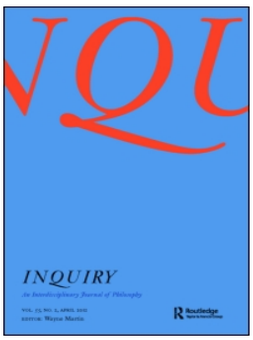

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Constitutive essence and partial grounding

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ABSTRACT

Kit Fine and Gideon Rosen propose to define constitutive essence in terms of ground-theoretic notions and some form of consequential essence. But we think that the Fine–Rosen proposal is a mistake. On the Fine–Rosen proposal, constitutive essence ends up including properties that, on the central notion of essence (what Fine calls 'the notion of essence which is of central importance to the metaphysics of identity'), are necessary but not essential. This is because consequential essence is (roughly) closed under logical consequence, and the ability of logical consequence to add properties to an object's consequential essence outstrips the ability of ground-theoretic notions, as used in the Fine–Rosen proposal, to take those properties out. The necessary-but-not-essential properties that, on the Fine–Rosen proposal, end up in constitutive essence include the sorts of necessary-but-not-essential properties that, others have noted, end up in consequential essence.

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1. Introduction

Kit Fine (2012a) proposes to define constitutive essence in terms of partial grounding and a form of consequential essence. Gideon Rosen (2015b) can be read as endorsing that proposal.[1] But we think that the Fine–Rosen proposal is a mistake.

In Section 2, we present two of Fine's (1994, 1995c) distinctions: one between essential and necessary properties, another between constitutive and (unconstrained) consequential essence. As Jonathan Livingstone-Banks (2017) and others have noted, unconstrained consequential essence

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[1]For some qualifications, see note 25.

includes too much.[2] In particular, it includes properties that, according to Fine's characterization, are necessary but not essential.

This might suggest that those who are interested in essential properties, rather than in necessary properties more generally, should be interested in constitutive essence, rather than in unconstrained consequential essence. But those who are interested in constitutive essence might worry about characterizing it. One way to address those worries would be to define constitutive essence using other notions. This is what Fine and Rosen propose to do.

In Section 3, we present one version of the Fine–Rosen proposal. But, we argue in Section 4, on this version of the Fine–Rosen proposal constitutive essence also includes too much. It, too, includes properties that, according to Fine's characterization, are necessary but not essential. This suggests that those who are interested in essential properties, rather than in necessary properties more generally, should not accept this version of the Fine–Rosen proposal.

In Section 5, we present another of Fine's (1995c) distinctions, between constrained and unconstrained consequential essence. Two points about unconstrained consequential essence carry over to constrained consequential essence. First, as Livingstone-Banks (2017) and others have noted, constrained consequential essence includes too much.[3] Second, on another version of the Fine–Rosen proposal, one formulated in terms of constrained consequential essence, constitutive essence still includes too much; it includes properties that, according to Fine's characterization, are necessary but not essential.

This suggests that those who are interested in essential properties, rather than in necessary properties more generally, should be interested in constitutive essence, rather than in constrained consequential essence. And they should not accept the second version of the Fine–Rosen proposal either.

We conclude that those who are interested in essential properties, rather than in necessary properties more generally, should not accept either version of the Fine–Rosen proposal.

[2]Others who make similar points include Gorman (2005); Oderberg (2007, 2011); Correia (2012); Koslicki (2012a, 2012b); and Tahko (forthcoming). See note 10. Presumably Fine (1995c) agrees that unconstrained consequential essence includes too much; otherwise there would be no need to introduce constrained consequential essence. But constrained consequential essence also includes too much. See Section 5.1. Thanks to an anonymous referee for raising this issue.

[3]Others who make similar points include Oderberg (2011) and Koslicki (2012a, 2012b). See note 10.

2. Essence

2.1. Essential vs. necessary

In 'Essence and Modality', Fine (1994) distinguishes *essential* and *necessary* properties. Roughly, essential properties are tied to *what an object is* in a way in which necessary properties needn't be.

To use one of Fine's (1994, 4–5) examples, it's necessary that Socrates is a member of {Socrates}, the singleton set whose sole member is Socrates; *being a member of {Socrates}* is one of Socrates's necessary properties.[4] But it doesn't lie in Socrates's essence to be a member of {Socrates}. Fine (1994, 4–5) says,

> It is no part of the essence of Socrates to belong to the singleton. Strange as the literature on personal identity may be, it has never been suggested that in order to understand the nature of a person one must know to which sets he belongs. There is nothing in the nature of a person, if I may put it this way, which demands that he belongs to this or that set or which demands, given that the person exists, that there even be any sets.

So *being a member of {Socrates}* isn't among Socrates's essential properties.

