Intrinsicality and grounding

Daniel Graham MARSHALL
University of Hong Kong

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DAN MARSHALL
University of Hong Kong

Abstract

A number of philosophers have recently claimed that intrinsicality can be analysed in terms of the metaphysical notion of grounding. Since grounding is a hyperintensional notion, accounts of intrinsicality in terms of grounding, unlike most other accounts, promise to be able to discriminate between necessarily coextensive properties that differ in whether they are intrinsic. They therefore promise to be compatible with popular metaphysical theories that posit necessary entities and necessary connections between wholly distinct entities, on which it is plausible that there are such properties. This paper argues that this promise is illusory. It is not possible to give an analysis of intrinsicality in terms of grounding that is consistent with these theories. Given an adequate analysis should be compatible with these theories, it follows that it is not possible to analyse intrinsicality in terms of grounding.

1 Introduction

Two intuitive characterisations of what it is for a property to be intrinsic are (1) and (2), where '$\phi =_{\mathrm{df}} \psi$' symbolises 'For it to be the case that ϕ is for it to be the case that ψ'.[2]

1. Being F is an intrinsic property $=_{\mathrm{df}}$ i) being F is a property, and ii) necessarily, for any x, if x is F then x is F in virtue of how x is, as opposed to how x is related to things wholly distinct from it or how things wholly distinct from it are.

2. p is an intrinsic property $=_{\mathrm{df}}$ i) p is a property, and ii) necessarily, for any x, if x has p then the ascription of p to x is wholly about how x is, as opposed to how x is related to things wholly distinct from x or how things wholly distinct from x are.

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[1]Thanks to Stephan Leuenberger, Kelly Trogdon, Johanna Wolff, and two anonymous referees for their helpful comments on this paper.

[2] For any x and y, x is *wholly distinct* from y iff x has no proper parts in common with y. If a predicate F expresses a property p, and a name a refers to an x, then the ascription of p to x is the state of affairs expressed by $\ulcorner Fa \urcorner$, where a state of affairs is a way things are or a way things fail to be. Lewis gives similar, though not equivalent, characterisations of intrinsicality in Lewis (1983a). A simple and attractive account of '$=_{\mathrm{df}}$' is that '$\phi =_{\mathrm{df}} \psi$' is true iff the state of affairs expressed by ϕ is identical to the state of affairs expressed by ψ. An alternative account, endorsed for example by (Rosen, 2010, sec. 10), holds that there is some intimate irreflexive relation r such that '$\phi =_{\mathrm{df}} \psi$' is true iff the state of affairs expressed by ϕ stands in r to the state of affairs expressed by ψ. I will assume that, if '$\phi =_{\mathrm{df}} \psi$' is true, then the state of affairs expressed by ϕ and ψ are necessarily equivalent, which is true on both the simple and more complicated accounts.

Plausible examples of intrinsic properties include the properties of *being made of tin* and *being 1 kg in mass*. Plausible examples of extrinsic properties, where an extrinsic property is a property that is not intrinsic, are the properties of *being next to a tin* and *being famous*.

While the intuitive characterisations (1) and (2) plausibly allow us to latch onto the intended notion of intrinsicality, they both analyse intrinsicality in terms of a notion—"how x is, as opposed to how x is related to things wholly distinct from it or how things wholly distinct from it are"—that is closely related to the notion of intrinsicality being analysed. Indeed, they are so closely related that both characterisations are effectively circular.

Nearly every existing attempt to give a more philosophically satisfying analysis of intrinsicality has the consequence that, if two properties are necessarily coextensive, then they are either both intrinsic or both extrinsic.[3] This consequence, however, is plausibly incompatible with a number of popular metaphysical theories. In particular, it is plausibly incompatible with a number of popular metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities.[4]

One example is number necessitarianism, which is the thesis that numbers necessarily exist. Given this theory, the property of being self-identical is necessarily coextensive with the property of being such that there is number.[5] Since the former property is plausibly intrinsic, whereas the latter property is plausibly extrinsic, there are plausibly necessarily

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[3]A simple example is the duplication account endorsed by both David Lewis 1983a and G. E. Moore 1922. On Lewis's version of this account, a property p is intrinsic iff, for any x and y that are duplicates, x has p iff y has p. On this account, necessarily coextensive properties can't differ in their intrinsicality since they are instantiated by the same things, and hence are both shared by all duplicates, or both not shared by all duplicates. Other attempts to analyse intrinsicality that fail to distinguish between necessarily coextensive properties include the accounts of Lewis (1983b), Lewis (1986), Sider (1993), Langton and Lewis (1998), Lewis (2001), Weatherson (2001), Vallentyne (1997), Yablo (1999), Denby (2006, 2010), and Hoffmann-Kolss (2010). The account of Witmer et al. (2005) in terms of grounding, and the related account of Trogdon (2009), might be able to distinguish between necessarily coextensive properties that differ in their intrinsicality. However, as discussed in Marshall (2013), because these accounts require each intrinsic property to be independent of accompaniment, these accounts face similar difficulties in being compatible with theories which posit necessary entities or necessary connections between wholly distinct entities. (p is *independent of accompaniment* iff i) possibly something accompanied has p; ii) possibly something accompanied lacks p; iii) possibly something lonely has p; and iv) possibly something lonely lacks p. x is *accompanied* iff it coexists with a wholly distinct contingently existing object; whereas, x is *lonely* iff x is not accompanied.) One account that attempts to avoid these difficulties without appealing to grounding is the account of Francescotti (1999), although see Weatherson and Marshall (2013) for criticisms. Another account that aims to avoid these difficulties is given in Marshall (MS).

