. (Burgess would say: grounded in that *a* exists and that *b* exists.) The puzzle, as I understand it, is that it looks like this leads either to vicious circularity or vicious regress. Consider the idea that that ~=(*a*, *b*) is grounded in that *a* exists and that *b* exists. Intuitively, we want to know why these grounds give rise to a distinctness fact instead of an identity fact. Burgess then says:

One initially wants to say that it takes two existential facts to generate a distinctness fact, but only one to generate an identity fact. True enough; but what makes it the case that the fact that A exists is identical to (or distinct from) the fact that B exists?[133]

As Burgess then notes, we might appeal to the distinctness of *a* and *b* as accounting for the distinctness of the fact that *a* exists and the fact that *b* exists. But this, he thinks, introduces an intuitively problematic kind of circularity: *a*'s and *b*'s distinctness accounts for these facts' distinctness, which accounts for why they ground the distinctness as opposed to identity of *a* and *b*. But suppose we do not appeal to the distinctness of *a* and *b*. We might instead appeal again to the original idea that distinctness facts are grounded in further facts involving the distinct items. For example, letting f_a and f_b be, respectively, the fact that *a* exists and the fact that *b* exists, we might suppose that the fact that $\sim=(f_a, f_b)$ is grounded in the fact that f_a exists and the fact that f_b exists. But regress looms, for we simply have an iteration of the initial puzzle involving the fact that $\sim=(a, b)$: we want to know why the grounds give rise to a distinctness fact as opposed to an identity fact involving the relevant items.

I think the above quote by Burgess is doubly problematic. First, as I suggested above, a distinctness fact can be grounded in *one* fact. For example, given that *a* and *b* are distinct, the fact that *Rab* can ground that $\sim=(a, b)$. Second, it is not clear that two existential facts always give rise to a distinctness fact. For given our worldly conception of facts, it is not clear that there cannot be *two* facts consisting in the existence of an identical thing.[134] For example, suppose that fundamental reality is ultimately dynamic, in the sense that the fundamental facts are susceptible to change, that God creates *a*, then annihilates *a*, and then creates *a* again. We may have here two facts to the effect that *a* exists, but they do *not*

ground that $\sim=(a, a)$. Admittedly, the first sentence in the Burgess quote can be read in a way that is consistent with both of my points here. For the idea could be that, *if* a distinctness fact is to be grounded in *existential* facts, then a *necessary* condition is that it be grounded in *two* such facts (accommodating my first point), but that this is not a *sufficient* condition (accommodating my second point). However, these points call into question the relevance, in understanding the alleged puzzle, of focusing our attention on the question in the second sentence of the quote. That is, it is unclear that we should be focusing on what accounts for the identity or distinctness between existential facts, both because identity and distinctness facts need not be grounded in existential facts in the first place, and because distinct existential facts need not generate distinctness facts.

Wheeling in the distinction between the first two kinds of primitive identity and distinctness, I think, enables us to solve or at least mitigate the force of the puzzle. Suppose that the fact that $\sim=(a, b)$ is grounded in the facts that a exists and that b exists. We have distinctness between bits of structure across these two facts, namely the bits picked out by 'a' and 'b', and this accounts for why these facts give rise to a distinctness fact as opposed to identity fact. This does not introduce circularity. We are not saying that the *fact* that $\sim=(a, b)$ *grounds* anything which then *grounds* the fact that $\sim=(a, b)$. That would be to explain a case of distinctness in our first sense, i.e. the existence of a fact "asserting" distinctness, in terms of itself. Rather, we are saying that the distinctness between bits of structure across these two facts, a case of distinctness in our second sense, provides some sort of account of why the relevant grounds generate a case of distinctness in the first sense. This kind of explanation accommodates my two points above. Because the explanation trades on identity or distinctness across bits of structure in fundamental facts, we can see how a single fact (e.g. that Rab) could ground a distinctness fact (e.g. that $\sim=(a, b)$), as well as why some distinct

existential facts (e.g. *two* facts consisting in *a*'s existing) would *not* ground a distinctness fact

(or, at any rate, would not ground that $\sim=(a, a)$).

I have argued that, from a non-qualitativist perspective, it is natural to deny that there

is any primitive identity or distinctness of the first sort, and that primitive identity or

distinctness of the second sort can help exhibit why. Let us now turn to qualitativism.

Suppose it is a fundamental matter that something is both sitting and thinking. We

might say it is fundamental that $\exists x(x$ is sitting & x is thinking), or we might say it is

fundamental that $\exists x \exists y(x$ is sitting & y is thinking & $=(x, y))$. It seems that the first is a more

plausible candidate for a fundamental fact. Admittedly, we cannot raise the detachability

objection against the second candidate fundamental fact, as we did against the fundamentality

of that $=(a, a)$, at least in the same form. For '$=(x, y)$' is not putatively expressing a

fundamental fact at all, but just figuring in a larger alleged fundamental-fact-expressing

sentence. Nor is it obvious that we can raise the arbitrariness objection. For example, there

does seem to be a principled distinction between, e.g., saying that $\exists x \exists y(x$ is sitting & y is

thinking & $=(x, y))$ and saying, e.g., that $\exists x \exists y \exists z(x$ is thinking & y is thinking & $=(x, y, z))$,

namely, that "z," unlike "x" and "y", is not assigned any monadic feature. However, I think

the divine creation heuristic still has some bite. Perhaps relatedly, the fact that $\exists x \exists y(x$ is

thinking & y is thinking & $=(x, y))$ seems to contain *redundant* structure. Whereas the first

fact-expressing sentence delivers the identity of the sitter and thinker simply by repeating a

bound variable, i.e. 'x', the second fact-expressing sentence employs this device while *also*

seemingly attributing an *extra* kind of fundamental structure to the world, signified by '$=$'.

As I explained above, the fundamentality of that $\exists x(x$ is sitting & x is thinking) would

give us a case of primitive identity in the third sense, whereas the fundamentality of that

$\exists x \exists y(x$ is sitting & y is thinking & $=(x, y))$ would give us a case of primitive identity in both

the first and the third sense. That is, in both cases, we have a bit of structure that *just is*

identity, but only in one of the cases is identity *also* "said of" some things. And to re-emphasize the contrast with our second kind of identity, the fact that *a* is sitting & *a* is thinking *lacks* this third kind of identity structure, involving instead only identity *between* bits of structure, namely *a*'s thisness as it occurs in one part of the fact and that identical thisness as it occurs in another part.[135]

This example with the sitting thinker motivates the view that the qualitativist, just like the non-qualitativist, does not need any primitive identity of the first sort – the difference being that it is the third sort of primitive identity, not the second, that gives the qualitativist what she needs. I think the same point applies with distinctness. To the extent that the qualitativist is tempted to invoke primitive distinctness of the first kind, I think she can opt for primitive distinctness of the third kind. The qualitativist might do this by rejecting the standard interpretation of existential quantifiers, on which they are "identity and distinctness neutral," supposing instead that distinctness is encoded in distinct token quantifiers within a sentence.[136] On this understanding of the quantifiers, a sentence such as '$\exists x \exists y (Fx \ \& \ Fy)$' implies the distinctness of "x" and "y". Now perhaps one might claim that, on this understanding of the quantifiers, the relevant sentences "assert" cases of distinctness, in which case we are in the ambit of the *first* kind of primitive distinctness. However, it seems more plausible to me to treat this as the flipside of '$\exists x(x$ is sitting & x is thinking)'. One kind of sentence expresses facts involving identity structure, without "asserting" identity of things, while the other kind expresses facts involving distinctness structure, without "asserting" distinctness of things.

But *should* the qualitativist accept any primitive distinctness, of either the first or third sort? It seems to me that she may find it natural for distinctness between particulars to be

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[135] I think the non-qualitativist *can* countenance the third sort of primitive identity and distinctness by introducing some novel language – but I will not get into that here.
[136] See Wehmeier 2012.

very often, if not always, grounded as opposed to fundamental. For example, suppose we read existential quantifiers in the standard, "identity and distinctness neutral" way, and suppose it is fundamental in Alef that $\exists x \exists y \exists z(Fx \& Fy \& Fz \& Rxyz)$. The qualitativist can take the distinctness of "x," "y," and "z" to be derivative on this fact. (Notice, incidentally, that since we are not taking cases of distinctness to be underpinned by primitive thisnesses, we are not forced into thinking that such cases are, in the first instance, dyadic.) The distance predicate 'R' is particularly relevant here. One reason the multi-location ban is intuitive is precisely that spatial separation between particulars seems to suffice for distinctness. (In sub-section c., I will take up the objection that it nevertheless cannot *account for* such distinctness.)

The qualitativist might want to be able to accommodate primitive distinctness if she thinks that certain situations are metaphysically possible that intuitively involve the existence of particulars that are (a) distinct, (b) fundamental, and (c) such that there are no fundamental properties or relations to ground the distinctness.[137] Here is one potential case that comes to mind: co-located particulars of the same kind. For example, suppose you think there can be spatially located but immaterial substances. Or perhaps you think there are, or could be, certain fundamental physical objects of the same sort that can co-locate.[138] Another potential case: the co-existence of duplicate distinct universes. Consider a world with two duplicate universes, each containing a single individual. Since the universes are duplicates, the distinctness of them and/or their individuals cannot be grounded in any *intra*-universe features (e.g. the individuals' having different masses, etc.). And you might also find it implausible that there are any "trans-universe" fundamental properties or relations.

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[137] For any given situation, the presence of primitive distinctness could be blocked by denying (a) or (b) or (c). (These correspond, respectively, to what Hawley (2009) calls the "identity defence", the "summing defence", and the "discerning defence".) Without (a), we do not have distinctness. Without (b), we do not have *primitive* distinctness (in the relevant sense), and likewise without (c).

[138] Shumener 2014, p. 10.

I have untangled three different things we might mean by "primitive" identity and distinctness, and, in so doing, tried to clarify the distinctive kind of primitive identity and/or distinctness it is most natural to think of the qualitativist as countenancing. As for primitive identity (vis-à-vis particulars), I have suggested that it is natural for the qualitativist to think there are fundamental qualitative facts the very structure of which includes identity (e.g. the identity between a thinking thing and a sitting thing, or the identity between something that is *F* and something that, along with two other things, are *R*). As for primitive distinctness (vis-à-vis particulars), I have suggested that, at least in general, it is natural to think that the qualitativist can reject it, taking distinctness between particulars to be grounded or derivative – though I briefly covered some worries about the claim that such distinctness can *always* be grounded.

b. A Qualitativist Proposal

Let us now explicitly turn to what a qualitativist might say about fundamental fact-material and –formation principles specifically with an eye to accounting for the modal ties delivered by the multi-location ban. In this context, primitive *identity* is key. As we have seen, multi-location can be represented by repeating bound variables. For example, we could imagine a qualitativist taking it be fundamental in Alef that $\exists x \exists y (Fx \ \& \ Fy \ \& \ Rxyx)$. Putting the point non-linguistically, we can entertain fundamental qualitative facts that involve the holding of identity between particulars at different locations. But supposing the qualitativist wants to affirm the multi-location ban, she needs a way of blocking the formation of fundamental facts in which we have cases of identity violating the multi-location ban.

Here is the problem. *Prima facie* it looks like the most natural way to do this involves adopting fact-*formation* principles that block it. For example, we allow identity structure with, e.g., the fact that $\exists x (Fx \ \& \ Gx)$, where '*F*' and '*G*' are intrinsic predicates (e.g. sitting,

thinking), but ban identity structure with, e.g., the fact that $\exists x \exists y(Rxyx)$, where '$R$' is a

distance predicate whose application to "x," "y" and "x" would deliver the multi-location of

"x". This is problematic, because it makes it appear as if we are invoking a *non-local*

constraint on fact formation. Just as we frowned upon the *non*-qualitativist in, e.g.,

permitting the possibility of the fundamental fact that *Rabc* but imposing a constraint to the

effect that it cannot be fundamental that *Raba*, it might seem just as problematic to impose a

constraint to the effect that it cannot be fundamental that $\exists x \exists y(Rxyx)$, or that $\exists x \exists y(Fx \ \& \ Fy \ \&$

$Rxyx)$. Whereas this sort of non-qualitativist imposes a non-local constraint to the effect that

a cannot *both* show up over here (in 'R''s first place) *and* show up over there (in 'R''s third

place), this sort of qualitativist may seem to be imposing a non-local constraint to the effect

that "x" cannot both show up over here ('R''s first place) and over there ('R''s third place).