In the reverse case, it's necessary that {Socrates} has Socrates as a member; *having Socrates as a member* is among the necessary properties of {Socrates}. In addition, it lies in the essence of {Socrates} to have Socrates as a member. Part of what it is to be {Socrates} is to have Socrates as a member. So *having Socrates as a member* is among the essential properties of {Socrates}.

To use another of Fine's (1994, 5) examples, it's necessary that Socrates is distinct from the Eiffel Tower; *being distinct from the Eiffel Tower* is among his necessary properties.[5] But, Fine (1994, 5) says, 'it is not essential to Socrates that he be distinct from the Tower; for there is nothing in his nature which connects him in any special way to it'. So *being distinct from the Eiffel Tower* isn't among Socrates's essential properties. Similar reasoning holds in the reverse case; *being distinct from Socrates* is one of the Eiffel Tower's necessary properties, but not one of its essential properties.

Fine (1994, 3) takes these and other examples to show that modal accounts of essence, which attempt to reduce essence to necessity and

[4] If you're worried about Socrates's contingent existence, Fine (1994, 6) also offers an example with necessary existents: it's necessary that 2 is a member of {2}, but it doesn't lie in the essence of 2 to be a member of {2}. (We're assuming that numbers aren't sets. See Benacerraf 1965.)

[5] If you're worried about the contingent existence of Socrates and the Eiffel Tower, consider necessary existents instead: for example, it's necessary that 2 is distinct from the empty set, but it doesn't lie in the essence of 2 to be distinct from the empty set. See note 4.

other modal notions, are 'fundamentally misguided'.[6] Fine's (1994, 3) point isn't that modal accounts fail 'to capture anything which might reasonably be called a concept of essence'. Rather, his point is that modal accounts fail to capture 'the notion of essence which is of central importance to the metaphysics of identity' (Fine 1994, 3). Let's call this notion of essence *the central notion of essence*. The central notion of essence is the one at issue in 'Essence and Modality'; it is the notion of essence on which properties like *being a member of {Socrates}* and *being distinct from the Eiffel Tower* are necessary but not essential.

2.2. Constitutive vs. consequential

In 'Senses of Essence', Fine (1995c, 56–58) distinguishes *constitutive* and *consequential* essence.[7] Roughly, consequential essence is closed under logical consequence (perhaps subject to constraints), whereas constitutive essence isn't.

We take essences to be pluralities of properties. As we see it, the essence of an object *x* is the plurality of properties *FF* such that, for any property *F*, *F* is among *FF* if and only if it lies in *x*'s essence to have *F*. (We discuss some alternatives to this way of conceiving of essence in Appendix 1.) But logical consequence is a relation between sentences or propositions, and essences (as we understand them) are pluralities of properties. To get logical consequence to apply to essences, we need to bridge the gap between sentences or propositions, on the one hand, and pluralities of properties, on the other. Following Fine (1995c, 56), let's say that, for any properties *FF* and any property *G*, *G* is a logical consequence of *FF* if and only if, for any object *x*, it's a logical truth that, if *x* has *FF*, then *x* has *G*.[8] (Another way to get

[6]For defenses of modal accounts of essence, (see Gorman 2005; Zalta 2006; Correia 2007; Cowling 2013; Wildman 2013; Denby 2014). For a reply to Correia (2007), (see Fine 2007). For a reply to Cowling (2013) and Wildman (2013), (see Skiles 2015b). For a reply to Gorman (2005) and Zalta (2006), csee Wildman 2016). Against modal accounts of essence, (see also Torza 2015).

[7]See also Fine (1995b, 276–278, 2012a, 78–79, 2015, 310; Rosen 2015b, 195). For further discussion of the distinction between constitutive and consequential essence, (see Gorman 2005, 280–282, 287; Oderberg 2007, 266 n. 4, 2011, 99–101; Koslicki 2012a, 189–195, 2012b, 190–195, 2013, 56; Correia 2013, 285–289; Dasgupta 2014, 589, 591–592; Livingstone-Banks 2017, 8–11; Tahko, forthcoming, 9; Wilson, forthcoming, 6–7).

[8]Here, a logical truth is 'one that is true in virtue of the nature of the logical concepts' in question (Fine 1995c, 57). In this case, this means that, for any properties *FF* and any property *G*, *G* is a logical consequence of *FF* if and only if, for any object *x*, there are some logical concepts *cc* such that it lies in the essence of *cc* that, if *x* has *FF*, then *x* has *G*. Presumably Fine would read 'It lies in the essence of *cc* that' as 'It lies in the consequential essence of *cc* that' rather than as 'It lies in the constitutive essence of *cc* that'. See Fine (1995a, 242). (But see Rosen 2015b, 196.) On the sentential operator 'It is true in virtue of the nature of the logical concepts in question that', see Appendix 1.

logical consequence to apply to essences would be to conceive of essence in terms of propositions rather than in terms of properties. See Appendix 1.)