[4]A necessary entity is an entity that necessarily exists. There are reasons to think that the above consequence is also false simpliciter, although these reasons are less compelling than those in favour of the weaker claim that this consequence is incompatible with metaphysical theories that hold that there are necessarily entities or necessary connections between wholly distinct entities. An argument that this consequence is false simpliciter is the following: The property of being made of tin is necessarily coextensive with the property of being made of tin and either next to Obama or not next to Obama. But, while the former property is intrinsic, the latter property is intuitively extrinsic, since its ascription to anything wholly distinct from Obama is not wholly about that thing, but also about what is the case beyond it. Hence, there are necessarily coextensive properties that differ in their intrinsicality.

[5]I am assuming that each thing is necessarily self-identical. If this is not case then the example can be modified.

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coextensive properties that differ in their intrinsicality, given number necessitarianism.

A second example is what I will call the standard theory of sets, which is the conjunction of the necessitation of the standard cumulative theory of pure and impure sets, and the necessitation of the thesis that, for any x, and for any ys that are the members of x, necessarily: i) x exists iff each of the ys exist; ii) if x exists then the ys are the members of x; and iii) x is wholly distinct from each of the ys. Given the standard theory of sets, the intrinsic property of being made of tin is necessarily coextensive with the plausibly extrinsic property of being made of tin and the member of a set.[6] Hence, given the standard theory of sets, it is also plausible that there are necessarily coextensive properties that differ in their intrinsicality.[7]

The metaphysical notion of grounding promises to provide a solution to this problem. It is often natural to use the locutions 'grounded by', 'in virtue of' and 'is made true by' when doing philosophy, and it is natural to interpret at least some of these uses as expressing a metaphysical, or non-causal, explanatory notion. For example, it is natural to say that a moral theory aims to describe what makes certain acts right and certain other acts wrong (or what grounds the rightness of certain acts and wrongness of certain other acts, or what it is in virtue of that certain acts are right and certain other acts are wrong).[8] For example, one theory might hold that a particular act of lying is wrong in virtue of being a breach of trust, while another theory might deny this and give an alternative account for why the act is wrong. It is also natural to say that in giving an account of what makes an act right or wrong (or what grounds the fact that an act is right or wrong, or what it is in virtue of an act is right or wrong) a moral theorist is offering an explanation for why the act is right or wrong. The explanation offered, however, is not a causal explanation, but is instead a distinctively metaphysical type of explanation.

A number of philosophers have recently argued that this natural talk should be regarded as both intelligible and as legitimate to employ when doing serious philosophy, even if we cannot analyse the relevant notion of grounding in terms of other notions, such as metaphysical necessity or supervenience. Moreover, they argue that if we do employ the notion of grounding we will be able to do important philosophical work we can't do otherwise.[9]

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[6]Given the standard theory of sets, the property of being made of tin and the member of a set is plausibly extrinsic, since a true ascription of the property to a thing is partly about how that thing is related to things wholly distinct from it. This is because, according to the standard theory of sets, sets are wholly distinct from their members.

[7]Proponents of accounts that rule out there being necessarily coextensive properties differing in their intrinsicality are well aware that their accounts are incompatible with these metaphysical theories, given the intuitive judgements of intrinsicality appealed to above. They typically respond by claiming that, despite their intuitive appeal, these judgements should be rejected. See Eddon (2011) for a thorough critique of this response. I will assume here that this response is unsatisfactory.

[8]See Rosen (2010).

[9]Philosophers who who endorse this positive view of grounding include Rosen 2010, Fine 2001; 2012, Schaffer 2009, and Raven 2012. Different proponents of grounding have different accounts of grounding and may also have somewhat different notions of grounding in mind. The notion of grounding I am concerned here with is the notion employed, for example, by Rosen, and I will assume that Rosen's account of grounding is essentially correct.

A prime example of this work according to a number of proponents of grounding is that of analysing intrinsicality.

The notion of grounding promises to enable an analysis of intrinsicality that allows there to be necessarily coextensive properties that differ in their intrinsicality, and hence promises to enable an analysis of intrinsicality that is compatible with popular metaphysical theories according to which there are necessary entities such as numbers, or necessary connections between wholly distinct entities such as sets and their members. The reason for this is that grounding is a hyperintensional notion: two facts that are necessarily equivalent can differ in what facts they ground and what facts ground them. For example, certain necessary moral facts might be grounded by certain other necessary moral facts, without being grounded by every necessary fact. Similarly, given numbers necessarily exist, the fact that there is a number is plausibly grounded by the necessary fact that the number 10 exists (as well as being grounded by other similar facts, such as the fact that the number 2 exists), but it is not grounded by other necessary facts, such as the fact that either there is an electron or there no electron. Since grounding is a hyperintensional relation, it is able to discriminate between necessarily coextensive properties, while other notions, such as metaphysical necessity and supervenience, cannot. According to a number of proponents of grounding, this fact enables the notion of grounding to provide a successful analysis of intrinsicality.