So, what I want to say is that the qualitativist should conceive of the relevant

constraint as showing up in the fact-*material* principles. It is not that we have some univocal

bit of fundamental material, "identity" (of the third sort we have considered), which we allow

to show up in fundamental facts in *some* ways but prohibit from showing up in fundamental

facts in *other* ways – this would be a constraint at the level of fact formation, the level at

which we draw on fundamental material in building fundamental facts. Rather, I want to say

that "identity" is just a notion that can be realized in different ways, through different kinds

of fundamental material, and that we can strike from our fact-material principles the kind of

material that would be distinctively responsible for the cases of identity violating the multi-

location ban.

Contrast '$\exists x(Fx \ \& \ Gx)$', where 'F' and 'G' are intrinsic predicates, and '$\exists x \exists y(Rxyz)$',

where 'R' is a distance predicate holding amongst the individuals in Alef. Both sentences,

when taken as putatively expressing a fundamental fact, attribute some identity structure to

the world. But it is not clear to me that they do this by both latching on to a common bit of

worldly structure, "identity". Rather, they may be latching onto distinct bits of structure that each realize our notion of primitive identity (specifically, the notion of primitive identity in the third sense). In particular, the first sentence purports to capture a kind of "simple" identity, while the latter purports to capture a kind of "*trans*-space" identity, or identity across space. Visually, the contrast is stark. In a pictorial representation of what is going on, we would only have to draw "x" once in the first case, but twice in the second – at any rate, provided we capture distance in our representation by distance *in the representation*, i.e. drawing "x" at a distance from "x". If we conceptualize spatially separated particulars in terms of spatially separated pegs on a pegboard,[139] the "simple" identity between the F-er and G-er can be conceptualized in terms of hanging two rubber bands ("being F" and "being G") on a common peg, while the "trans-space" identity between the particular in the first place of 'R' and the particular in the third place of 'R' can be conceptualized in terms of connecting *two* pegs with a rubber band.

It might be objected that there is no bit of *linguistic* structure in either '$\exists x(Fx \ \& \ Gx)$' or '$\exists x \exists y(Rxyx)$' that seems to convey either a so-called "simple identity" or a so-called "trans-space identity", and accordingly that there is no good reason to think that, were the first sentence to express a fundamental fact, the primitive identity would be realized by one kind of worldly structure, and that, were the second to express a fundamental fact, the primitive identity would be realized by a *different* kind of worldly structure. But this would prove too much, for there is also no bit of linguistic structure in these sentences that seems to convey primitive identity *simpliciter*. If we want to isolate some structure in these sentences that *does* express primitive identity, it seems we have to look to the sentences *as a whole*. Each sentence conveys primitive identity by including multiple occurrences of an identical variable (type) within the scope of an identical quantifier (token). To be sure, we could

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[139] Cf. e.g. Turner 2011.

identify an extrinsic property of an *individual* occurrence of '*x*', e.g. the property of being the second occurrence of '*x*' within the scope of quantification, and take *this* property to convey primitive identity. But such a property is possessed by virtue of the existence of the sentence as a whole. And if we look to the sentences as a whole, we *also* get sentential structure that conveys what I have called simple and trans-space identity. One of the sentences says that something is both *F* and *G*, and the other says that something is spatially separated from itself.

The upshot is that, if it is demanded that a particular atomistic bit of linguistic structure convey the bit of worldly structure responsible for the primitive identity, then this implies that *neither* of these sentences capture *any* sort of primitive identity; but if it is permitted that a less atomistic bit of linguistic structure convey the relevant bits of worldly structure, it may well be that we have two bits of worldly structure responsible for primitive identity, namely "simple identity" and "trans-space identity", as opposed to one, "identity" *simpliciter*. At any rate, we have not yet seen any reason to prefer the latter view. If the qualitativist who wants fundamental facts to be capable of including identity structure believes that "identity" is not itself a bit of worldly structure, but rather a notion that can be realized via different kinds of structure in something like the way I have described, then she can strike from her fact-material principles the particular kind of structure that would be responsible for identity across a distance, i.e. multi-location. In this way, she can account for the impossibility of multi-location without invoking non-local constraints vis-à-vis fact formation.

It is important that we distinguish linguistic structure from worldly structure. On the view I am articulating, it is indeed the case that a certain stock of linguistic material (e.g. quantifiers, variables, qualitative predicates) can be manipulated in some ways so as to get a fundamental fact-expressing sentence, and cannot be manipulated in other ways so as to get a

fundamental fact-expressing sentence. For example, we cannot form '$\exists x \exists y (Rxyx)$'. But this constraint on *forming* fact-expressing *sentences* does not translate, I submit, into a constraint at the level of our *fact*-formation principles. That is, the constraint on sentence-formation is meant to signify a particular view about our fact-*material* principles. This point can be clarified by juxtaposition with a non-qualitativist view of Alef's fundamental facts according to which it is fundamental that *Rabc*. This will also show that the proposal I am articulating does not generalize in a bad way. That is, this sort of non-qualitativist cannot employ an analogous maneuver in order to "shift" the account of the impossibility of multi-location from her fact-formation principles to her fact-material ones.

The semantic significance of a variable is, as we have seen above, sensitive to extrinsic matters, to what is going on elsewhere in the sentence. The semantic significance of a constant, by contrast, is, well, *constant* and intrinsic (once its reference is fixed): it contributes its referent. So contrast our non-qualitativist who takes it to be fundamental that *Rabc* and our qualitativist who takes it to be fundamental that $\exists x \exists y \exists z (Rxyz)$ – more precisely, that $\exists x \exists y \exists z (Fx \ \& \ Fy \ \& \ Fz \ \& \ Rxyz)$, but we can consider the simpler fact for present purposes. There is a crucial disanalogy between moving from '*Rabc*' to '*Raba*', on the one hand, and, on the other, moving from '$\exists x \exists y \exists z (Rxyz)$' to '$\exists x \exists y (Rxyx)$'. In the former case, we have a particular bit of non-qualitative structure, conveyed in '*a*', that we are replicating – after cutting out another bit of non-qualitative structure, by striking '*c*', to make room. This bit of structure, namely *a*'s thisness, is included in the fact-material principles, and a non-local constraint is needed vis-à-vis fact-formation to rule out multi-location. In the second case, however, there *is no* bit of worldly structure that any occurrence of '*x*' picks out that we could *then* try to replicate. Of course, occurrences of '*x*' *are* bits of *linguistic* structure, but as we saw above, what they convey, or help convey, about *worldly* structure is sensitive to linguistically extrinsic matters. Whereas '$\exists x \exists y \exists z (Rxyz)$' only conveys that something and

something and something are *R*, being neutral about whether anything in any place of '*R*' is identical with or distinct from anything in any other place of '*R*', '∃*x*∃*y*(*Rxyx*)' conveys that some one thing occurs in multiple places of '*R*'. So these sentences, when taken as putatively expressing fundamental facts, attribute different *kinds* of fundamental material or structure to the world: the latter introduces a kind of trans-space identity absent from the former. In the shift from '*Rabc*' to '*Raba*', by contrast, this is not the case: the latter does not introduce any new kind of structure. Admittedly, the latter introduces a case of primitive identity in our *second* sense, namely identity between the structure filling '*R*''s first place and the structure filling '*R*''s third place. But this is just a case of identity *between* bits of structure, the same kind of identity that holds *across* fundamental facts. No new kind of structure itself, e.g. "identity", is introduced.

Even if one does not accept this particular qualitativist proposal for blocking the possibility of fundamental multi-location, others are available. If the qualitativist simple *categorically* rejects any fundamental material of identity between particulars, she can block multi-location at the level of fact-material principles without having to drive a wedge between allegedly different kinds of identity structure (e.g. simple and trans-space). There are various ways in which the qualitativist might categorically reject such identity structure. First, she might embrace, not just fact monism, but feature monism as well. The idea here would be to have a single fundamental fact that quantifies over particulars and attributes a single relational predicate over all of them. For example, Alef's fundamental structure may be captured by a single fundamental fact to the effect that ∃*x*∃*y*∃*z*(*Xxyz*). The intuitive idea (not that it is overly intuitive!) is that the qualitative character of the mereologically simple individuals, in both extrinsic *and intrinsic* respects, is captured by the holding of a single predicate. Note the contrast with, e.g., '∃*x*∃*y*∃*z*(*Fx* & *Fy* & *Fz* & *Rxyz*)': by having *multiple* fundamental predicates, instead of just one, identity of our third sort is needed to "link up"

the F-ers to the R-ers. Second, the qualitativist might embrace particular monism. Whereas the non-qualitativist particular monist invoked either one or more fundamental facts of the form "Fm," where 'm' picks out a maximal individual, the qualitativist can be a particular monist by invoking a fundamental fact of the form "$\exists x(Fx)$", where 'F' is a predicate of a maximal individual. In this case, too, there is no need for identity structure vis-à-vis fundamental particulars. Third, the qualitativist might just reject the idea that fundamental qualitative facts quantify over concrete particulars, endorsing a qualitativist version of either a purely property-theoretic ontology or ontological nihilism. (Admittedly, as I have already explained, a particular-less fundamental ontology may well be implemented in a way that allows for intuitive violations of the multi-location ban in a particular-less idiom. By taking fundamental structure to be purely *qualitative*, however, some kinds of ways of getting such violations are immediately blocked, e.g. the manipulation *non*-qualitative universals. And I see no in principle barrier to these fundamental ontologies' being developed in a way that also blocks purely qualitative ways of getting violations, but that is beyond my scope here. The main point, vis-à-vis the particular qualitativist proposal I have articulated in this sub-section, is this: it may be *easier* to block an analogue of "trans-space identity" structure from fact-material principles in a *particular-less* idiom.)

So, qualitativism is a view of fundamental structure that has the resources to adequately explain the modal ties implicated in the multi-location ban. By virtue of taking the world to lack any fundamental non-qualitative structure, there is no way to get a fundamental case of multi-location by manipulating such structure (e.g. by taking a *particular* concrete particular to show up more than once in a spatial framework), and hence no need to invoke any non-local constraints on the manipulation of such structure. To be sure, fundamental multi-location can be achieved through the manipulation of qualitative structure, and so the qualitativist who wants to affirm the ban should develop her theory so as

to rule out the possibility of such multi-location. However, I have argued that the qualitativist can do this without invoking non-local constraints on the formation of fundamental facts: there are multiple ways in which the qualitativist can take her fundamental fact-*material* principles to be such that it is impossible to get a fundamental case of multi-location.

c. Interlude on Individuation

In this sub-section I defend qualitativism from an objection that may naturally arise in connection with this section's discussion. However, anyone who is happy to forgo this objection can skip this sub-section without losing the overall thread.

I have said that the qualitativist can naturally take the *distinctness* of particulars to be, at least in general if not always, grounded in purely qualitative matters – spatial separation being a prime contender. However, there is a popular line of thought according to which relations, or irreflexive relations, or spatial or spatiotemporal relations, *cannot* constitute the distinctness of their relata – cannot "individuate" their relata, in one sense that word – *because*, the objection goes, such relations somehow "presuppose" that distinctness.[140] MacBride gives a nice intuitive gloss of the idea (without necessarily endorsing the view so glossed):

> In order for objects to be eligible to serve as the terms of an irreflexive relation they must be independently constituted as numerically diverse. Speaking figuratively, they must be numerically diverse 'before' the relation can obtain; if they are not

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[140] See, e.g., Allaire 1965, p. 19, Rosenkrantz 1993, pp. 86–97, Armstrong 1997, p. 109, and Hawley 2009, pp. 109–110.

constituted independently of the obtaining of an irreflexive relation then there are simply no items available for the relation in question to obtain between.[141]

Let us call this picture (I will not try to make it more precise or rigorous), 'Distinctness-Then-Relations'. The idea is that we "first" get distinct entities, only "after" which we can get the application of irreflexive relations (such as distance relations) to them. Distinctness-Then-Relations naturally lends itself to non-qualitativism. As I said earlier, it is natural for a non-qualitativist to take fundamental particulars to have primitive thisnesses, which then underpins distinctness between fundamental particulars. So suppose the non-qualitativist invokes a fundamental fact involving an irreflexive relation; for example, she says it is a fundamental fact in Alef that *Rabc*. The non-qualitativist can say, in conformity with Distinctness-Then-Relations, that *R* does not *make* the relata distinct. Rather, the relata's pair-wise distinctness is underpinned by the relata's respective thisnesses, conveyed in '*a*', '*b*' and '*c*', and accordingly "presupposed by", or already "there" in, the fact that *Rabc*.