In Section 5, we discuss constraints on *which* logical consequences affect consequential essence. But, until then, we discuss what Fine (1995c, 59) calls 'the unconstrained conception' of consequential essence.[9] Unconstrained consequential essence is closed under logical consequence in the following sense: for any object *x*, any properties *FF*, and any property *G*, *G* is in *x*'s unconstrained consequential essence if (i) *FF* are in *x*'s unconstrained consequential essence, and (ii) *G* is a logical consequence of *FF* (Fine 1995b, 277, 1995c, 56–57, 2015, 298).

To use one of Fine's (1995c, 57) examples, it lies in Socrates's unconstrained consequential essence to be a man. And *being a man or a mountain* is a logical consequence of *being a man*, since, for any object *x*, it's a logical truth that, if *x* has *being a man*, then *x* has *being a man or a mountain*. So it lies in Socrates's unconstrained consequential essence to be a man or a mountain. But on Fine's view, although it lies in Socrates's constitutive essence to be a man, it doesn't lie in his constitutive essence to be a man or a mountain.

But, as Livingstone-Banks (2017, 8–9) and others have noted, unconstrained consequential essence includes too much.[10]

Suppose that, for any object *x*, it's a logical truth that *x* is either a wrought-iron tower in a francophone country or not a wrought-iron tower in a francophone country. In that case, *being either a wrought-iron tower in a francophone country or not a wrought-iron tower in a francophone country* is a logical consequence of any property *F* whatsoever. That's because, for any object *x*, it's a logical truth that, if *x* has *F*, then *x* has *being either a wrought-iron tower in a francophone country or not a wrought-iron tower in a francophone country*. So this property is in Socrates's unconstrained consequential essence.

But recall that, on the central notion of essence (discussed in Section 2.1), *being distinct from the Eiffel Tower* is one of the necessary properties that isn't supposed to be in Socrates's essence, since there is nothing in his nature

[9]Koslicki (2012a, 193, 2012b, 193–194) calls it 'unrestricted consequential essence'.

[10]Tahko (forthcoming, 9) uses an example similar to the one below in the text to argue that a form of consequential essence includes properties that don't 'seem like very plausible essential properties'. Correia (2012, 645) uses a similar example to argue against an account of what he calls 'derivative essence'. Oderberg (2007, 266 n. 4, 2011, 100–101) uses similar examples to argue that a form of consequential essence includes properties that aren't among an object's 'propria' (to use the traditional term). Along related lines, Gorman (2005, 287) and Koslicki (2012a, 193–195, 2012b, 195–196 n. 9) argue that the traditional distinction between essence and propria is not captured by the distinction between constitutive essence and one or more forms of consequential essence. Here we are eliding the question of whether the form of consequential essence at issue in the literature is constrained or unconstrained. For discussion of that question, see Appendix 2.

that connects him in any special way to any particular wrought-iron tower in any particular francophone country. In that case, it seems that, on the central notion of essence, his essence should also not include *being either a wrought-iron tower in a francophone country or not a wrought-iron tower in a francophone country*.

Of course, there is a sense in which Socrates's essence should include *being either a wrought-iron tower in a francophone country or not a wrought-iron tower in a francophone country*, since his unconstrained consequential essence includes that property, and unconstrained consequential essence is, after all, a form of essence. But that is not the notion of essence at issue. When we say that unconstrained consequential essence includes too much, what we mean is that it includes properties – like *being either a wrought-iron tower in a francophone country or not a wrought-iron tower in a francophone country* – that, on the central notion of essence, are necessary but not essential.

The point that examples like this are supposed to illustrate is not, in the first instance, that unconstrained consequential essence doesn't line up with constitutive essence. Rather, the point is that unconstrained consequential essence doesn't line up with the central notion of essence, the notion of essence from 'Essence and Modality'. The notion of essence that metaphysicians like Fine care about is one on which, say, *being distinct from the Eiffel Tower* is not among Socrates's essential properties. And unconstrained consequential essence doesn't line up well with that notion of essence.[11]

It seems, then, that those who are interested in the central notion of essence should perhaps be interested in constitutive essence rather than in unconstrained consequential essence. (We defer consideration of constrained consequential essence until Section 5.) Speaking of constitutive essence, Livingstone-Banks (2017, 8) says, 'It is this, and not [unconstrained] consequential essence, that is of interest and importance to the metaphysician'.[12]

But not everyone is happy with constitutive essence. In particular, Fine (1995c, 58) says that there is 'considerable doubt as to how the concept of constitutive essence is to be understood'.[13] To use his example, suppose that it lies in the constitutive essence of {Socrates} to have Socrates as its sole member. Does it also lie in the constitutive essence of {Socrates} to have

[11]Thanks to an anonymous referee for raising some of the issues discussed in the text.