In this paper I will argue that this promise is illusory. In particular, I will argue that accounts of intrinsicality in terms of grounding are also incompatible with popular metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities. In section 2, I will describe Gideon Rosen's recent elegant and powerful account in terms of gounding. Rosen's account is one of the purest accounts of intrinsicality in terms of grounding that has been proposed, and it is arguably the account that most promises to be compatible with metaphysical theories such as number necessitarianism and standard set theory that hold that there are necessary entities or necessary connections between wholly distinct entities.[10] In section 3, however, I will argue that Rosen's account fails to be compatible with these theories and hence fails to make good on this promise. In section 4, I will then argue that the manner in which Rosen's account fails suggests that any attempt to analyse intrinsicality in terms of grounding is likely to suffer the same fate. Given we want an account of intrinsicality that is compatible with popular metaphysical theories that posit necessary entities or necessary connections between wholly distinct entities, it is therefore likely that grounding accounts will be no more successful than other existing accounts.[11]

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[10]The accounts of Witmer et al. (2005) and Trogdon (2009), which also attempt to analyse intrinsicality in terms of grounding, are less pure than Rosen's, since, as noted in footnote 3, they require that each intrinsic property satisfy the modal condition of being independent of accompaniment. A principle presupposed by both these accounts is discussed in footnote 30. Another account of intrinsicality in terms of grounding, which is similar to Rosen's, is given by Bader MS.

[11]Why should one want an account of intrinsicality that is compatible with these metaphysical theories? Many philosophers, probably the large majority of philosophers, will want such an account because they think that at least one of these metaphysical theories is true. For such philosophers it will be a requirement

Before proceeding, it is important to recognise that some uses of 'in virtue', 'grounds' and 'makes true' might fail to express the explanatory notion of grounding described above. In particular, it is important to realise that, on its intended reading, 'in virtue' does not express the explanatory notion of grounding in the intuitive characterisation of intrinsicality given by (1).[12] That 'in virtue' in (1) does not express the explanatory notion of grounding on its intended interpretation follows from (1) being true on its intended interpretation, together with (3) and (4).

3. 'a is F in virtue of how it is (as opposed to how it is related to things wholly distinct from it or how things wholly distinct from it are)' is true iff, for some predicate G expressing an intrinsic property of the referent of a, 'a is F in virtue of a being G' is true, where 'in virtue' has the reading it has on the intended interpretation of (1).

4. There are true sentences of the form 'a is F', where F expresses an intrinsic property, and 'a is F' expresses a fact that is foundational in the sense of not being (explanatorily) grounded by any other facts.

To see why this is the case, suppose (as we can given (4)) that a predicate F expresses an intrinsic property and 'a is F' expresses a foundational fact. Then, by (1) and (3), there must be a predicate G such that 'a is F in virtue of a being G' is true, where 'in virtue' has the reading it has on the intended interpretation of (1). Since no fact can explain itself, it follows from grounding being an explanatory notion that no fact can ground itself.[13] But since the fact expressed by 'a is F' is foundational, and facts can't ground themselves, it follows that 'in virtue' can't express the explanatory notion of grounding on the intended interpretation of (1).[14]

The fact that 'in virtue' does not express the explanatory notion of grounding in (1) is important for two reasons. First, if 'in virtue' did express the explanatory notion of

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on the truth of an account of intrinsicality that it is not incompatible with these theories. Even if one rejects all of these metaphysical theories, one might still want an account of intrinsicality that is compatible with them because either: i) one wants an analysis of intrinsicality that is conceptually necessary, and, since these metaphysical theories are conceptually possible, this requires the analysis to be compatible with these theories; or ii) one wants an account of what properties are intrinsic that can be used under the supposition that these theories are true.

[12]This fact is not widely appreciated. Rather, it seems to be commonly held that 'in virtue' does express the explanatory notion of grounding in intuitive characterisations of intrinsicality such as (1).

[13]Rosen, for example, endorses the principle that no fact can ground itself for this reason (Rosen, 2010, pp. 115-116). I am assuming with Rosen that *being an explanation of* is a relation on facts, rather than being a relation on more fine grain entities such as sentences or facts under modes of presentation.

[14]Fine 2012 has distinguished between a strict notion of grounding, which is the notion I am using 'ground' to express here, and a weak notion of grounding. A referee has suggested that, on the intended reading of (1), 'in virtue' expresses Fine's weak notion of grounding, rather than the strict notion. This suggestion escapes the above argument, since, unlike in the case of strict grounding, facts can weakly ground themselves. It is, however, arguably shown to be false by the kind of examples discussed in section 3. For example, given the existence of sets strictly ground, and hence weakly ground, the existence of their members, and given sets are wholly distinct from their members, (5), understood with 'in virtue' expressing weak grounding, falsely classifies the extrinsic property of being a member of something as intrinsic.

grounding in (1), then (1) would provide an analysis of intrinsicality in terms of grounding, albeit one having the drawback of circularity described above, and this would provide a reason to think that a more satisfactory analysis of intrinsicality in terms of grounding might also be able to be given. Second, failure to recognise that 'in virtue' does not express the explanatory notion of grounding in (1) can to lead to significant confusion. To avoid confusing the different senses of 'in virtue', I will mainly appeal to the intuitive characterisation of intrinsicality given by (2) in the following, rather than that given by (1).