I have a two-part reply. First, I find Distinctness-Then-Relations positively counterintuitive,[142] and every argument I have seen for it is unpersuasive.[143] Second, I think it plays into the hands of this paper's central problem; that is, it renders the impossibility of multi-location objectionably mysterious.

Allaire says: "Relations – I'll stick with spatial ones – *presuppose* numerical difference; they do not account for it."[144] He claims that Russell "demonstrated" this,[145] though he provides no page citation. MacBride, in a similar vein, claims that Russell argued that "the obtaining of irreflexive relations cannot constitute but *presupposes* the numerical

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[141] MacBride 2006, p. 67.
[142] I can sort of make intuitive sense of it in the context of *necessitism* (see Williamson 2013), the view that (necessarily) everything exists necessarily.
[143] See also Linnebo 2008, pp. 68–72, for criticism.
[144] Allaire 1965, p. 19.
[145] Russell 1912.

diversity of the terms they relate."[146] However, MacBride actually presents Russell's

argument. What MacBride does is present an argument of Russell's against a *bundle-theoretic ontology*. The basic idea is that, if what we think of as "particulars" were just

bundles of universals, it would be possible for a "particular" to be at a distance from itself –

and that is not possible (given the multi-location ban). For example, consider a red patch and

a spatially separated duplicate patch. Were these "particulars" just bundles of universals, we

would have a "particular" at a distance from itself. But then, confusingly, MacBride adds:

"In this way Russell argues that the obtaining of irreflexive relations cannot constitute but

presupposes the numerical diversity of the terms they relate."[147] How do we get this from an

argument against the bundle theory? What is going on here?

I suspect that Allaire and MacBride are conflating the issue of what concrete

particulars are, an issue of ontological structure, with the issue of what (if anything) accounts

for their numerical distinctness. In particular, both seem to be lumping together the thesis

that relations *can* account for such distinctness with the thesis that some sort of bundle theory

is true. Hence MacBride, in explaining (without endorsing) Russell's argument against a

bundle-theoretic ontology of particulars, takes Russell to be arguing against the view that

relations can account for numerical distinctness between particulars. And it is clear from

context that Allaire (who takes himself to be following Russell), in maintaining that spatial

relations cannot account for numerical distinctness between particulars, has a bundle-theoretic ontology of particulars in his crosshairs. Now there is a general issue here of

whether a bundle theorist should *want*, in the first place, to take spatial separation between

universals as constituting the existence of numerically distinct particulars.[148] Assuming for

the sake of discussion that the answer is yes, the issue arises as to whether spatial separation

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[146] MacBride 2006, p. 66.
[147] Ibid.
[148] She might just say we have bi-located universals. See Hawthorne 1995 and Curtis 2014.

between universals can in fact constitute such distinctness.[149] But even assuming for the sake

of discussion that the answer is no, it hardly follows that spatial relations cannot account for

numerical distinctness. For we can *reject a bundle-theoretic ontology* and yet go on to take

various relations to constitute the numerical distinctness between particulars. Indeed, we can

even side with Allaire in positing so-called "bare particulars", and yet take the distinctness

between the bare particulars themselves to be constituted by spatial relations. Of course, one

classic motivation for invoking bare particulars is precisely to account for the numerical

distinctness of the "thicker" particulars of which they are constituents (e.g. the red patches),

taking the bare particulars themselves to be "primitively" distinct. But conceptually, we have

two distinct issues here: the ontological structure or category of something (whether it be a

bare particular, or a red patch, etc.), and what if anything accounts for the numerical

distinctness of token items with that structure or instantiating that category.

Conflating the issue of ontological structure with the issue of what accounts for

numerical distinctness may be facilitated by the fact that 'individuation' (which Allaire uses)

is ambiguous. (Or perhaps the word is ambiguous partly because philosophers tend to

conflate certain issues; I am not interested in the etiology of the problem.) In one sense, that

which "individuates" something is that which accounts for its having some sort of

"individuality"[150] (e.g. being particular as opposed to universal, or a unified thing as opposed

to a mass, or a property "bearer" as opposed to something "borne" [e.g. a trope]). I will focus

here on what accounts for something's being particular as opposed to universal. In another

sense, that which "individuates" two things is that which accounts for their two-ness,

distinctness.[151] In a third sense, that which "individuates" something is that which accounts

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[149] See Rodriguez-Pereyra 2004 and Demirli 2010 for arguments for yes.
[150] For this use, see e.g. Gracia 1984, pp. 22f., Adams 1981, p. 16, and Simons 1994, p. 565.
[151] For this use, see e.g. Bergmann 1967, p. 23, Rosenkrantz 1993, p. 75, and Demirli 2010.

for its monadic identity or thisness, its being the very entity it is.[152,153] Let us say that

something that "individuates" in the first sense *particularizes*, that something that

"individuates" in the second sense *differentiates*, and let us reserve 'individuate' for

something that "individuates" in the third sense. Only the first of these three issues, namely

that of what, if anything, particularizes concrete particulars (an issue particularly salient in

Medieval discussion of "individuation"), directly corresponds to the issue of ontological

structure, but the failure to appreciate the ambiguity of 'individuate' may facilitate conflation.

For example, Ockham takes individuals to be primitively "individuated", in the sense that

nothing is needed to particularize them. It does not follow that the distinctness between two

individuals is primitive, i.e. that nothing differentiates them. Nor does it follow that the

thisness of an individual is primitive, i.e. that nothing individuates it. In fact, as I argued

earlier, if two individuals each have primitive thisness, it seems that their distinctness is *not*

primitive, but underpinned by their respective thisnesses. (Admittedly, two individuals with

primitive thisness would be "primitively distinct" in the second sense discussed earlier, in

which this consists in distinctness between bits of fundamental structure, whether within or

across fundamental facts, but *any* distinct bits of fundamental structure are primitively

distinct in this sense – e.g. the predicate and the particular in the fundamental fact that *Fa*.)

The issue of particularizing and of differentiating are admittedly closely related.

Suppose that the same features are instantiated over here and also over there (e.g., we have a

red patch at a distance from a red patch). First, without particularization, there is no

differentiation. That is, unless we have *a particular* here and *a particular* there, what is here

and what is there are one and the same, not distinct. Second, given the multi-location ban,

without differentiation there is no particularization. That is, if we do have *a particular* here

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[152] For this use, see e.g. Campbell 1990, p. 69, Cover and Hawthorne 1999, p. 274, and Lowe 2003, pp. 75–76.

[153] There is also the complication that 'individuates' has epistemic readings, which should not be conflated with these metaphysical ones. For example, we can mentally single out an entity, or discern the distinctness between two entities, or grasp the thisness of an entity.

and *a particular* there, then what is here and what is there are distinct. And perhaps the thought that relations cannot *particularize* is partly responsible for the idea that they cannot *differentiate* either, a thought that might persist even if we jettison any sort of bundle-theoretic backdrop. However, even given the multi-location ban, and hence this equivalence between, on the one hand, having a particular here and a particular there, and, on the other, having *two* items, it does not follow that what (if anything) does the particularizing and what (if anything) does the differentiating are identical. Hence it would not follow, from the inability of relations to particularize, that they cannot differentiate. For example, we could invoke "bare particulars" as particularizers and let spatial separation do the differentiating. On this sort of view, the existence of a bare particular here would account for there being *a particular* here, and the existence of a bare particular there would account for there being *a particular* there; and the spatial separation between the particulars would account for there being *two* particulars. We might also suppose that the spatial separation accounts, or is part of what accounts, for the thisnesses of the particulars, i.e. (partly) individuates them. Alternatively, we might take particulars to be primitively particularized (avoiding both a bundle-theoretic ontology and a bare particular ontology), and let spatial separation do differentiating and individuating work. Or still, we might invoke bare particulars as doing all three "individuation" jobs, saying that there are primitively particularized and primitively individuated bare particulars that particularize, differentiate, and individuate thicker concrete particulars (or at least thicker particulars of some privileged class, e.g. certain small ones out of which larger ones are composed). But this is not forced on us. So even if a bundle-theoretic ontology cannot enable relations to account for distinctness between particulars, this does not come close to establishing a general thesis to the effect that relations cannot account for such distinctness.

These matters are relevant for assessing Distinctness-Then-Relations. The conflation between the issue of ontological structure and the issue of differentiation can be seen in MacBride's gloss of the view itself (the truth of which, remember, MacBride was not necessarily endorsing) (my italics):

> In order for objects to be eligible to serve as the terms of an irreflexive relation they must be independently *constituted as numerically diverse*. Speaking figuratively, they must be numerically diverse 'before' the relation can obtain; if they are not *constituted* independently of the obtaining of an irreflexive relation then there are simply no items available for the relation in question to obtain between.[154]

Notice the slide from the constitution *of the numerical diversity* of the objects to the constitution *of the objects*. The first issue pertains to differentiation, the second to ontology. It may well be that, in order for an irreflexive relation between objects to obtain, we must have *some objects*. But it hardly follows that we must have some objects "already" constituted as *numerically distinct*.

The qualitativist can articulate these kinds of distinctions in worldly structure. For example, by invoking a fundamental fact that existentially quantifies over some particulars and attributes a relational predicate to them (e.g. that $\exists x\exists y\exists z(Rxyz)$), she can make sense of some fundamental structure that comprehends *some objects*, without comprehending any objects constituted *as numerically distinct* – contrast e.g. that $\exists x\exists y\exists z(Rxyz \,\&\, \sim=(x, y, z))$. (In light of our previous discussion of kinds of primitive distinctness, there are two senses in which a fact might comprehend some objects "constituted as distinct." First, the fact might "*assert*" that some things are distinct, as in the example just given. Second, the fact might

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[154] MacBride 2006, p. 67.

involve some "non-assertoric" distinctness structure, e.g. encoded in distinct token existential quantifiers.) Accordingly, she can take such distinctness to be grounded. Further, she can take the thisnesses of the relevant particulars to be grounded as well. Alternatively, she might take the fundamental facts themselves to comprehend, not just objectual structure (some objects), but also distinctness structure (distinct objects), taking only the thisnesses of those objects to be grounded. The non-qualitativist, by contrast, by virtue of naming particular individuals in expressing fundamental facts (e.g. '*Rabc*'), is more apt to collapse objectual structure (some objects) and distinctness structure (distinct objects) into thisness structure (*these* objects).

So I do not think that the qualitativist has anything to fear from Distinctness-Then-Relations, since it seems to be a picture that only someone inclined toward *non*-qualitativism in the first place would, or at least should, find intuitive. Further, in many cases its intuitive plausibility (such that it has) may rest on a failure to sufficiently distinguish conceptually distinct metaphysical issues. Let me close this section by relating Distinctness-Then-Relations to this paper's problem concerning adequately accounting for the modal ties implied by the multi-location ban.

Suppose we have a non-qualitativist who does not "go holistic" in any of the ways canvassed in §5. Suppose, for example, she says that Alef's fundamental facts are: that *Fa*, that *Fb*, that *Fc*, that *Rabc*. She may say that '*R*' is an irreflexive predicate, and that its holding "presupposes" and so cannot "account for" the distinctness amongst its relata. But it is one thing to say *that* '*R*' is irreflexive, and even to *explain* that it is (e.g. by invoking the essence of the relation), and another to have a satisfactory account of *how*, with metaphysical necessity, a particular concrete particular is actually prevented from showing up at a distance from itself, as would happen were, *per impossible*, '*R*' to hold in a non-irreflexive way. As we have seen (also in §5), this sort of non-qualitativist seems to be saddled with a non-local

constraint on fundamental fact-formation. (In the next section I will discuss an escape hatch.)

The qualitativist, by contrast, who rejects Distinctness-Then-Relations and takes the

distinctness of '*R*''s relata to be grounded in the predicate's holding, can readily safeguard

the predicate's irreflexivity. Supposing it is fundamental that, e.g., $\exists x \exists y \exists z$(*Fx & Fy & Fz &*

Rxyz), '*R*' applies to *some objects* and thereby *makes* them *distinct* objects. Now we might

wonder why '*R*' makes its relata distinct, but of course the non-qualitativist could also be

asked why '*R*' can only apply to distinct objects. The point is that, granting we have an

account of why '*R*' is irreflexive, that irreflexivity appears mysterious for our non-

qualitativist in a way it does not for our qualitativist. For the latter, the kind of worldly

structure to which the predicate applies in the first place is only objectual structure, not

distinctness nor thisness structure, and so we cannot even make sense of the predicate's

applying to a particular concrete particular twice (or thrice) over in the first place. Such

structure only enters the world "posterior to", and in virtue of, the predicate's holding.