[12]Livingstone-Banks (2017, 10) explicitly mentions a constraint on which logical consequences affect consequential essence, but only after making the remark quoted in the text, so presumably his remark is directed at unconstrained consequential essence.

[13]See also Fine (1995b, 277).

Socrates as a member and to be such that any two of its members are identical (Fine 1995c, 58)? If it is difficult to draw the line between constitutive essence and unconstrained consequential essence, then one might worry, to use Livingstone-Banks's (2017, 8) phrase, that there isn't 'an intelligible characterisation of the constitutive conception of essence'.[14]

One way to make constitutive essence intelligible is to define it using other notions, as Fine (2012a) and Rosen (2015b) do.

3. The unconstrained Fine–Rosen proposal

3.1. Some background

Fine (2012a) and Rosen (2015b) propose to define constitutive essence in terms of ground-theoretic notions and some form of consequential essence. Some brief remarks about some ground-theoretic notions are in order.[15]

Grounding is factive.[16] And it is explanatory. Fine (2012a, 37, 39) describes grounding as 'a distinctive kind of metaphysical explanation', one that provides 'as strict an account of the explanandum as we might hope to have'.[17] Similarly, Rosen (2010, 117) says, 'the grounding relation is an explanatory relation – to specify the grounds for [a fact] is to say why [it] obtains, on one version of this question'.[18] It is difficult to say how, precisely, grounding is explanatory. But, if the fact that {Socrates} has Socrates as a member grounds the fact that {Socrates} has a member, for example, then there must be some explanatory connection or other between the fact that {Socrates} has Socrates as a member and the fact that {Socrates} has a member.[19]

[14]Livingstone-Banks (2017, 16–19) offers his own account of constitutive essence. Unlike the proposal discussed in Sections 3–5, Livingstone-Banks's account doesn't appeal to ground-theoretic notions. (See Livingstone-Banks 2017, 17 n. 24.) But, on Livingstone-Banks's account, constitutive essence includes too little. For example, on his account, *having Socrates as a member* isn't in the constitutive essence of {Socrates}. (See Livingstone-Banks 2017, 18–19.) We take this to be a drawback of his account.

[15]Our remarks here follow Rosen (2010); Fine (2012a). (See also Fine 2001, 2010, 2012b, 2015, 2016; Rosen 2015b.) For a general criticism of grounding, see, for example, Wilson (2014); Koslicki (2015). For replies, see, for example, Cameron (2016); Raven (2016).

[16]See Rosen (2015b, 198 n. 12, 199.) On Fine's view, grounding is not a relation among facts. (See note 19.) But, on his view, grounding is nonetheless factive: 'we can only correctly talk of something factive – such as a true statement or a fact – being grounded; and what grounds must likewise be factive' (Fine 2012a, 48–49).

[17]See also, for example, Fine(2015, 296).

[18]The expressions in square brackets replace two occurrences of '[p]', which is Rosen's (2010, 115) notation for 'the fact that p'.

[19]For ease of exposition, we follow Rosen (2010, 114–115, 2015b, 198) and treat grounding as a relation among facts. It might be that facts are propositions, but nothing hangs on this. See Rosen (2010, 114–115 n. 3. On Fine's view, by contrast, grounding is best expressed by a sentential operator. See, for example, Fine 2012a, 46–48, 2015, 301–303).

[20]Grounding is non-monotonic in the sense that, if some facts *qq* ground a fact *p*, it doesn't follow that *qq* together with a fact *r* also ground *p*. See Rosen (2010, 116–117); Fine (2012a, 56).

Like other explanatory relations, grounding is non-monotonic.[20] For example, if the fact that {Socrates} has Socrates as a member grounds the fact that {Socrates} has a member, it doesn't follow that the fact that {Socrates} has Socrates as a member and the fact that the Eiffel Tower is in France collectively ground the fact that {Socrates} has a member. For there might not be the required explanatory connection (whatever it is exactly) between the fact that the Eiffel Tower is in France and the fact that {Socrates} has a member.

We can define partial grounding from grounding. One fact *partly* grounds another fact if and only if the first fact is among some facts that collectively ground the second fact (Rosen 2010, 115, 2015a; Fine 2012a, 50). For example, if the fact that {Socrates} has Socrates as a member and the fact that Socrates is rational collectively ground the fact that {Socrates} has a member that is rational, then the fact that {Socrates} has Socrates as a member partly grounds the fact that {Socrates} has a member that is rational.