2   Rosen's account

Rosen's formulation of his account of intrinsicality presupposes a Russellian theory of facts.[15] According to Russellianism about facts, facts are structured entities that are built up out of individuals, properties and operators in roughly the way sentences are built up out of names, predicates and operator expressions. If ϕ is a true sentence made up of names, predicates and operator expressions, and the syntactical structure of ϕ matches the semantic structure of the fact s it expresses, then the individual constituents of s are the referents of the names in ϕ, the property constituents of s are the properties expressed by the predicates in ϕ, and the operator constituents are the operators expressed by the operator expressions in ϕ. For example, given 'Obama runs' is true, and given the surface syntactical structure of 'Obama runs' matches the semantic structure of the fact s it expresses, Obama is an individual constituent of s, while the property of running is a property constituent of s.[16] Given this background, Rosen's account can be stated as (5).[17]

5. p is an intrinsic property $=_{\text{df}} p$ is a property and, necessarily, for any x and y: i) if the ascription of p to x is grounded by a fact f that has y as an individual constituent, then y is part of x; and ii) if the ascription of the negation of p to x is grounded by a fact f that has y as an individual constituent, then y is part of x.

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[15]I am taking a fact to be an obtaining state of affairs, where, as noted in footnote 2, a state of affairs is a way things are or a way things fail to be. A fact, then, is a way things are. Given one endorses the Russellian theory of facts, it is natural to also endorse a Russellian theory of states of affairs.

[16]This is my terminology rather than Rosen's.

[17](5) is a cleaned up version of the formulation Rosen himself gives in Rosen (2010). What Rosen actually writes is:

> F is an intrinsic property iff, as a matter of necessity, for all x: If x is F in virtue of $\varphi(y)$— where $\varphi(y)$ is a fact containing y as a constituent—then y is a part of x; and If x is not-F in virtue of $\varphi(y)$, then y is part of x.(Rosen, 2010, p. 112)

I have interpreted Rosen as using the locution 'is a fact containing y as a constituent' to mean 'is a fact containing y as an individual constituent'. If he instead meant 'is a fact containing y as either an individual constituent, property constituent or operator constituent', then his account would fail given any view that holds that properties aren't parts of the things that have them.

Rosen's account plausibly successfully classifies many properties as intrinsic or extrinsic. Consider, for example, the property of being next to something. Rosen's account plausibly correctly classifies this property as extrinsic since it is plausibly possible for there to be an x and a y such that the fact that x is next to something is grounded by the fact that x is next to y, where y is an individual constituent of the latter fact that is not part of x. The account also plausibly correctly classifies the property of being lonely as extrinsic, where something is lonely iff it does not coexist with any contingently existing entity wholly distinct from itself. The account plausibly classifies this property as extrinsic since it is plausibly possible for there to be an x and a y such that the fact that x is not lonely is grounded by the fact that y is a contingently existing entity that is wholly distinct from x, where y is an individual constituent of the latter fact that is not part of x. At least prima facie, it is also plausible that Rosen's account correctly classifies the property of being tin as intrinsic since i) necessarily, for any tin x, the fact that x is made of tin is plausibly grounded only by facts whose individual constituents are part of x, and ii) necessarily, for any non-tin x, the fact that x is not made of tin is plausibly grounded only by facts whose individual constituents are part of x.

Importantly, Rosen's account is able to distinguish between necessarily coextensive properties that differ in their intrinsicality; whereas, as noted above, nearly all rival accounts cannot. For example, Rosen's account is able to correctly classify the property of being self-identical as intrinsic, while correctly classifying the property of being such that there is a number as extrinsic, even if these properties are necessarily coextensive due to the necessary existence of numbers. Rosen's account plausibly classifies *being such that there is a number* as extrinsic since it is plausibly possible for there to be an x and a y such that the fact that x is such that there is a number is grounded by the fact that y is a number, where y is an individual constituent of this latter fact that is not part of x. On the other hand, it plausibly classifies *being self-identical* as intrinsic since it is plausibly necessary that, for any x, the fact that x is self-identical is either grounded by no facts, or is only grounded by facts whose individual constituents are parts of x.

Given sets are wholly distinct from their members, Rosen's account is also able to correctly classify the intrinsic property of being made of tin and a member of a set as extrinsic. This property is classified as extrinsic by Rosen's account since it is possible for there to be an x and a y such that the fact that x is made of tin and a member of a set is grounded by the fact that x is made of tin and x is a member of y, where y is an individual constituent of the latter fact that is not part of x. Given Rosen's account can correctly classify being made of tin as intrinsic, the account is therefore able to correctly classify both this property and the extrinsic property of being made of tin and a member of a set, even if these properties are necessarily coextensive as they are if the standard theory of sets is correct.

It is important to note that Rosen's formulation of his account is not only committed to Russellianism about facts, but also to a particularly fine grain version of this theory. This commitment arises from how the account treats foundational facts.[18] As noted in section

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[18]Recall that a foundational fact is a fact that is not grounded by any other facts.

2, since no fact can explain itself, it follows from grounding being an explanatory notion that no fact can ground itself. This irreflexivity of grounding, however, raises a problem for Rosen's account given, as is widely believed, some facts are foundational.[19]

Suppose R expresses a two place relation r such that, necessarily, any true ascription of r to things x and y is a foundational fact, and any true ascription of the negation of r to x and y is also a foundational fact.[20][21]Let p be the extrinsic property expressed by '$\lambda x R(x, \text{Obama})$'. Then, given that the ascription of p to any object y is identical to the ascription of r to y and Obama, and given that the ascription of the negation of p to any object y is identical to the ascription of the negation of r to y and Obama, Rosen's account will falsely classify p as intrinsic.[22] p will be classified as intrinsic on Rosen's account since, necessarily, any true ascription of it or its negation to an x will be foundational, and hence there won't be any fact that grounds it having an individual constituent that is not part of x.