7. Going to Essence

Let us take stock. I have explained how one might adequately account for the modal ties

implied in the multi-location ban, specifically vis-à-vis fundamental reality (setting aside,

for now, derivative reality), by adopting a view of the world's fundamental structure

according to which we either *lack fundamental particulars* (e.g. ontological nihilism or a

purely property-theoretic fundamental ontology) or *lack a fundamental spatial framework*

(i.e. idealism about the spatial framework), by granting the fundamentality of particulars and

a spatial framework but adopting certain kinds of *holistic* views of the world's fundamental

structure, or by granting the fundamentality of particulars and a spatial framework but

adopting a *purely qualitative* view of the world's fundamental structure. In this section, I

cover one more way of adequately account for the impossibility of fundamental cases of multi-location, namely by invoking *essence*.

Now I have already explained how one might invoke essences in explaining *why* something cannot multi-locate. For example, perhaps it is simply essential to being a concrete particular that – unlike a universal – one not multi-locate. But what I have in mind here are essence-theoretic ideas that can provide a satisfactory account of *how* something is in fact prohibited from multi-locating.

Consider the popular though controversial idea that biological organisms and/or material artifacts essentially originate out of certain antecedently existing material.[155] For example, this very table must, if it is to exist, be produced out of that very hunk of wood. Provided we have a satisfactory account of how the relevant antecedent material cannot multi-locate, such an essentialist idea provides an account of how the relevant product cannot multi-locate. The basic idea is this: it cannot be *both* here *and* there, simply because it cannot be *there*. Any conjunction with an impossible conjunct is itself impossible. How can this table's being over here prevent its also being way over there? It cannot be over there in the first place. No need for mysterious metaphysical action at a distance, *from* here *to* there, that somehow thwarts its showing up there; the table simply cannot show up *there* in the first place.

I said earlier that we might conceive of a theory of fundamental structure in terms of views about:

(1) what the fundamental facts (possibly) are

(2) the natures of (the constituents of) such facts

(3) whether such facts are susceptible to various kinds of change

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[155] See e.g. Kripke 1980, pp. 112–114, Rohrbaugh and deRosset 2004, and Ballarin 2013.

(4) whether there are any derivative facts, and if so, how the fundamental ones give rise to them.

I have been focusing thus far on (1). However, by discussing the essences of fundamental particulars, i.e. particulars constitutive of fundamental facts, we can bring in (2). I will say more about the relationship between (1) and (2), and more generally, between fundamentality and essence, shortly. For now, let us turn to Alef and see how one might invoke essentialist claims in order to satisfactorily block fundamental cases of multi-location.

Suppose we take it to be fundamental in Alef that *Rabc*. ('*R*', recall, is a relational predicate the application of which to *a*, *b*, and *c* establishes Alef's spatial framework.) So we have '*R*', *a*, *b*, and *c* in our fact-material principles, and if we want to affirm the multi-location ban, we must impose a constraint at the level of fact formation to the effect that it cannot be the case, e.g., that *Raba*. This looks like a non-local constraint, and hence objectionably mysterious. How can *a*'s showing up over here prevent its showing up over there?

However, suppose it is essential to *a* that, if it exists, then *Rabc*. What we have here is an essentiality of location thesis – or at least, *initial* location. (Recall that Alef is a very short initial segment of a world history, and we are leaving it open whether it constitutes the entirety of history.) Since we are assuming relationalism about space, *a*'s "location" is basically its position relative to other fundamental particulars. This essence claim delivers the impossibility of its being the case that *Raba*. Hence, it can undergird the relevant constraint on fact formation that rules out its being the case that *Raba*. The question now is: is the constraint still *non-local*?

I think the answer is no. Recall my earlier claim (in §5) that, on particular monism, maximal individuals are essentially maximal, as well as the claim that the particular monist

has to accept a constraint on fact combination to the effect that no two possible maximal individuals can co-exist. I argued that this was not a non-local constraint on fact combination, basically because any possible maximal individual is such that part of what it is to be *that* individual is to be such that the world fails to be a certain way elsewhere – namely, it must be devoid of any spatially or spatiotemporally separated individuals. If the essence of something is partly extrinsic, then matters spatially separated from it can be constitutive of its *intrinsic* nature ("what it is").

So if it essential to *a* that (if it exists then) *Rabc*, then *a*'s "*a*-ness," its monadic identity or thisness, extends further out into the world than *a* itself does, as it were. Were God to confine her attention to *a*'s location, she would not grasp the existence of *a*, *that* very individual. That is, were God to confine her attention in this way, then just as she would not grasp that the object of attention has the property of co-existing with some spatially separated particulars, she would not grasp that the object of attention has the property of being *a*. If *a*'s essence extends outward in this way, then we are not committed to some sort of mysterious prevention-at-a-distance in blocking the possibility of that *Raba*. Intuitively, part of what it is for '*R*' to apply to *a*, that very individual, is for *R* to also apply to *b* and *c*.

Let me briefly make a remark about the situation if we are substantivalists about space and spatial location. Essences of spatial regions would need to be invoked in order to account for why they cannot multi-locate. If a region can multi-locate, such as by showing up in more than one place in a predicate constituting the spatial framework, then, in addition to getting a violation of the multi-location ban by virtue of a concrete particular (a region) multi-locating, the essence-based account of how occupants of regions cannot multi-locate would be undermined. Even if a particular essentially occupies a particular region, this will account for the former's being unable to multi-locate only if the latter cannot multi-locate.

Now the relationship between fundamentality and essence is an issue in its own right, which I will not try to investigate in depth here. But one might think that an essence-based solution to this paper's problem can be assimilated to one of the fundamental-fact-based solutions we have already covered. (More generally, one might think issue (2) above can be assimilated to some extent to issue (1).) Essence forges necessary connections between matters. So if one is not sanguine with necessary connections between fundamental matters, essentialist truths can be taken as imposing constraints on the nature of fundamental facts.[156] For example, supposing it is fundamental that *Rabc*, the thought that fundamental matters are not necessarily connected may lead us to think that we can preserve metaphysical possibility by, e.g., substituting any possible individual for *a* or *b* or *c* – e.g. that *Rabd*. So if we take it to be essential to *a* that *Rabc*, we might want to revise our conception of fundamental matters. One way to do this is to suppose it is fundamental that *Fm* (particular monism). (And if we supposed that being *F* was essential to *m*, the implementation of the relevant idea might lead us to replace this candidate fundamental fact with another that does not suggest that *m* could have had a different fundamental predicate instead – e.g. "*m* exists".) Another way would be to suppose that it is fundamental that $\exists x \exists y \exists z (Fx \ \& \ Fy \ \& \ Fz \ \& \ Rxyz \ \& \ Ixyz)$, where '*I*' is a predicate holding of three things just in case they are *a*, *b*, and *c*. In either case, we no longer have a fundamental fact that draws on the fundamental material of *a*, *b*, and *c*, and hence we cannot manipulate fundamental material so as to get the fact that *Rabd*. Whatever the details, the point is that an essence-based solution might collapse into a fundamental-fact-based one already covered, by virtue of the thought that necessary connections delivered by essence lead to revising our understanding of fundamental facts.

Let me also briefly say a bit, as I did in each of the previous two sections (§6 and §5) about how someone who either denies fundamental particulars or fundamental spatial

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[156] Schaffer 2010 (see p. 40 in particular) can, I think, be seen as implementing this idea, albeit within an *object*-theoretic approach to fundamentality instead of the *fact*-theoretic one I have taken.

frameworks, and yet also takes the multi-location ban to constrain how the world could be, can implement the current section's strategy. The basic idea is to take fundamental universals, or entity-less goings-on, or mental subjects, to have certain partly extrinsic essences that rules out the desired analogues of a particular's multi-locating across space or spacetime.

8. Bringing in the Derivative

Let us get our bearings. Our problem was this: assuming the multi-location ban, how can we adequately explain the modal ties it delivers (e.g., Obama's being over here excludes his being over there), given that such ties involve necessary exclusions between would-be spatially (spatiotemporally) separated matters, and *prima facie* such exclusions appear to be objectionably mysterious? I then proposed that we can make progress by considering the world's fundamental structure. Thus far, we have only been focusing on the presence or absence of fundamental multi-location, that is, multi-location on the part of concrete particulars involved in fundamental facts. Within this narrow focus, I proposed the following criterion for satisfactorily explaining the relevant modal ties. In addition to a theory of fundamental structure's implying *that* there cannot be any fundamental facts, or collections of fundamental facts, the existence of which would constitute a fundamental case of multi-location, the theory needs to be such that, in order to rule out any such cases, no non-local constraints are needed when it comes to either forming a fundamental fact or combining fundamental facts. I have covered five kinds of theories of fundamental structure that have the resources to satisfy this criterion. (Again, some can be combined with each other.) First, we have theories according to which there *are no* fundamental particulars *to* multi-locate. Second: theories on which there *is no* fundamental spatial framework for any particulars to multi-locate *in*. Third: we can *go holistic*, taking the fundamental system of spatial

framework plus particular occupants to be "put together" in some sort of monistic fashion. Fourth: we can *go qualitative*, taking the fundamental system of spatial framework plus particular occupants to be underpinned by purely qualitative facts. Fifth: we can appeal to the essences of fundamental particulars, specifically essential properties about locations.

Let us now bring in derivative reality. One option is to be an *eliminativist* about the derivative. Bennett forthcoming (ch. 7) calls such a philosopher a *flatworlder*, the intuitive idea being that reality only has a single layer or stratum (the fundamental one). Now whatever the merits of such a view, for our purposes here the point is that nothing more needs to be said by way of accounting for the modal ties delivered by the multi-location ban. If there is no derivative reality, then an account of how there cannot be fundamental multi-location is *ipso facto* an account of how there cannot be *any* multi-location.

Alternatively, one might grant the reality of the non-fundamental but be more or less eliminativist about *its structure*. Perhaps there are no metaphysically privileged ways of characterizing non-fundamental matters that discriminate between the truth or falsity of the multi-location ban. In this sort of case, as well, one's work is presumably done. For example, suppose that one adopts a purely property-theoretic fundamental ontology, and suppose we have some co-located (and "compresent" as well, if one wants to make that distinction) universals over here, and the same co-located (compresent) universals over there, at a distance. We can ask: does reality contain (derivatively) a multi-locating concrete particular? We can imagine some philosophers saying yes, others saying no, and others saying there is no fact of the matter. I have the third kind in mind here. Or suppose that an enduring artifact is taken apart and re-assembled later. Do we have temporally gappy multi-location? The same three options seem available.

In addition to eliminativism about the derivative, as well as some sort of eliminativism about its structure, we can imagine a philosopher who, whatever her view

about the reality and structure of the derivative, does not really *care* about affirming the multi-location ban with respect to derivative matters. Perhaps the only thing we should be worried about avoiding is the prospect of fundamental multi-location. In this case, too, one's work is done.

However, let us now consider the situation for a philosopher who takes a robust view of the reality and structure of derivative matters, and who also wants to affirm a categorical ban on multi-location (at least of the sort targeted in §1). Supposing we have an acceptable account of how there cannot be any *fundamental* multi-location of the objectionable sort, then given our assumptions (from §3) that fundamental facts provide a determination and supervenience base for all others, we have all the requisite material for accounting for the impossibility of derivative multi-location. All that is required is a bit of care in articulating grounding connections. In particular, we need to avoid articulating the connections in such a way as would deliver the result that a fundamental stratum of facts *devoid* of objectionable multi-location could ground a stratum of facts *with* objectionable multi-location.

I do not want to give the impression that there is no metaphysically interesting action here. In particular, in a dialectical context in which the multi-location ban is *up in the air*, then considerations about grounding connections might give one reason to call the ban into question. In particular, it seems plausible that, in order to preserve the ban, one needs to take certain derivative facts to have *rather extrinsic* fundamental grounds, and if one is opposed to these kinds of grounding connections, one gets a reason to reject the ban. For example, take a purely property-theoretic fundamental ontology. If one grants the possible multi-location of co-located universals, and takes such facts to ground facts about particulars, then in order to *avoid* getting a derivative fact to the effect that a particular multi-locates, one apparently needs to take the thisness of a derivative particular to be constitutively sensitive to *more* than

merely what intrinsic universals it instantiates. For were the identity of that particular solely sensitive to *local* grounds, we would get the same derivative particular twice over.