Partial grounding is irreflexive and asymmetric.[21] And, since grounding is factive and explanatory, so is partial grounding.

3.2. Some proposals

In 'Guide to Ground', Fine proposes to define constitutive essence in terms of partial grounding and some form of consequential essence.[22] Roughly, his view is that an object's constitutive essence is that portion of its consequential essence that isn't partly grounded in any other portion of its consequential essence. He says,

> how are we to understand the relationship between constitutive and consequentialist essence? One view is that we understand the latter in terms of the former. Roughly, to belong to the consequentialist essence of something is to be a logical consequence of what belongs to the constitutive essence. But another

[21] Rosen (2010, 116, 2015b, 201) is explicitly committed to the claim that partial grounding is irreflexive and asymmetric. Fine (2012a, 56) isn't explicitly committed to the claim that partial grounding is asymmetric, but he is explicitly committed to the claims that partial grounding is irreflexive and that partial grounding is transitive, which entail the claim that partial grounding is asymmetric. *R* is irreflexive $=_{df}$ for every object *x*, it isn't the case that *x* bears *R* to *x*. *R* is asymmetric $=_{df}$ for any entities *x* and *y*, if *x* bears *R* to *y*, then *y* doesn't bear *R* to *x*. *R* is transitive $=_{df}$ for any entities *x*, *y*, and *z*, if *x* bears *R* to *y*, and *y* bears *R* to *z*, then *x* bears *R* to *z*.

[22] In 'Ontological Dependence,' Fine (1995b, 277–278) offers what we take to be a different proposal for defining constitutive essence from consequential essence, one that doesn't appeal to ground-theoretic notions. For criticisms of that proposal, (see Koslicki 2012b, 192–194; Dasgupta 2014, 589 n. 46.) For a different interpretation of Fine's proposal in 'Ontological Dependence,' one on which it does appeal to ground-theoretic notions, (see Correia 2013, 285–286).

> view, to which I am more inclined, is that we understand the former in terms of the latter. One statement of consequentialist essence may be partly grounded in others. The fact that it lies in the nature of a given set to be a set or a set, for example, is partly grounded in the fact that it lies in the nature of the set to be a set. The *constitutive* claims of essence can then be taken to be those consequentialist statements of essence that are not partly grounded in other such claims. (Fine 2012a, 79; emphasis in original)

Similarly, in 'Real Definition', Rosen (2015b, 195) proposes the following principle as a way to 'define constitutive essence in terms of consequential essence'. He says,

> *p* belongs to the constitutive essence of *x* iff *p* belongs to the consequential essence of *x*, and there are no propositions Γ such that *p* belongs to the consequential essence of *x in virtue of the fact that* Γ belongs to the consequential essence of *x*.[23] (Rosen 2015b, 196; emphasis in original)

Here, 'in virtue of the fact that' explicitly indicates grounding (Rosen 2015b, 196 n. 10).

In proposing to define constitutive essence in 'Guide to Ground' and 'Real Definition', Fine and Rosen might have unconstrained consequential essence in mind.[24] So perhaps they are endorsing the following proposal.[25]

> *The unconstrained Fine–Rosen proposal:* For any property *F* and any object *x*, *F* is in *x*'s constitutive essence $=_{df}$ (i) *F* is in *x*'s unconstrained consequential essence, and (ii) it's not the case that there is a property *G* such that the fact that *F* is in *x*'s unconstrained consequential essence is partly grounded in the fact that *G* is in *x*'s unconstrained consequential essence.

(We consider another version of the Fine–Rosen proposal in Section 5.) To use a slight modification of Fine's example, *being either a set or a set* is in the unconstrained consequential essence of {Socrates}. This fact is partly grounded in the fact that *being a set* is in the unconstrained consequential essence of {Socrates}. So, on the unconstrained Fine–Rosen proposal, *being either a set or a set* isn't in the constitutive essence of {Socrates}. By contrast, if the fact that *being a set* is in the unconstrained consequential essence of

[23]'*p*' ranges over propositions, and 'Γ' ranges over pluralities (or perhaps sets) of propositions. Rosen conceives of essence in terms of propositions rather than in terms of properties, but nothing hangs on this. See Appendix 1.

[24]For further discussion, see Appendix 2.