This problem does not arise given an account that holds that the true ascription of r to x and y is a different fact from the true ascription of p to x. Given such an account, a proponent of Rosen's account can argue that p is classified as extrinsic, since it's true ascription to an object y that is wholly distinct from Obama is grounded by the ascription of r to y and Obama, and this latter fact has an individual constituent that is not part of y, namely Obama. However, it would be good to have a version of Rosen's account that doesn't rely on such an account, or on the above claim about grounding. A natural way of doing this is to modify Rosen's account by replacing (5) with (6).

6. p is an intrinsic property $=_{\text{df}}$ p is a property and, necessarily, for any x and y: i) if the ascription of p to x is grounded by, *or identical to*, a fact f that has y as an individual constituent, then y is part of x; and ii) if the ascription of the negation of p to x is grounded by, *or identical to*, a fact f that has y as an individual constituent, then y is part of x.

As well as avoiding commitment to a fine grain Russellian theory of facts, it would be good to be able to formulate Rosen's account so that it avoids commitment to Russellianism altogether, and so is compatible with non-Russellian theories of facts such as theories that hold that facts are unstructured entities such as sets of circumstances or sets of worlds. This can be done as follows. Whatever theory of facts one endorses, one should be able to distinguish between facts that are *qualitative*, in the sense that they do not concern any particular entities, and facts that are *non-qualitative*, in the sense that they do concern particular entities. The fact that there is a cube and the fact that every emerald is green are examples of qualitative facts. The fact that Obama is president and the fact that

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[19]For discussion over whether there must be foundational facts, see Cameron (2008).

[20]If the predicate R expresses a two-place relation r, and names a and b refer to x and y respectively, then the ascription of r to x and y is the state of affairs expressed by $\ulcorner Rab \urcorner$.

[21]A possible example of such a relation would be a fundamental two place relation whose instantiation is modally independent of the instantiation of any other fundamental properties and relations.

[22]Given footnote 20, the ascription of p to a y is identical to the ascription of r to y and Obama iff $\ulcorner (\lambda x R(x, \text{Obama}))b \urcorner$ expresses the same fact as $\ulcorner R(b, \text{Obama}) \urcorner$, where b is a name referring to y.

Obama works with Clinton, on the other hand, are examples of non-qualitative facts. Given the distinction between qualitative and non-qualitative facts is granted, however, we should also grant the notion of a fact concerning certain entities, so that, for example, the fact that Obama is president concerns Obama, while the fact that Obama works with Clinton concerns both Obama and Clinton.[23] Given this notion, we can reformulate Rosen's account so that it is compatible with anti-Russellian theories of facts by replacing (6) with (7).

7. p is an intrinsic property $=_{df}$ p is a property and, necessarily, for any x and y: i) if the ascription of p to x is grounded by, or identical to, a fact f that *concerns* y, then y is part of x; and ii) if the ascription of the negation of p to x is grounded by, or identical to, a fact f that *concerns* y, then y is part of x.

Rosen's account, then, is both able to successfully classify the intrinsicality of many properties and able to be formulated so to be neutral between different theories of facts. In the next section, however, I will argue that it fails to be compatible with popular metaphysical theories that hold that there are necessary entities or necessary connections between entities. In giving this argument, I will focus on the most neutral formulation of Rosen's account given by (7). The argument, however, applies equally to the more committed versions of Rosen's account given by (5) and (6).[24]

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[23] The notion of a fact concerning some objects $x_1, \ldots, x_n$ is distinct from the notion discussed in section 2 of a fact being wholly about some objects $x_1, \ldots, x_n$. In order to clearly distinguish these notions, we might use 'haecceistically concern' to express the first notion, while using 'intrinsically about' to express the second notion. These notions are orthogonal to each other in the sense that each of the four following cases are possible. First, a fact might both haecceistically concern an object and be intrinsically about the object. For example, the fact that Obama is 6.1 feet tall both haecceistically concerns Obama and is intrinsically about Obama (given spatial relations are intrinsic). Second, a fact might haecceistically concern an object without being intrinsically about that object. For example, the fact that Obama is taller than most men haecceistically concerns Obama, but is not intrinsically about Obama, since, in addition to being about how Obama intrinsically is, it is also about how things are outside of Obama. Third, a fact might be intrinsically about an object without haecceistically concerning it. For example, the fact that Obama is 6.1 feet tall is intrinsically about the solar system, since it is wholly about how a part of the solar system is. It does not, however, haecceistically concern the solar system, but rather Obama. Finally, a fact may fail to haecceistically concern an object and also fail to be intrinsically about it as well. For example, the fact that Obama is 6.1 feet tall neither haecceistically concerns Clinton nor is intrinsically about Clinton.