But supposing we hold the ban fixed, one might still think there is metaphysically interesting action here. For though it is easy to say that the fundamental facts provide a complete determination base for all the rest, and easy to say that the grounding connections are such as to preclude derivative multi-location, one might think that a concern over mysterious metaphysical action at a distance arises here. Just as it may seem mysterious (prior to considering the theories of fundamental structure canvassed in previous sections) how the existence of an individual over here can prevent the existence of the same individual way over there, it might seem mysterious how the existence of some fundamental matters over here can partly ground the existence of some derivative matters way over there. However, I think this latter problem is easily dealt with.

When it comes to constitutive determination, the very act of *positing* the fundamental grounds *ipso facto* leads us to *re-envision* the nature of the grounded in a way that renders the grounding connections tractable and non-mysterious. For example, given that some co-located universals multi-locate, and that this whole qualitative arrangement grounds the existence of Fred over here (instantiating the co-located universals) and the existence of Ann over there (instantiating the same co-located universals), I come to see that Fred's thisness (in contrast, e.g., to Fred's ontological structure), is partly *constituted by* what reality is like *over there*. Hence we do not have any mysterious metaphysical action at a distance. Unlike causal influence (e.g. gravity), constitutive influence *ipso facto* "closes the distance" between the relata. (This does not mean that *Fred* is larger than we thought; just that Fred's thisness is.) I have already made this point a couple times with partly extrinsic *essence*; we are just applying it here with partly extrinsic grounds. Of course, one is free to object to such partly

extrinsic grounds and/or essences; my point here is that they do not face a problem of mysterious non-local modal connections.

9. Fundamentally Extrinsic Thisness

We have covered a lot of ground; let me tie some things together. Let us suppose for the moment that we take a robust view of the reality and structure of the derivative, and that we want to affirm a ban on multi-location both vis-à-vis fundamental and derivative matters. I want to suggest that all the proposals I have discussed for adequately explaining the modal ties bound up with the multi-location ban are unified under a single category. They are all theories according to which the thisnesses of concrete particulars are *fundamentally (partly) extrinsic*. Intuitively, we can see the thisness of a particular as emerging either in connection with a fully propositional matter involving it (i.e. a "singular" or "individualistic" fact about it,[157] e.g. the fact that Obama exists) or in connection with a sub-propositional matter involving it (e.g. the property of being Obama[158]). The first way regiments the particular's thisness in terms of a "property" of the world, the latter in terms of a property of a sub-world item or items – such as the particular whose thisness is in view. For present purposes, let us just say that a particular, x, has fundamentally extrinsic thisness just in case either the fact that x exists is fundamentally extrinsic or the property of being x is fundamentally extrinsic – *unless* x's thisness is itself a bit of fundamental structure.[159]

Consider Alef. One way for a sub- or fully propositional matter to be fundamentally extrinsic is for it to have partly extrinsic *grounds*. For example, suppose the fact that a exists is grounded in a qualitative fact about the entire initial temporal part of Alef's history. In this

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[157] See Dasgupta 2009, p. 40, and Kment 2012, p. 578.
[158] See Adams 1979.
[159] The reason for this escape clause is this. Intuitively, if something's thisness is part of the structure of fundamental facts, as a's is, for example, on the view that it is fundamental that $Rabc$, then that thing has fundamentally *intrinsic* thisness – even if the fact that it exists has partly extrinsic grounds (e.g. if the fact that a exists is grounded in that $Rabc$).

case, the fact that *a* exists is fundamentally extrinsic, and hence, given our definition just above, *a* has fundamentally extrinsic thisness. Another way to be fundamentally extrinsic is to have a partly extrinsic *real definition*. For example, if what it is for three things to be such that they are *a*, *b*, and *c* is for them to be such and such, where 'such and such' abbreviates a condition the satisfaction of which is intuitively partly extrinsic to *a*, then *a*'s identity property is fundamentally extrinsic – and hence, given our definition above, *a* has fundamentally extrinsic thisness. (However, in order for an identity property to be fundamentally extrinsic by virtue of figuring in the *definiendum* of a plural real definition, the real definition must be *irreducibly* plural, i.e. such that it does not hold by virtue of a plurality of singular or "one-off" real definitions.[160])

A third way to be fundamentally extrinsic is to have a partly extrinsic essence that falls short of a real definition. For example, suppose it is essential to being Obama that one have particular biological parents, but that there are no non-trivial modally *sufficient* conditions either for being Obama or for being a member of an Obama-inclusive plurality. Though the property of being Obama lacks a real definition, and though it would also seem that nothing grounds the fact that Obama exists, the property of being Obama has a partly extrinsic essence – and hence Obama has fundamentally extrinsic thisness. Fourth, something may "inherit" fundamental extrinsicness in a recursive fashion from something else, by being grounded in, real-defined by, or involving in one's essence, something that itself is fundamentally extrinsic. For example, suppose that the fact that Obama exists has grounds that are local to Obama (say, grounds involving particular proper parts), but that the identity properties of some constituents of these grounding facts have partly extrinsic essences. The fundamental extrinsicness of these identity properties transfers to the fact that

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[160] See my "Qualitativism and the Identity of Indiscernibles" for a fuller treatment and defense of such irreducibly plural qualitative real definitions.

Obama exists, conferring (by our above definition) fundamentally extrinsic thisness to Obama.

One reason I use 'fundamentally extrinsic' instead of 'extrinsic' is to signify that a fundamentally extrinsic item may not wear its "extrinsicness" on its sleeve. For example, both the property of being Obama and the property of sitting next to Biden could be fundamentally extrinsic, whereas there is a kind of extrinsicness that only the latter wears on its sleeve. Another reason is that I do not want to enter into disputes about analyses of 'extrinsic' / 'intrinsic'. If an "intrinsic" property cannot differ between duplicates,[161] the property of being Obama is "extrinsic", regardless of whether it is fundamentally extrinsic. If an "intrinsic" property is such that a state of affairs consisting in something's having it must be exclusively *about* how things stand with that possessor or its parts,[162] the property of being Obama is perhaps "intrinsic", even if it is fundamentally extrinsic. If an "intrinsic" property is such that something's having it must be exclusively *grounded in* how things stand with that possessor or its parts,[163] perhaps being "extrinsic" implies being fundamentally extrinsic. But even in this case, the converse implication fails, because of the third way of being fundamentally extrinsic discussed above, the way involving essences without non-trivially modally sufficient conditions.[164]

Having explained what I mean by saying that a particular has fundamentally extrinsic thisness, let us run through the canvassed theories of fundamental structure that have the resources to solve this paper's problem, with a view to seeing how they attribute fundamentally extrinsic thisness to particulars.

The fifth canvassed strategy (§7), namely "going to essence," turned on taking fundamental particulars to have partly extrinsic essences. For example, considering *a* in

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[161] See e.g. Lewis 1986a, p. 62.
[162] See Marshall 2015, p. 1.
[163] See e.g. Rosen 2010, p. 112, and Bader 2013.
[164] The three approaches to intrinsicness / extrinsicness covered in this paragraph, involving duplicates, aboutness, and grounding, are surveyed in Marshall 2014, who draws them from various quotes from Lewis.

Alef, the idea is that it is essential to *a* that if it exists then *Rabc* (or something else partly extrinsic – the details vary depending on auxiliary assumptions, e.g. our conception of the spatial framework). On this approach, the thisnesses of particulars are fundamentally extrinsic, and that fundamental extrinsicness is what is doing the explanatory work: it is the partly extrinsic essences that are accounting for how the relevant individuals do not multi-locate without any need for non-local constraints on fundamental fact formation or combination.

The fourth canvassed strategy (§6) was "going qualitative" – with particular attention to a version that accepts fundamental particulars. Once again, fundamental particulars have fundamental extrinsic thisness. Any fact involving a particular fundamental particular, including the non-qualitative fact that *it* exists, is grounded in purely qualitative facts. And as I explained, it is natural to see the qualitativist as adopting fact monism, in which case these purely qualitative grounds will be partly extrinsic to the particulars in view – delivering fundamentally extrinsic thisness. This is even the case on the qualitativist version of particular monism, on which there is a fundamental fact that $\exists x(Fx)$, where '*F*' is a predicate of a maximal individual. First, '*F*' will need to be a partly extrinsic predicate, at least in the sense of involving the *absence* of further, uncovered spatial or spatiotemporal reality, in which case the grounded existential fact involving the maximal individual (e.g. that *m* exists) will have partly extrinsic grounds. Further, the existence of all the derivative individuals, e.g. proper parts of the maximal individual, will have partly extrinsic grounds.

Let us now turn to *non*-qualitativist holistic proposals of fundamental structure (§5). To take one of the primary examples, on non-qualitativist particular monism (e.g. it is fundamental that *Fm*), as I explained, the maximal individuals have partly extrinsic essences. Hence they have fundamentally extrinsic thisness. Further, the existence of the maximal individual's derivative proper parts will have partly extrinsic grounds.

The second kind of solution (§4) we considered was idealism about the spatial framework, and the first (§4) was fundamentally particular-less ontologies. Both are naturally taken to imply that *derivative* spatially (spatiotemporally) located particulars have fundamentally extrinsic thisnesses. To get this, we just have to suppose, as is plausible, that the fundamental stratum can admit of certain sorts of *symmetry*. For example, suppose it is possible for a fundamental mental subject to have a fundamental representation of a pair of qualitatively identical but distinct objects (such as *a* and *c* in Alef). Plausibly, the existential facts involving each object depends on the entire representation in a way that renders them fundamentally extrinsic. Or consider a purely property-theoretic fundamental ontology, and suppose we have some co-located fundamental universals here and also there. In order to avoid a derivative case of multi-location, the existential facts involving the derivative particulars need to have partly extrinsic grounds. Or consider ontological nihilism, and suppose that we have a fundamental situation that we would pre-theoretically think of as involving some qualitatively identical particulars divided by a plane of spatial symmetry. Again, the existential facts involving the derivative particulars need to be fundamentally extrinsic in the same sort of way to avoid derivative multi-location.

Now if we give up the robust realism about both the existence and structure of derivative reality, then the umbrella of fundamentally extrinsic thisness may not exactly cover all the canvassed solutions to this paper's problem. In particular, in this case it may not cover theories whose fundamental ontologies are devoid of either particulars or spatial frameworks. For example, the ontological nihilist who is an eliminativist about the derivative in no way invokes fundamentally extrinsic thisness in explaining the impossibility of the multi-location of particulars. He just does not believe in any particulars, period. However, we have also seen that one might take the multi-location ban to impose constraints on ways the world could be, vis-à-vis *fundamental* reality, even on views without fundamental

spatiotemporal particulars. If that is right, then something like fundamentally extrinsic thisness may re-emerge as subsuming whatever solutions to the problem end up being endorsed.

The conceptual umbrella of fundamentally extrinsic thisness can also enhance, I suggest, our intuitive grip on the original problem. If we explicitly think about the thisnesses of concrete particulars as fundamentally *intrinsic*, we can better see the problematic nature of the modal ties delivered by the multi-location ban. We have an individual over here, *a*, and another individual over there, *c*. If the existence of *a*, or something's being *a*, were a fundamentally purely intrinsic matter, solely a matter of what the world is like *where* a *is*, it becomes mysterious why that bit of worldly structure cannot be replicated over there, e.g. where *c* is. To be sure, we can posit various principles implying *that* it cannot happen – e.g. it is essential to being a concrete particular that one not multi-locate. But it is mysterious *how*, with metaphysical necessity, such multi-location is in fact prevented from happening. This mysteriousness dissipates when we replace a fundamentally intrinsic conception of thisness with a fundamentally extrinsic one – in the various ways we have canvassed.

So we have an argument for the truth of some theory of the world's fundamental structure on which the thisnesses of concrete particulars are fundamentally extrinsic. It is a non-deductive argument. Such theories can adequately explain particular metaphysical data (or what we have assumed to be data), namely the inability of concrete particulars to multi-locate in certain ways. In order to weigh up the overall prospects for some such theory, we would need to consider, in addition to this theoretical virtue, other lines of evidence both for and against it. For all I have said, it is possible that the particular theoretical virtue I have focused on is offset by other vices, in the case of every canvassed theory, and that, on the whole, it is more plausible to reject all of these theories and simply bite the bullet and accept a theory of fundamental structure that has to account for the modal ties of the multi-location

by positing non-local constraints on the formation or combination of fundamental facts. I do not think that is the case, but my aim here has not been to settle everything, but rather to develop one crucial line of evidence. And I think the ability of the canvassed theories to solve this paper's problem gives us good reason to think one or more of them is true.