[25]Strictly speaking, even setting aside any possible differences about the form of consequential essence in question, Fine's proposal and Rosen's proposal are distinct. In effect, Fine's proposal appeals to one fact doing some partial grounding – and so to *a plurality of facts* doing some grounding – where Rosen's proposal appeals to *one fact about a plurality* of propositions (or properties) doing some grounding. But we take these proposals to be necessarily equivalent. (They're necessarily equivalent if the following is the case: necessarily, for any object *x*, any property or proposition *Q*, and any fact *r*, the fact that *Q* is in *x*'s consequential essence partly grounds *r* if and only if there are some properties or propositions *QQ* such that (i) *Q* is among *QQ* and (ii) the fact that *QQ* are in *x*'s consequential essence grounds *r*.) So, we take it, a counterexample to either proposal is a counterexample to the other.

{Socrates} isn't partly grounded in any other fact about its unconstrained consequential essence, then on the unconstrained Fine–Rosen proposal *being a set* is in the constitutive essence of {Socrates}.

On the unconstrained Fine–Rosen proposal, the patterns of partial grounding that matter involve facts about certain properties. But the facts in question aren't directly about whether some object has those properties, so to speak. Rather, the facts in question are about whether those properties are in that object's unconstrained consequential essence. For example, what matters on the unconstrained Fine–Rosen proposal is not whether the fact that {Socrates} has *being a set* partly grounds the fact that {Socrates} has *being either a set or a set*; rather, what matters on that proposal is whether the fact that the first property is in the unconstrained consequential essence of {Socrates} partly grounds the fact that the second property is, too.[26]

4. Some problems

4.1. A problematic case

We think that, on the unconstrained Fine–Rosen proposal, constitutive essence includes too much. In particular, it includes properties that, on the central notion of essence, are not essential.

Suppose that it's a logical truth that, for any object *x* and any property *F*, either *x* has *F* or it's not the case that *x* has *F*. In that case, *being such that, for any object x and any property F, either x has F or it's not the case that x has F* is a logical consequence of any property *G* whatsoever. (That's because, for any object *y*, it's a logical truth that, if *y* has *G*, then *y* has *being such that, for any object x and any property F, either x has F or it's not the case that x has F*.) So *being such that, for any object x and any property F, either x has F or it's not the case that x has F* is in Socrates's unconstrained consequential essence.

In that case, the following fact obtains.

> *(Unconstrained Universal Fact)* Socrates's unconstrained consequential essence includes *being such that, for any object x and any property F, either x has F or it's not the case that x has F*.

On the unconstrained Fine–Rosen proposal, unless (Unconstrained Universal Fact) is partly grounded in some fact about Socrates's unconstrained consequential essence, *being such that, for any object x and any property F, either x*

[26]Otherwise, on the unconstrained Fine–Rosen proposal any brute fact (or, more precisely, any fact that isn't partly grounded in some other fact) would be reflected in the constitutive essence of every object. We owe this observation to Gabe Rabin.

has F or it's not the case that x has F will be in Socrates's constitutive essence. But, on the central notion of essence, that property doesn't belong among his essential properties.

So, on the unconstrained Fine–Rosen proposal, (Unconstrained Universal Fact) needs to be partly grounded in some fact about Socrates's unconstrained consequential essence. But what? (Unconstrained Universal Fact) can't be partly grounded in just any fact about Socrates's unconstrained consequential essence that entails it; partial grounding is an explanatory relation, but entailment is not. And (Unconstrained Universal Fact) cannot partly ground itself; that would violate the irreflexivity of partial grounding, which Fine and Rosen are both committed to. (See note 21.)

We consider four grounding options, some less plausible than others. The main problem, as we see it, is that the ability of logical consequence to put properties in an object's unconstrained consequential essence outstrips the ability of partial grounding, as used in the unconstrained Fine–Rosen proposal, to take those properties out. We suspect that the Fine–Rosen proposal strands many unfitting properties in objects' constitutive essences. The case of (Unconstrained Universal Fact) illustrates this problem.

4.2. Option 1: essences

Some universal generalizations are grounded in facts about essences. For example, the fact that every triangle has three angles might be grounded in a fact about the essence of triangles (Rosen 2010, 119). Similarly, the fact that, for any object *x* and any property *F*, either *x* has *F* or it's not the case that *x* has *F* might be grounded in facts about the essences of certain logical concepts.[27] More specifically, that fact might be grounded in the fact that it lies in the unconstrained consequential essence of universal quantification, disjunction, and negation to be such that, for any object *x* and any property *F*, either *x* has *F* or it's not the case that *x* has *F*.

If this pattern of grounding is reflected in essence, then perhaps (Unconstrained Universal Fact) is grounded in something like the following fact.

> *(Unconstrained Logical Fact 1)* Socrates's unconstrained consequential essence includes *being such that it lies in the unconstrained consequential essence of universal quantification, disjunction, and negation to be such that, for any object x and any property F, either x has F or it's not the case that x has F*.