[24] Another objection to Rosen's account is that it, like a number of other accounts, fails to correctly classify intrinsic non-qualitative properties such as *being Obama*. The non-qualitative property of being Obama is intuitively intrinsic since, necessarily, anything that is Obama is Obama in virtue of how he is, as opposed to how he is related to things wholly distinct from him or in virtue of how things wholly distinct from him are. Or, appealing to the intuitive characterisation of intrinsicality (2) that does not involve the locution 'in virtue', the property of being Obama is intuitively intrinsic since, necessarily, any true ascription of *being Obama* to a thing is wholly about that thing, as opposed to being at least partly about how that thing is related to things wholly distinct from it or how things wholly distinct from it are. Rosen's account, however, falsely classifies such non-qualitative intrinsic properties as extrinsic. For example, as formulated in (7), Rosen's account classifies *being Obama* as extrinsic since the true ascription of the negation of this property to Clinton concerns an entity, namely Obama, who is wholly distinct from

3   Against Rosen's account

In this section I will argue that Rosen's account is incompatible with a number of metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities. The key idea behind the argument is that, given these metaphysical theories, it is plausible that some facts about some things are grounded by facts about other wholly distinct things, and that this is incompatible with Rosen's account. I will primarily limit myself to arguing that Rosen's account is incompatible with number necessitarianism and standard set theory. Similar arguments can be given to show that his account is also incompatible with other popular metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities.[25]

Consider first the standard theory of sets. Given this theory, it is plausible that facts about sets are explained by facts about their members. For example, given standard set theory, it is plausible that the fact that {Obama} exists is explained by the fact that Obama exists, perhaps conjoined with the fact that it is a law that all things have singleton sets and the fact that it is essential to {Obama} that it be the singleton set of Obama. Since this is not a causal explanation, it is therefore plausible to hold that, given the standard theory of sets, the fact that {Obama} exists is grounded by the fact that Obama exists (perhaps conjoined with the law that all things have singleton sets and the fact that it is essential to {Obama} that it is the singleton set of Obama). If this is the case, then, given the standard theory of sets, Rosen's account classifies the property of existing as extrinsic, since, given this theory, the fact that {Obama} exists is grounded by a fact concerning Obama, where a Obama is not a part of {Obama}. However, the property of existing is intrinsic, since the ascription of existence to an x describes how x is, as opposed to how x is related to things wholly distinct from it or how things wholly distinct from it are. Given the standard theory of sets, then, Rosen's account plausibly falsely classifies existence as extrinsic.[26]

Clinton. A proponent of Rosen's account might reply to this objection by claiming that Rosen's account should be construed as an account of qualitative intrinsicality, and that we can analyse intrinsicality simpliciter in terms of qualitative intrinsicality using some further account. If the argument in section 3 is correct, however, then Rosen's account fails even as an account of qualitative intrinsicality, given metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities. For a further objection to Rosen's account see footnote 29.

[25] Examples of such theories arguably include: i) contingentist sparse theories of properties, according to which, for example, necessarily, the property of redness exists iff there something that is red; ii) Russellian theories of facts that hold that a fact can only exist if its individual constituents exist; and iii) essentialist theories that hold that which parents a person has is essential to them. The last example was suggested to me by an anonymous referee.

[26] For an example that does not involve the property of existence, consider the standard theory of sets conjoined with the necessitation of mereological universalism (the thesis that, for any xs, there is a fusion of the xs), and the view that, necessarily, sets are located where their members are located. Suppose x and y are objects that are 1 m apart, and let z be the fusion of the singleton sets $\{x\}$ and $\{y\}$. Given this conjoined metaphysical thesis, the fact that z has two parts that are 1 m apart is plausibly grounded by the fact that x and y are 1 m apart (perhaps conjoined with the relevant mereological and location laws, and the relevant facts about essences). Since this latter fact concerns x and y, which are not parts of z,

The argument that Rosen's account is incompatible with number necessitarianism is similar. Given number necessitarianism, it is plausible that it is a law that each number has a successor, and, given this, it is plausible that the existence of each number $n + 1$ is grounded by the existence of its preceding number n (perhaps conjoined with the law that each number has a successor and the fact that it is essential to $n+1$ that it is the successor of n).[27] Given this, however, and the plausible claim that 2 is wholly distinct from 1, it follows that Rosen's account falsely classifies the property of existing as extrinsic, since the fact that 2 exists is grounded by a fact concerning 1, where 1 is not a part of 2.

In the face of these arguments, a proponent of Rosen's account might deny that the above laws and grounding claims obtain given standard set theory and number necessitarianism. Moreover, they might claim that, given these metaphysical theories, there aren't any similar laws and grounding claims that connect wholly distinct things in the way the above laws and grounding claims do which might be used to argue for the incompatibility of Rosen's account with these metaphysical theories. The denial of all such laws given these metaphysical theories, however, is highly unpalatable, since it would lead to a great many facts being taken to be explanatory brute which would otherwise be able to be explained. Such an explanatorily impoverished position is likely to be rejected by grounding theorists who are proponents of Rosen's account.

A second response a proponent of Rosen's account might adopt is to modify Rosen's account by replacing (7) with (8), where 'x is a generalised part of y' abbreviates 'x is either a part of y, or a member of y, or a predecessor of y'.[28]

8. p is a intrinsic property $=_{df}$ p is a property and, necessarily, for any x and y: i) if the ascription of p to x is grounded by, or identical to, a fact f that concerns y, then y is a *generalised* part of x; and ii) if the ascription of the negation of p to x is grounded by, or identical to, a fact f that concerns y, then y is a *generalised* part of x.