10. For Qualitativism

I turn now to the comparative plausibility amongst the canvassed theories of fundamental structure that have the resources to successfully account for the modal ties bound up with the multi-location ban. I will argue that the best ones constitute some or other kind of qualitativism. If this is right, then this paper's problem generates an argument, not just for fundamentally extrinsic thisness in general, but for qualitativism in particular.

For the sake of space and simplicity, I will set aside theories of fundamental structure that cull fundamental particulars and/or fundamental spatial (spatiotemporal) frameworks, with two addenda. First, we have workable solutions to this paper's problem that do not require such revisionary (at least relative to the contemporary philosophical climate) maneuvers. Second, as we have seen, we might think that the multi-location ban imposes constraints on the way the world could be even in the context of these proposals, and also that, if this is the case, they will have to account for the modal ties of the multi-location ban by drawing on one or more of the other three solutions, namely "going holistic," "going qualitative," or "going to essence". Now I think my following remarks about proposals that do *not* "go qualitative," though geared toward theories that accept fundamental particulars and fundamental spatial frameworks, are in principle applicable to non-qualitativism in general, regardless of ontological idiom.

So in what follows I will focus on three mutually exclusive views of fundamental structure that have the resources to account for the modal ties bound up with the multi-

location ban: qualitativist ones (see §6), *non*-qualitativist but holistic ones (see §5), and *non*-qualitativist *non*-holistic ones invoking partly extrinsic essences (see §7). As I explained in §7, it is not clear that it would be plausible to accept partly extrinsic essences *without* opting for a more holistic conception of the fundamental *facts*. But in order to differentiate between kinds of solution, we consider an essence-based solution that does *not* go holistic (or qualitative).

Now one reason we might favor qualitativist theories is *parsimony*. We can distinguish quantitative parsimony (token goings-on) and qualitative parsimony (kinds of goings-on), as well as ontological and ideological. By ideological parsimony, I do not mean parsimony vis-à-vis *representing* fundamental reality *per se*, but rather parsimony vis-à-vis *non-ontic* aspects of the world's objective structure. For example, suppose that a theory of fundamental structure denies that properties exist, fundamentally, but employs the predicate 'is F' in characterizing fundamental reality. This signals an ideological commitment, inasmuch as it takes that predicate to capture something about the world's structure, a non-ontic bit of structure.[165] Here I will focus on qualitative ideological parsimony.

It seems that qualitativist theories are *ceteris paribus* far more parsimonious, in this respect, than non-qualitativist ones. This is basically because, on non-qualitativism, token particulars (quantitative and ontological) generate kinds of ideological commitments (qualitative and ideological). Contrast these two views. The first takes it to be fundamental in Alef that $\exists x \exists y \exists z (Fx \ \& \ Fy \ \& \ Fz \ \& \ Rxyz)$. The second takes it to be fundamental that Fa, that Fb, that Fc, and that $Rabc$. Both theories are committed to three token particulars, namely a, b, and c (assuming that the first theory's fundamental fact grounds a witnessing fact, or facts, involving a, b, and c[166]). But whereas the first is committed to the ideology of

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[165] Cf. Sider 2011.
[166] For example, the qualitativist can take the qualitative fact to ground that Fa, that Fb, that Fc, and that $Rabc$, which then together can ground that $Fa \ \& \ Fb \ \& \ Fc \ \& \ Rabc$.

"being *F*," "being *R*", and "the existence of something", the latter is committed to all this plus the thisness of *a*, the thisness of *b*, and the thisness of *c*. These aspects of ideology are conveyed in the individual constants '*a*', '*b*', and '*c*'. Of course, these constants also denote entities to which the theory is committed. But the qualitativist theory is also committed to these entities. What the qualitativist theory is not committed to is the fundamentality of their thisnesses; these are bits of non-ontic worldly structure, conveyed in individual constants, the fundamentality of which is only affirmed on the non-qualitativist theory.

One might try to block this by deflating the significance of the constants. One might adopt a kind of anti-haecceitism, according to which the facts expressed by collections of closed sentences do not vary across certain permutations or replacements of constants: e.g. the collection of '*Fa*', '*Fb*', '*Fc*', and '*Rabc*' communicates the same thing as the collection of '*Fa*', '*Fb*', '*Fc*', and '*Racb*' (in other words, there is no genuine difference between "*b*'s" being between "*a*" and "*c*" and "*c*'s" being between "*a*" and "*b*"), and also the same thing as the collection of '*Fd*', '*Fe*', '*Ff*', and '*Rdef*' (in other words, there is no genuine difference between *a*, *b*, and *c* being such and such and a supposedly wholly distinct class of particulars being such and such). The idea behind this would seem to be that any given individual constant is just a device permitting us to formulate subject-predicate claims about *some* member of a domain of particulars, and that any given *n*-sized collection of constants is just a device permitting us to formulate claims about *n* members of such a domain. But this just looks like qualitativism in disguise. This sort of philosopher apparently wants to use constants in expressing fundamental facts but only wants fundamental reality to have the kind of structure the qualitativist attributes to it. The non-qualitativist theory I've described is really non-qualitativist. Once the reference of constants is fixed, they capture particular

thisnesses (which, again, need not be construed as *entities*, as *ontic* structure[167]), and permuting or replacing them changes the structure attributed to reality.

So provided the non-qualitativist is inclined to think that fundamental reality contains lots of concrete particulars (e.g., imagine a substantivalism about space according to which point-sized regions are fundamental), we have a recipe for ideological explosion. Accordingly, one way to tamp down on such explosion is for the non-qualitativist to be a particular monist. For example, contrast the view that it is a fundamental fact that *Fm*, where *m* is a maximal individual, and the fact that it is fundamental that $\exists x(Fx)$. We have here a contrast between a qualitativist and non-qualitativist version of particular monism. Sure, the non-qualitativist is committed to some more fundamental ideology, *m*'s thisness, but it is just *one* more kind of ideology.

However, explosion again looms when we turn from actuality to possibility. Qualitativism *prima facie* implies anti-haecceitism, that is, that there are no pairs of worlds that are distinct, duplicates, and possible. (I will raise a wrinkle about this a the end of this section.) This would imply that, for the qualitativist, there are no possible duplicates of Alef in which a different maximal individual exists instead of *m*. But though the converse entailment, from anti-haecceitism to qualitativism, does not strictly hold,[168] there seems to be no good non-*ad hoc* reason for a non-qualitativist to be an anti-haecceitist. So our non-qualitativist is naturally taken to maintain that there are possible duplicates of Alef in which a different maximal individual exists instead of *m*. The distinct thisness of this maximal individual would also be constitutive of reality's fundamental structure, and there seems to be no reason for the non-qualitativist to limit the number of possible maximal individuals to any finite number. And of course, this modal dimension of ideological commitment also applies to less holistic forms of non-qualitativism.

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[167] Cf. Adams 1979, p. 6.
[168] See Dasgupta 2014, p. 7, and forthcoming, pp. 3–4.

The plausibility of a theory that is committed to less fundamental structure, that is more parsimonious, is intuitively enhanced *by that* parsimony only if that reduction of structure is not offset by something diminishing plausibility, such as a loss of explanatory power vis-à-vis other putative facts. Dasgupta 2009 and forthcoming argues for qualitativism on the basis of the thought that fundamental non-qualitative facts would be "danglers," in the sense of being both *empirically undetectable* and *physically redundant*. Dasgupta does not construe his argument as an argument from parsimony *per se*.[169] Whether or not we are thinking in terms of minimizing ontological or ideological commitments, the idea is that, just as the empirical undetectability and physical redundancy of absolute velocity, for example, gave us reason to deny that such exists, the undetectability and redundancy of fundamental non-qualitative facts gives us reason to deny that such exist. However, I think we can also invoke Dasgupta's argument as supporting the claim that the qualitativist's reduction vis-à-vis non-qualitativism in fundamental structure is *not* offset by a reduction of explanatory power. If fundamental non-qualitative structure would indeed be empirically undetectable and physically redundant, it may seem that such structure is indeed superfluous.

However, were there putative facts that were admittedly both empirically undetectable and physically redundant, and were we unable to explain such facts without invoking fundamental non-qualitative structure, we would have reason to think that fundamental non-qualitative structure is not superfluous. I am thinking in particular of *de re* modal facts. For example, take the belief that a particular person has particular biological parents essentially, or the belief that a particular stone could have existed in a universe all alone. If either of these beliefs are true, the corresponding *de re* modal facts would seem to be both empirically undetectable as well as physically redundant. If there were *de re* modal facts that either could not exist without fundamental non-qualitative structure, or that were better explained by such

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[169] Dasgupta forthcoming, p. 4.

structure than by purely qualitative fundamental structure, then to the extent that we are justified in affirming such facts, we acquire some reason to believe in fundamental non-qualitative structure.

Now when it comes to the kinds of beliefs we take to have solid epistemic credentials, beliefs about *de re* modality are presumably not going to be near the top of the list. In addition to such beliefs' being empirically unsupportable as well as irrelevant to scientific theorizing, they are highly controversial. Hence, it is far from clear that it would be dialectically effective to challenge an elimination of fundamental non-qualitative structure on this front, by arguing that such a reduction in fundamental structure would inhibit us from accounting for certain *de re* modal beliefs. Nevertheless, what I want to argue here is that, *even if* we take *de re* modal beliefs (or intuitions, inclinations, etc.) as a source of evidence in thinking about the world's fundamental structure, the prospects for fundamental non-qualitative structure become *even worse*. Specifically, I will argue that the particular kinds of fundamental non-qualitative structure endorsed by *the versions of non-qualitativism that solve this paper's problem* are, not just superfluous, but pernicious.

Here is one broad kind of *de re* modal idea that many of us will find plausible:

(Contingency of Extrinsic) Particular individuals have their extrinsic features contingently.

The basic idea here is that when we tamper with what the world is like outside a particular individual, possibility is preserved: that very individual was only contingently the first way, extrinsically, and so could be the new way, extrinsically. This kind of modal thinking *denies* necessary connections or exclusions between would-be spatiotemporally separated non-qualitative (*de re*) matters. For example, this kind of thinking would lead us to think we can preserve possibility by cutting away *b* and *c* in Alef, resulting in a genuinely possible world

in which *a* is alone – not just *some* duplicate of *a*, but *a*. One can be attracted to Contingency

of the Extrinsic even if she thinks it admits of exceptions; it is just meant to be a general idea.

Here is another broad kind of *de re* modal idea that many of us will find plausible:

> (Necessity of Non-qualitative) Global qualitative character fixes global non-
>
> qualitative character.

This kind of modal thinking *affirms* a necessary connection between qualitative and non-

qualitative (*de re*) aspects of reality: the latter do not just "float free" of the former. For

example, many may think that there is no world that duplicates the actual world and yet is

genuinely possible as well as genuinely distinct from the actual world. For instance, there is

no possible duplicate of the actual world in which Obama and Biden swap qualitative roles,

or in which Obama does not exist, being replaced with an actually non-existent doppelganger.

A firm commitment to Contingency of Extrinsic would lead one into a kind of Humeanism

according to which there are no necessary connections between the existence of *any* distinct

spatiotemporally separated individuals; and a firm commitment to Necessity of Non-

qualitative would lead one to anti-haecceitism, the view that there are *no* pairs of worlds that

are qualitatively identical, numerically distinct, and both possible.

Many of us may, in fact, be tempted by *both* Contingency of Extrinsic *and* Necessity

of Non-qualitative. However, they clash.[170] At any rate, Contingency of Extrinsic threatens

to undermine Necessity of Non-qualitative when conjoined with the plausible premise that

distinct qualitative duplicates can co-exist. For example, *a*, *b*, and *c* are qualitative duplicates

in Alef. If Alef is possible, and if possibility is preserved by cutting away *b* and *c*, resulting

in a possible world with a lonely *a*, and also preserved by cutting away *a* and *b*, resulting in a

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[170] One might try to harmonize them by invoking Lewis's so-called "cheap haecceitism," but I take that as changing the subject, since it requires taking "possible worlds" to not be identical to possible maximally specific ways for reality to be. See Skow 2007, Kment 2012, and Russell 2013.

possible world with a lonely *c*, then we get an exception to Necessity of Non-qualitative: the global qualitative character shared by these two single-individual possible worlds does *not* fix reality's global non-qualitative character, since these worlds differ over *which* individual exists.[171] If this particular implementation of Contingency of Extrinsic is sound, then anti-haecceitism is false, i.e. haecceitism true: there is at least some pairs of worlds that are duplicates, distinct, and both possible.