[27]This is reminiscent of Fine's claim that a logical truth is one that is true in virtue of the nature of logical concepts. (See Appendix 1.) But there are differences. See Rosen (2010, 119 n. 10.)

And, if (Unconstrained Universal Fact) is grounded, and hence partly grounded, in (Unconstrained Logical Fact 1), then on the unconstrained Fine–Rosen proposal *being such that, for any object x and any property F, either x has F or it's not the case that x has F* isn't in Socrates's constitutive essence.

But now we can ask what partly grounds (Unconstrained Logical Fact 1). If there is no further fact about Socrates's unconstrained consequential essence that partly grounds (Unconstrained Logical Fact 1), then on the unconstrained Fine–Rosen proposal Socrates's constitutive essence includes *being such that it lies in the unconstrained consequential essence of universal quantification, disjunction, and negation to be such that, for any object x and any property F, either x has F or it's not the case that x has F*. But, on the central notion of essence, that property doesn't belong among Socrates's essential properties.

4.3. Options 2 and 3: logical truths and arbitrary objects

Perhaps (Unconstrained Universal Fact) is grounded in a pair of facts, a particular one about logical truths and a general one about Socrates's unconstrained consequential essence, perhaps something like the following two facts.[28]

> *(Additional Fact 1)* It is a logical truth that, for any object *x* and any property *F*, either *x* has *F* or it's not the case that *x* has *F*.
>
> *(Unconstrained Logical Fact 2)* It lies in Socrates's unconstrained consequential essence that all logical truths are reflected in Socrates's unconstrained consequential essence.

Or perhaps (Unconstrained Universal Fact) is grounded in a fact about arbitrary objects, perhaps something like the following fact.[29]

> *(Unconstrained Arbitrary Fact)* For a given arbitrary object *x*, Socrates's unconstrained consequential essence includes *being such that, for any property F, either x has F or it's not the case that x has F*.

In either case, (Unconstrained Universal Fact) would be partly grounded in a fact about Socrates's unconstrained consequential essence, as desired.

But now we can ask what partly grounds (Unconstrained Logical Fact 2) or (Unconstrained Arbitrary Fact). If there is no further fact about Socrates's unconstrained consequential essence that partly grounds those facts, then on the unconstrained Fine–Rosen proposal Socrates's constitutive essence includes either a property about the relation between logical truths and

[28]Thanks to Gabe Rabin for a suggestion along these lines.
[29]Thanks to Einar Duenger Bøhn for a suggestion along these lines. On arbitrary objects, see Fine (1985; 2016).

Socrates's own unconstrained consequential essence or a property about arbitrary objects. But, on the central notion of essence, neither property belongs among his essential properties.

4.4. Option 4: instances

Some universal generalizations are partly grounded in their instances (Rosen 2010, 118, 120–121; Fine 2012a, 60–62). For example, the fact that every member of {Socrates, Plato} is rational is partly grounded in the fact that Socrates is rational. If this pattern of grounding is reflected in essence, then perhaps (Unconstrained Universal Fact) is partly grounded in what, loosely speaking, one might describe as one of its instances.[30]

For example, suppose that it's a logical truth that Socrates is either a philosopher or not a philosopher. In that case, *being such that Socrates is either a philosopher or not a philosopher* is a logical consequence of any property whatsoever. So *being such that Socrates is either a philosopher or not a philosopher* is in Socrates's unconstrained consequential essence. In that case, the following fact obtains.

> *(Unconstrained Instance Fact 1)* Socrates's unconstrained consequential essence includes *being such that Socrates is either a philosopher or not a philosopher*.

And perhaps (Unconstrained Universal Fact) is partly grounded in (Unconstrained Instance Fact 1).

But, if (Unconstrained Instance Fact 1) partly grounds (Unconstrained Universal Fact), then it must be among some facts that collectively ground (Unconstrained Universal Fact). In general, if a universal generalization is partly grounded in one of its instances, then it's grounded in all of its instances together with some further fact, perhaps a totality fact to the effect that those are all of its instances.[31] For example, if the fact that every member of {Socrates, Plato} is rational is partly grounded in the fact that Socrates is rational, then it's grounded in the fact that Socrates is rational, the fact that Plato is rational, and some further fact, perhaps a totality fact to the effect that Socrates and Plato are all the members of the set {Socrates, Plato}.

[30]A bit more formally, here we are taking '*Fa*' to be an instance of '$\forall x Fx$', and we are taking '$E(Fa)$' to be an instance of '$E(\forall x Fx)$', where 'E' is an essence operator of some kind.