The replacement of (7) with (8) blocks the above arguments. In the first case, this is because Obama is a member of {Obama}, and hence is a generalised part of {Obama}. The existence of {Obama} being grounded by the existence of Obama (perhaps conjoined with the law that all things have singleton sets and the fact that it is essential to {Obama} that it is the singleton set of Obama) therefore does not entail that (8) classifies existence as extrinsic. In the second case, this is because 1 is the the predecessor of 2, and hence is a generalised part of 2. As a result, the existence of 2 being grounded by the existence of 1 (perhaps conjoined with the law that each number has a successor and the fact that it is

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it follows that, given the conjoined metaphysical thesis, and given distance relations are intrinsic, Rosen's account falsely classifies the intrinsic property of having two parts that are 1 m apart as extrinsic. An intrinsic n-place relation is roughly a relation n things stand in in virtue of how they are and how they are related to each other, as opposed to how they are related to things wholly distinct from them or how things wholly distinct from them are. If *being 1 m from* is extrinsic, we can replace this relation with another similar relation, such as the relation we would call 'the property of being 1 m from' in a possible world where Newtonian physics obtains, and where the relations we call 'distance relations' are intrinsic.

[27]Or at least this is the case given numbers are sui generis entities. If numbers are reducible to sets, then the plausibility of these grounding claims will depend on what particular reduction to sets is endorsed.

[28]This response was suggested to me by a referee.

essential to 2 that it is the successor of 1) also does not entail that (8) classifies existence as extrinsic.

Unfortunately, there are two serious problems with this proposal. The first problem is that we will need to add more disjuncts to the definition of 'generalised part' for Rosen's account to be compatible with other metaphysical theories that posit necessarily entities or necessary connections between wholly distinct entities. For example, given certain theories of properties and Russellian facts, it is plausible that facts about properties and Russellian facts are grounded by their instances and constituents respectively. If they are so grounded given these theories, then to make Rosen's account compatible with these theories, we will therefore need to redefine 'x is a generalised part of y' as 'x is either a part of y, a member of y, a predecessor of y, an instance of y, or a constituent of y'. Moreover, since there might be no limit to the number of metaphysical theories we might want Rosen's account to be compatible with, there might be no limit to the number of disjuncts we will need to add, making the formulation of a satisfactory version of Rosen's account impossible.

The second problem with the above response is that (8) fails, even if number necessitarianism and standard set theory are the only metaphysical theories we need to worry about making the account compatible with. The reason for this is that, given these metaphysical theories, (8) appears to falsely classify the extrinsic properties *having a member* and *having a predecessor* as intrinsic. For example, (8) plausibly classifies *having a member* as intrinsic since, for any x, the fact that x has a member does not appear to be grounded by any fact that concerns something that is not a generalised part of x. Similarly, (8) plausibly classifies *having a predecessor* as intrinsic since, for any x, the fact that x has a predecessor does not appear to be grounded by any facts that concern anything that is not a generalised part of x.

Both the above responses on behalf of Rosen's account therefore fail. In light of these failures, it is plausible that Rosen's account is indeed incompatible with metaphysical theories that posit necessary entities or necessary connections between wholly distinct entities, and that there is no simple way of modifying the account so that it is compatible with such theories.[29]

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[29]Rosen's account faces a further objection which potentially shows that his account fails whether or not the above metaphysical theories obtain. Independently of whether there are necessary entities or necessary connections between wholly distinct entities, it might be thought plausible that there are some qualitative necessary foundational facts, the most obvious candidates being qualitative foundational necessary laws. (I am assuming that laws are facts of a certain type.) The existence of such facts, however, appears to be incompatible with Rosen's account. To see why, suppose ϕ expresses a necessary qualitative foundational fact f, and let p be the property expressed by '$\lambda x \phi$'. So, for example, if ϕ is the sentence 'It is a law that every act of lying is wrong', then p is the property of being such that it is a law that every act of lying is wrong. Suppose an object x has p. Then, since f is foundational, the ascription of p to x is plausibly either itself foundational or is grounded by f. Either way, the ascription of p to x is plausibly neither identical to, nor grounded by, any fact that concerns something that is not part of x. Hence, the first part of (7) is satisfied:

> Necessarily, for any x and y, if the ascription of p to x is grounded by, or identical to, a fact f that concerns y, then y is part of x.

Since f is necessary, no x can fail to have p. Hence, the second part of (8) is trivially satisfied. Hence,

4 Other grounding accounts

I have argued that Rosen's attempt to analyse intrinsicality in terms of grounding fails to be compatible with a number of popular metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities. I have also argued that there is no obvious way to modify Rosen's account so that it is compatible with these theories. Given these arguments are correct, these failures should reduce our confidence that a grounding account of intrinsicality can be given that is compatible with these theories. More importantly, the manner in which Rosen's account fails to be compatible with these theories suggests a general reason to think that no grounding account of intrinsicality can be given that is compatible with these theories.

If intrinsicality can be analysed in terms of grounding there should be relatively simple principles linking intrinsicality with grounding, which might be exploited to obtain the analysis. One possibility is (9).