Qualitativism can honor Necessity of Non-qualitative, as well as explain the modal facts to which it directs us. Non-qualitative structure supervenes on and is determined by qualitative structure, so duplicate possible worlds are *non*-qualitative copies as well. However, qualitativism cannot honor Contingency of Extrinsic, at least in a robust fashion. For as I have explained, accepting the kinds of modal judgments that this intuition delivers leads to haecceitism.

Non-qualitativism cannot honor Necessity of Non-qualitative. Though non-qualitativism does not strictly imply haecceitism, there seems to be no good reason for the non-qualitativist not to think that counterexamples to anti-haecceitism are systematic and pervasive. However, the non-qualitativist can honor Contingency of Extrinsic. For example, suppose the fundamental facts in Alef are: that *Fa*, that *Fb*, that *Fc*, that *Rabc*. On this view, we can easily imagine cutting out all of these facts except for that *Fa*, resulting in a world with a lonely *a*.

Since Contingency of Extrinsic and Necessity of Non-qualitative are in tension with one another, I want to suggest that we can see the qualitativist and non-qualitativist as braving different "modal poisons". The qualitativist takes the poison of giving up Contingency of Extrinsic, thereby *embracing* various necessary connections that many find implausible, taking the alternative to be even worse. The non-qualitativist takes the poison of

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[171] Cf. Forbes 1992, pp. 127f., Hawthorne 2001, p. 374, and Menzel 2008.

giving up Necessity of Non-qualitative, thereby *rejecting* various necessary connections that many find plausible, taking the alternative to be even worse. However, when we turn our attention to considerations pertaining to the multi-location ban, the problem for the non-qualitativist is this: none of the versions of non-qualitativism *that adequately explain the modal ties delivered by the multi-location ban* honor Contingency of Extrinsic. These kinds of non-qualitativism gratuitously take *both* modal poisons.

Let me explain. Consider the following views of Alef's fundamental facts:

(A) that *Fa*, that *Fb,* that *Fc*, that *Rabc*

(B) that *Fm*

(C) that $\exists x \exists y \exists z(Fx \mathbin{\&} Fy \mathbin{\&} Fz \mathbin{\&} Rxyz \mathbin{\&} Ixyz)$

(D) that *Fa*, that *Fb*, that *Fc*, that *Rabc – and* it is essential to each of *a*, *b*, and *c* that, if it exists, then *Rabc*;

where *I* (in (C)), recall, is a three-place non-qualitative predicate intuitively underpinning the individuals' thisnesses, being *a*, being *b*, and being *c*. (A) through (D) are all non-qualitativist, but only (A) is *atomistic* as opposed to holistic. Though (D) is atomistic vis-à-vis fundamental facts, a kind of holism enters via essence. Now the crucial point is this: Contingency of Extrinsic does not turn on non-qualitativism *per se,* but on *atomistic* non-qualitativism. All of (A) through (D) lend themselves to the view that there is a possible duplicate of Alef with a disjoint domain of individuals – violating Necessity of Non-qualitative. For example, on (A) and (D) we can take there to be a possible duplicate with

three fundamental individuals other than *a*, *b*, and *c* (call them '*d*', '*e*', and '*f*'), on (B) we can take there to be a possible duplicate with a different fundamental maximal individual (call it '*n*'), and on (C) we can take there to be a possible duplicate with a different fundamental three-place identity predicate (call it '*I**', instantiated by three things just in case they are "*d*", "*e*", and "*f*"). But only (A), the atomistic non-qualitativist option, honors Contingency of Extrinsic, lending itself to the view that we can preserve possibility by, e.g., cutting *b* and *c* away from *a*. Of course, this version of non-qualitativism stumbles over this paper's central problem, seemingly needing non-local constraints on fact formation and/or combination in order to rule out multi-location.

This is why the fundamental non-qualitative structure bound up with the versions of non-qualitativism that account for the multi-location ban's modal ties is pernicious. One thing fundamental non-qualitative structure *would* be good for is underpinning modal distinctions, or driving modal wedges. But this particular kind of fundamental non-qualitative structure does nothing to account for the kind of wedges many of us find intuitive, namely those delivered by Contingency of Extrinsic (wedges between spatially or spatiotemporally separated matters), but only generates the kind of wedges many of us do *not* find intrinsically intuitive, namely, those violating Necessity of Non-qualitative (wedges between global qualitative and non-qualitative structure).

I say 'intrinsically intuitive', since many philosophers who are sanguine with rejecting Necessity of Non-qualitative may be so sanguine largely because of an intuitive attraction to Contingency of Extrinsic, which exerts pressure to reject Necessity of Non-qualitative. One might feel the pull of Necessity of Non-qualitative, but be willing to give it up because of an awareness of how it clashes with Contingency of Extrinsic, which one finds more plausible. Alternatively, one might not even feel the pull of Necessity of Non-qualitative, because one has internalized the threat posed by Contingency of Extrinsic. For

example, consider Alef. One might find it intuitive that there are no possible duplicates with disjoint domains of individuals, but one might nevertheless accept the possibility of such duplicates because of seeing how Contingency of Extrinsic motivates it. (For example,[172] one thinks there is a *six*-individual possible world, roughly containing two "halves", each of which duplicates Alef. And one sees that Contingency of Extrinsic naturally takes us from this world's possibility to the possibility of two duplicate *three*-individual worlds with disjoint domains.) Alternatively, one might simply find it positively intuitive that Alef *does* have possible duplicates with disjoint domains of individuals, because one has internalized how Contingency of Extrinsic motivates this. Any such philosophers should not be sanguine with the relevant versions of non-qualitativism, not just because they fail to honor Contingency of Extrinsic, but because they jettison Necessity of Non-qualitative for reasons that have nothing to do with the reasons these philosophers give (or gave) it up. With this said, my argument for the perniciousness of the relevant kind of fundamental non-qualitative structure will admittedly not have force against someone who finds Necessity of Non-qualitative *intrinsically* counterintuitive.

So the interesting action, it seems to me, is between qualitativism, which can satisfactorily account for the modal ties of the multi-location ban at the cost of a certain amount of perhaps counterintuitive essentialism about *de re* extrinsic matters, and *atomistic* varieties of non-qualitativism which do *not* have a solution to this paper's problem and yet *can* clearly give us what many want vis-à-vis the contingency of *de re* extrinsic matters. I see no good reason to *stick* with non-qualitativism upon solving the multi-location problem, since in the process of solving this problem the only theoretical virtues (I can think of) that non-qualitativism has are lost. For in going holistic, whether vis-à-vis fundamental facts and/or essence, the non-qualitativist obliterates the kind of fundamental non-qualitative structure

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[172] See Menzel 2008.

that could modally "divide" spatiotemporally separated matters (*a la* Contingency of Extrinsic), while retaining the kind that generates counterintuitive "haecceitistic differences" (contra Necessity of Non-qualitative).

Let me wrap up the case for qualitativism by saying something about why the qualitativist's stance vis-à-vis Contingency of Extrinsic is not that bad. It is sometimes maintained that Contingency of Extrinsic immediately drops out of the very nature of being an individual (or a "substance"). The idea is that substances by their very nature are modally "independent" of their surroundings.[173] If this is simply asserted, it just begs the question against the qualitativist. The qualitativist can reply that this idea conflates the nature of being a substance with the nature of being a *particular* substance (*this* substance). The former may be locally constituted, while the latter may be constitutively sensitive to extrinsic matters. For example, were God to confine her attention to the spatiotemporal location of a human being, she may grasp that there is *a human being* here (a kind of substance, we may suppose), but if some sort of essentiality and sufficiency of origin thesis is true, she may have to "zoom out" to see *which* human is located there (its thisness). By contrast, supposing someone thought that an arm is not a substance, one could think that were God to confine her attention to the location of an arm, she would *not* grasp the presence of *an arm* (perhaps grasping, instead, only the presence of *a portion of matter*). The qualitativist has options here. The particular monist, for example, takes there to be a single fundamental substance, while the fact monist who is not a particular monist can take there to be lots of fundamental substances.

Of course, even if one does not try to frontload Contingency of Extrinsic into the very nature (or even notion) of an individual, one might find it a compelling modal principle. I have a two-part reply.

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[173] See e.g. Lowe 2003, pp. 79–80.

First, as I have already argued, qualitativism can account for Necessity of Non-qualitative, whereas non-qualitativism cannot. Accordingly, I am inclined to think that, when it comes to adjudicating qualitativism and atomistic non-qualitativism, modal considerations are, at best, a wash: the two theories accommodate different, conflicting kinds of modal considerations, and which theory is to be preferred should be adjudicated on other grounds. One such alternative basis is the one developed in this paper: the qualitativist, unlike the atomistic non-qualitativist, can adequately account for the modal ties implicated in the multi-location ban. Another possible alternative basis is parsimony vis-à-vis fundamental structure. As I already explained, the atomistic non-qualitativist invokes lots of kinds of fundamental structure. Accordingly, this may give one reason to prefer the qualitativist's modal poison. Further, if the modal judgments distinctively favoring atomistic non-qualitativism cannot be given a solid epistemic footing, considerations of parsimony may push us even more strongly toward qualitativism.

Second, modal considerations themselves may end up *favoring* qualitativism, for I think the qualitativist has the resources to accommodate, at least to a significant extent, Contingency of Extrinsic.[174] Recall that, in discussing Alef, we have simply been focusing on an initial temporal part of a history of a universe – while leaving it open whether this temporal part constitutes the entire history of a possible world. Recall that a theory of fundamental structure may comprehend:

(1) what the fundamental facts are

(2) the natures of (the constituents of) such facts

(3) whether such facts are susceptible to various kinds of change

(4) how such facts give rise to any derivative facts there may be.

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[174] I take up this issue in more depth in my "Qualitativism, Haecceitism, and Time".

Nothing has really been said about (3). If one thinks that the answer to (3) is "no", then what we have said about Alef can be extended to entire possible world histories. For example, the particular monist's maximal individual will cover *all spatiotemporal reality*, and the qualitativist may invoke a single fundamental qualitative fact that comprehends the *entire sweep* of history. However, I have argued elsewhere, in effect, that if the answer to (3) is "yes", this opens up space for thinking that the nature of the fundamental facts is subject to a significant amount of change, in a way that opens up space for more *contingency* vis-à-vis extrinsic *de re* modal matters. For example, consider Alef. The qualitativist may suppose that reality "begins" with purely qualitative fundamental facts that underpin the thisnesses of *a*, *b*, and *c*, and that, once these individuals are "on the scene" with their thisnesses "intact", they can *go on* to change in all sorts of ways. For example, *a* can persist while *b* and *c* melt away, or *c* can persist while *a* and *b* melt away. This sort of qualitativist can, I argue, *accommodate* some of the most powerful exceptions to Necessity of Non-qualitative (and, thereby, counterexamples to anti-haecceitism), namely those that turn on the possibility of a qualitatively symmetric initial segment of history (e.g. Alef) that can be "extended" in haecceitistically different ways (e.g., *a*'s persisting by itself and *c*'s persisting by itself).[175]

11. Conclusion

We had a problem (§1–§2): intuitively, concrete particulars cannot multi-locate, or at least cannot multi-locate in certain ways, and yet affirming a ban on multi-location delivers modal ties between would-be spatially separated matters. Such ties are *prima facie* mysterious and resistant to explanation, since it is *prima facie* hard to see how the world's being a particular way in one place (e.g. containing Obama) could modally impinge upon the way the world is

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[175] See Adams 1979, pp. 22–23, Armstrong 1997, p. 108, Melia 1999 and 2001, p. 21, and Kment 2012.

in other places (e.g., preventing them from containing Obama). I then articulated a framework toward a solution (§3): by considering various theories about the fundamental structure of the world, about how the world is "put together," we can find views that demystify the relevant modal ties. I then (§4–§8) canvassed various perspectives on fundamental structure that have the resources to adequately account for the modal ties, some of which can be combined with each other. I argued (§9) that the successful proposals are intuitively unified by the fact that they attribute *fundamentally extrinsic thisness* to concrete particulars, and I also argued (§10) that, of the successful proposals, the most plausible ones takes the world's fundamental structure to be purely general or qualitative.

Hence, we have an argument for qualitativism, via an argument for fundamentally extrinsic thisness. There are, of course, ways of resisting the conclusion(s), even if I have not made any blunders. One might reject the multi-location ban. Alternatively, one might bite the bullet and accept brutely efficacious modal ties between would-be spatiotemporally separated goings-on. Or one might try to develop a completely different kind of account of the relevant modal ties, one that does not lead to fundamentally extrinsic thisness or qualitativism. However, I take qualitativism's ability to account for the relevant modal ties, along with its superior comparative plausibility vis-à-vis the *non*-qualitativist accounts of the modal ties, to give us a serious reason to think that qualitativism is true.

REFERENCES

Adams, Robert Merrihew (1979). "Primitive Thisness and Primitive Identity." *Journal of Philosophy* 76, 5–26.

_____ (1981). "Actualism and Thisness." *Synthese* 49, 3–41.

Allaire, Edwin B. (1965). "Another Look at Bare Particulars." *Philosophical Studies* 16, 16–21.

Armstrong, D. M. (1983). *What is a Law of Nature?* New York: Cambridge University Press.

_____ (1997). *A World of States of Affairs*. New York: Cambridge University Press.

Audi, Paul (2012a). "A Clarification and Defense of the Notion of Grounding." In Fabrice Correia and Benjamin Schnieder, eds., *Metaphysical Grounding: Understanding the Structure of Reality*. Cambridge: Cambridge University Press, 101–121.

_____ (2012b). "Grounding: Toward a Theory of the in-Virtue-of-Relation." *Journal of Philosophy* 109, 685–711.

Bader, Ralf M. (2013). "Towards a Hyperintensional Theory of Intrinsicality." *Journal of Philosophy* 110, 525–563.

Ballarin, Roberta (2013). "The Necessity of Origin: A Long and Winding Route." *Erkenntnis* 78, 353–370.

Bennett, Karen (forthcoming). *Making Things Up*. Oxford: Oxford University Press.

Bergmann, Gustav (1967). *Realism: A Critique of Brentano and Meinong*. Madison, WI: University of Wisconsin Press.

Black, Max (1952). "The Identity of Indiscernibles." *Mind* 61, 153–164.

Bliss, Ricki (2014). "Viciousness and Circles of Ground." *Metaphilosophy* 45, 245–256.

Bricker, Phillip (2006). "The Relation between General and Particular: Entailment vs.

Supervenience." In Dean W. Zimmerman, ed., *Oxford Studies in Metaphysics,* vol. 2. Oxford: Oxford University Press, 251–287.

Burgess, Alexis (2012). "A Puzzle about Identity." *Thought* (online publication).

Campbell, Keith (1990). *Abstract Particulars*. Oxford: Blackwell Publishing.

Carmichael, Chad (2015). "Deep Platonism." *Philosophy and Phenomenological Research* (online publication).

Cover, J. A. and John Hawthorne (1999). *Substance and Individuation in Leibniz.* Cambridge: Cambridge University Press.

Curtis, Benjamin L. (2014). "The Rumble in the Bundle." *Nous* 48, 298–313.

Dasgupta, Shamik (2009). "Individuals: An Essay in Revisionary Metaphysics." *Philosophical Studies* 145, 35–67.

_____ (2014). "On the Plurality of Grounds." *Philosophers' Imprint* 14, 1–28.

_____ (forthcoming). "Quality and Structure." In E. Barnes, ed., *Current Controversies in Metaphysics*. Routledge.

Demirli, Sun (2010). "Indiscernibility and Bundles in a Structure." *Philosophical Studies* 151, 1–18.

DeRosset, Louis (2009). "Production and Necessity." *Philosophical Review* 118, 153–181.

Dorr, Cian (2008). "Definition and the Fundamental." Talk handout (https://files.nyu.edu/cd50/public/handouts/LeedsHandout.pdf).

Fine, Kit (1994). "Essence and Modality." *Philosophical Perspectives* 8, 1–16.

_____ (1995a). "Ontological Dependence." *Proceedings of the Aristotelian Society* 95, 269–290.

_____ (1995b). "Senses of Essence." In Walter Sinnott-Armstrong, ed., *Modality, Morality and Belief: Essays in Honor of Ruth Barcan Marcus*. Cambridge: Cambridge University Press, 53–73.

_____ (2000). "Neutral Relations." *Philosophical Review* 109, 1–33.

_____ (2001). "The Question of Realism." *Philosopher's Imprint* 1, 1–30.

_____ (2012). "Guide to Ground." In Fabrice Correia and Benjamin Schnieder, eds., *Metaphysical Grounding: Understanding the Structure of Reality*. Cambridge: Cambridge University Press, 37–80.

Forbes, Graeme (1992). "Worlds and States of Affairs: How Similar Can They Be?" In Kevin Mulligan, ed., *Language, Truth and Ontology*. Dordrecht: Kluwer Academic Publishers, 118–132.

Gilmore, Cody (2007). "Time Travel, Coinciding Objects, and Persistence." In Dean W. Zimmerman, ed., *Oxford Studies in Metaphysics,* vol. 3. Oxford: Oxford University Press, 177–198.

Glazier, Martin (forthcoming). "Laws and the Completeness of the Fundamental." In Mark Jago, ed., *Reality Making*. Oxford: Oxford University Press.

Gracia, Jorge J. E. (1984). *Introduction to the Problem of Individuation in the Early Middle Ages*. Washington: The Catholic University of America Press.

Hacking, Ian (1975). "The Identity of Indiscernibles." *Journal of Philosophy* 72, 249–256.

Hawley, Katherine (2009). "Identity and Indiscernibility." *Mind* 118, 101–119.

Hawthorne, John (1995). "The Bundle Theory of Substance and the Identity of Indiscernibles." *Analysis* 55, 191–196.

_____ (2001). "Causal Structuralism." *Philosophical Perspectives* 15, 361–378.

_____ (2006). *Metaphysical Essays*. Oxford: Oxford University Press.

Jenkins, C. S. (2011). "Is Metaphysical Dependence Irreflexive?" *Monist* 94, 267–276.

Kment, Boris (2012). "Haecceitism, Chance, and Counterfactuals." *Philosophical Review* 121, 573–609.

Kripke, Saul A. (1980). *Naming and Necessity*. 1980 reprint. Cambridge, MA: Harvard University Press.

Leuenberger, Stephan (2014). "Grounding and Necessity." *Inquiry* 57, 151–174.

Lewis, David (1983). "New Work for a Theory of Universals." *Australasian Journal of Philosophy* 61, 343–377.

_____ (1986a). *On the Plurality of Worlds*. Oxford: Blackwell Publishing.

_____ (1986b). *Philosophical Papers: Vol. 2*. New York: Oxford University Press.

Linnebo, Oystein (2008). "Structuralism and the Notion of Dependence." *Philosophical Quarterly* 58, 59–79.

Lowe, E. J. (2003). "Individuation." In Michael J. Loux and Dean W. Zimmerman, eds., *The Oxford Handbook of Metaphysics*. Oxford: Oxford University Press, 75–95.

MacBride, Fraser (2006). "What Constitutes the Numerical Diversity of Mathematical Objects?" *Analysis* 66, 63–69.

Mackie, Penelope (2006). *How Things Might Have Been: Individuals, Kinds, and Essential Properties*. Oxford: Oxford University Press.

Marshall, Dan (2014). "The Varieties of Intrinsicality." *Philosophy and Phenomenological Research* (online publication).

_____ (2015). "An Analysis of Intrinsicality." *Nous* (online publication).

Melia, Joseph (1999). "Holes, Haecceitism and Two Conceptions of Determinism." *British Journal for the Philosophy of Science* 50, 639–664.

_____ (2001). "Reducing Possibilities to Language." *Analysis* 61, 19–29.

Menzel, Christopher (2008). "Qualitative Essences and a Final Defense for Plantinga." In Edward N. Zalta, ed., *The Stanford Encyclopedia of Philosophy*, http://plato.stanford.edu/archives/sum2010/entries/actualism/qualitative-essences.htm. Supplemental document to "Actualism," http://plato.stanford.edu/archives/sum2010/entries/actualism/.

Miller, Kristie (2013). "Presentism, Eternalism, and the Growing Block." In Heather Dyke and Adrian Bardon, eds., *A Companion to the Philosophy of Time*. Oxford: Wiley-Blackwell, 345–364.

Parsons, Josh (2007). "Theories of Locations." In Dean W. Zimmerman, ed., *Oxford Studies in Metaphysics,* vol. 3. Oxford: Oxford University Press, 201–232.

Paul, L. A. (2012). "Building the World From Its Fundamental Constituents." *Philosophical Studies* 158, 221–256.

_____ (manuscript). "A One Category Ontology."

Pooley, Oliver (2006). "Points, Particles, and Structural Realism." In Dean Rickles, Steven French, and Juha Saatsi, eds., *The Structural Foundations of Quantum Gravity*. Oxford: Clarendon Press, 83–120.

Pruss, Alexander R. (2013). "Omnipresence, Multilocation, the Real Presence and Time Travel." *Journal of Analytic Theology* 1, 60–73.

Quine, W. V. (1976). "Grades of Discriminability." *Journal of Philosophy* 73, 113–116.

Quinton, Anthony (1958). "Properties and Classes." *Proceedings of the Aristotelian Society* 58, 33–58.

Rodriguez-Pereyra, Gonzalo (2004). "The Bundle Theory is Compatible with Distinct but Indiscernible Particulars." *Analysis* 64, 72–81.

Rohrbaugh, Guy and Louis deRosset (2004). "A New Route to the Necessity of Origin." *Mind* 113, 705–725.

_____ (2006). "Prevention, Independence, and Origin." *Mind* 115, 375–385.

Rosen, Gideon (2006). "The Limits of Contingency." In Fraser MacBride, ed., *Identity and Modality*. Oxford: Oxford University Press, 13–39.

_____ (2010). "Metaphysical Dependence: Grounding and Reduction." In Bob Hale and Aviv Hoffmann, eds., *Modality: Metaphysics, Logic, and Epistemology*. Oxford: Oxford University Press, 109–136.

Rosenkrantz, Gary S. (1993). *Haecceity: An Ontological Essay*. Dordrecht: Kluwer Academic Publishers.

Russell, Bertrand (1912). "On the Relations of Universals and Particulars." *Proceedings of the Aristotelian Society* 12, 1–24.

Russell, Jeffrey Sanford (2013). "Possible Worlds and the Objective World." *Philosophy and Phenomenological Research* (online publication).

Schaffer, Jonathan (2009a). "Spacetime the One Substance." *Philosophical Studies* 145, 131–148.

_____ (2009b). "On What Grounds What." In David Chalmers, David Manley, and Ryan Wasserman, eds., *Metametaphysics: New Essays on the Foundations of Ontology*. Oxford: Oxford University Press, 347–83.

_____ (2010). "Monism: The Priority of the Whole." *Philosophical Review* 119, 31–76.

_____ (2015). "Grounding in the Image of Causation." *Philosophical Studies* (online publication).

Shumener, Erica (manuscript). "Explaining Identity and Distinctness."

Sider, Theodore (2011). *Writing the Book of the World*. Oxford: Oxford University Press.

Simons, Peter (1994). "Particulars in Particular Clothing: Three Trope Theories of Substance." *Philosophy and Phenomenological Research* 54, 553–575.

Skow, Bradford (2007). "Haecceitism, Antihaecceitism and Possible Worlds." *Philosophical Quarterly* 58, 98–107.

Thomas, Holly Gail (1995). "The Principle of Recombination and the Principle of Distinctness: A Puzzle for Armstrong's Theory of Modality." *Australasian Journal of Philosophy* 73, 444–457.

Turner, Jason (2011). "Ontological Nihilism." In Karen Bennett and Dean W. Zimmerman, eds., *Oxford Studies in Metaphysics,* vol. 6. Oxford: Oxford University Press, 3–54.

_____ (forthcoming). "Can We Do without Fundamental Individuals?" In E. Barnes, ed., *Current Controversies in Metaphysics*. Routledge.

Wehmeier, Kai F. (2012). "How to Live Without Identity – and Why." *Australasian Journal of Philosophy* 90, 761–777.

Williamson, Timothy (2013). *Modal Logic as Metaphysics*. Oxford: Oxford University Press.

Wilsch, Tobias (2015). "The Deductive-Nomological Account of Metaphysical Explanation." *Australasian Journal of Philosophy* (online publication).