9. If a fact f is wholly about an x, and f is grounded by a fact g, then g is wholly about x

The considerations used to argue against Rosen's account in section 3, however, can be used to show that (9) fails given metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities. For example, as argued in section 3, given the standard theory of sets, the fact that {Obama} exists is grounded by the fact that Obama exists (perhaps conjoined with the law that things have singleton sets and the fact that it is essential to {Obama} that it is the singleton set of Obama). But while the fact that {Obama} exists is wholly about {Obama}, the fact that Obama exists is not wholly about {Obama} (nor is the conjunction of this fact with the law that things have singleton sets and the fact that it is essential to {Obama} that it is the singleton set of Obama).[30]

Rosen's account classifies p as intrinsic. However, since f is a qualitative, or general, fact, the ascription of p to an object not only describes how that object is, but also describes how things wholly distinct from that object are. Hence p is extrinsic, and its classification as intrinsic by Rosen's account is mistaken. (Unlike the objection discussed in the main text, this objection does not appear to generalise to all attempts to analyse intrinsicality in terms of grounding.)

[30]Witmer et al. 2005 have endorsed a principle in the vicinity of (9). Their principle is, in effect, (A), where p partially grounds q iff p is among some facts that collectively ground q.

A. For any x, for any intrinsic property p, and for any property q, if the fact that x has p is (at least partially) grounded by the fact that x has q, then q is intrinsic

A problem with (A) is that, given standard realist theories of properties, facts wholly about concrete objects should ground facts about what properties concrete objects instantiate, rather than vice versa. For example, while the fact that an object is a red plausibly grounds the fact that it instantiates the property of being red given standard realist property theories, the fact that the object instantiates the property of being red doesn't ground the fact that the object is red. Given this, 'The fact that a has the property of being F is grounded by the fact that b has the property of being G' plausibly does not generally follow from 'The fact that Fa is grounded by the fact that Gb', and this provides a general reason to think that (A) is false.

Given how I am using 'wholly about', if p is wholly about x, and x is part of y, then p is wholly about y. Given this, (9) is equivalent to (10).[31]

10. If a fact f is wholly about an x, and f is grounded by a fact g, then there is a part y of x such that g is wholly about y

In light of the above problem with (9), we might modify (9) by appealing to the notion of a generalised part discussed in section 3. In particular, we might replace (9) with (11), which is obtained from (10) by replacing 'part' with 'generalised part', where 'x is a generalised part is y' has the definition 'x is either a part of y, a member of y, or a predecessor of y'.

11. If a fact f is wholly about an x, and f is grounded by a fact g, then there is a *generalised* part y of x such that g is wholly about y

As in the case of the analogous modification of Rosen's account discussed in section 3, however, if this strategy is to work we will need to add extra disjuncts to the definition of 'generalised part' to render (11) compatible with other metaphysical theories that hold that there are necessary entities or necessary connections between wholly distinct entities, and it is not clear whether one could come up with the entire list of needed disjuncts. Moreover, the fact that the analogous modification of Rosen's account misclassifies extrinsic properties as intrinsic suggests that even if we could formulate a verson of (11) that was compatible with all the relevant metaphysical theories, it would be too weak to be of much help in analysing intrinsicality.

Another possible principle linking intrinsicality with grounding is (12).

12. If a fact f is wholly about an x, and f grounds a fact g, then g is wholly about x

(12), however, can also be seen to fail given the plausible view (endorsed by many grounding theorists including Rosen) that at least some facts expressed by disjunctions are grounded by the facts expressed by their disjuncts. For example, the fact that either Obama is 6.1

This problem can be avoided by replacing (A) with (B).

B. For any x, for any intrinsic property p, and for any property q, if the ascription of p to x is (at least partly) grounded by the ascription of q to x, then q is intrinsic

Unfortunately, however, (B) faces similar problems as (9). Consider, for example, the standard theory of sets conjoined with the necessitation of mereological unversalism and the thesis that, necessarily, sets are located where their members are. Suppose x and y are 1 m apart, and let z be the fusion of the singleton set $\{x\}$ and $\{y\}$. Then, as noted in footnote 26, the fact that z has two parts that are 1 m apart is plausibly grounded by the fact that x and y are 1 m apart (perhaps conjoined with the relevant mereological and location laws, and the relevant facts about essences). Hence, it is plausible that the ascription to z of the intrinsic property of having two parts that are 1 m apart is grounded by the ascription to z of the extrinsic property of having two parts that have members that are 1 m apart. However, this conflicts with (B). ((B) can also be argued to be incompatible with standard set theory without being augmented by theses about mereology and location. The argument, however, relies on the claim that, given standard set theory, the existence of $\{Obama\}$ is grounded by $\{Obama\}$ being such that Obama exists, which is perhaps more contentious than the corresponding grounding claim above.)

[31]As I am using 'part', each thing is an (improper) part of itself.

feet tall or Clinton is 10 feet tall is plausibly grounded by the fact that Obama is 6.1 feet tall. But while the fact that Obama is 6.1 feet tall is wholly about Obama, the fact that either Obama is 6.1 feet tall or Clinton is 10 feet tall is not wholly about Obama, but is rather wholly about Obama and Clinton.

Principles (9), (11) and (12), therefore, either fail to be compatible with metaphysical theories that posit necessary entities or necessary connections between wholly distinct entities, or are too weak to help provide an analysis of intrinsicality. In light this failure, it seems unlikely that there are any other principles linking intrinsicality and grounding that do any better. Without such principles, however, it is unlikely that intrinsicality can be analysed in terms of grounding in a way that is compatible with these metaphysical theories.

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