[31]The totality fact is needed if – as Fine (2012a, 38) and Rosen (2010, 118) accept – grounding requires that the grounding facts necessitate the grounded fact. For views on which grounding doesn't require that, see, for example, Leuenberger (2014); Skiles (2015a). For a view on which totality facts aren't needed for universal truths, (see Lewis 1992, 201–207; Bricker 2006).

If this pattern of grounding is reflected in essence, then (Unconstrained Universal Fact) would need to be partly grounded in other instances, including the following fact.

> *(Unconstrained Instance Fact 2)* Socrates's unconstrained consequential essence includes *being such that Elle is either an electron or not an electron*.

If it's a logical truth that Elle is either an electron or not an electron, then *being such that Elle is either an electron or not an electron* is a logical consequence of any property whatsoever, and hence is in Socrates's unconstrained consequential essence.

But now we can ask what partly grounds (Unconstrained Instance Fact 2). If it's not grounded in any further fact about Socrates's unconstrained consequential essence, then the unconstrained Fine–Rosen proposal strands *being such that Elle is either an electron or not an electron* in Socrates's constitutive essence. On the central notion of essence, that property doesn't belong among his essential properties.

Perhaps some fact about Socrates's unconstrained consequential essence partly grounds (Unconstrained Instance Fact 2). But what? (Unconstrained Instance Fact 2) can't be partly grounded in itself; that would violate the irreflexivity of partial grounding. It also can't be partly grounded in (Unconstrained Universal Fact). On Option 4, (Unconstrained Universal Fact) is partly grounded in (Unconstrained Instance Fact 2); so, if (Unconstrained Instance Fact 2) were partly grounded in (Unconstrained Universal Fact), that would violate the asymmetry of partial grounding, which Fine and Rosen are both committed to. (See note 21.)

Disjunctions are grounded in their disjuncts (Rosen 2010, 117; Fine 2012a, 58–59). If that pattern of grounding is reflected in essence, then perhaps (Unconstrained Instance Fact 2) is grounded in the following putative fact.[32]

> *(Disjunct Fact)* Socrates's unconstrained consequential essence includes *being such that Elle is an electron*.

(Elle, we can suppose, is indeed an electron. And we are again speaking loosely in describing (Disjunct Fact) as a disjunct of (Unconstrained Instance Fact 2).[33])

Perhaps there is no such fact as (Disjunct Fact); *being such that Elle is an electron* is not obviously a logical consequence of anything in Socrates's unconstrained consequential essence. In that case, (Disjunct Fact) can't ground (Unconstrained Instance Fact 2).

[32]Thanks to anonymous referees for suggestions along these lines.
[33]A bit more formally, here we are taking '*P*' to be a disjunct of '*P*∨*Q*', and we are taking '*E*(*P*)' to be a disjunct of '*E*(*P*∨*Q*)', where '*E*' is an essence operator of some kind. See note 30.

But suppose that *being such that Elle is an electron* is a logical consequence of something in Socrates's unconstrained consequential essence. That is, suppose that there is such a fact as (Disjunct Fact). What partly grounds it? If there is no further fact about Socrates's unconstrained consequential essence that partly grounds (Disjunct Fact), then on the unconstrained Fine–Rosen proposal Socrates's constitutive essence includes *being such that Elle is an electron*. But, on the central notion of essence, that property doesn't belong among his essential properties.

4.5. Summary

We've canvassed four options. The first option succeeds in partly grounding (Unconstrained Universal Fact) in a fact about the unconstrained consequential essences of logical concepts; but, unless that fact is partly grounded in some further fact about Socrates's unconstrained consequential essence, the unconstrained Fine–Rosen proposal strands an unwanted property about the unconstrained consequential essences of logical concepts in Socrates's constitutive essence. Similarly, the second and third options might succeed in partly grounding (Unconstrained Universal Fact) in facts about logical truths or arbitrary objects; but, unless those facts are partly grounded in some further fact about Socrates's unconstrained consequential essence, the unconstrained Fine–Rosen proposal strands other unwanted properties in Socrates's constitutive essence, either properties about Socrates's own unconstrained consequential essence or properties about arbitrary objects. The fourth option succeeds in partly grounding (Unconstrained Universal Fact) in a disjunctive fact, and it might perhaps succeed in partly grounding that disjunctive fact in one of its disjuncts. But, unless that disjunct is partly grounded in some further fact about Socrates's unconstrained consequential essence, the unconstrained Fine–Rosen proposal strands an unwanted property about an unrelated object in Socrates's constitutive essence. In any case, constitutive essence includes too much on the unconstrained Fine–Rosen proposal.

5. Constraints

5.1. A constraint

Fine (1995c, 58–61) proposes a constraint on *which* logical consequences affect consequential essence. In particular, he proposes to exclude logical consequences that involve what he calls 'extraneous objects', objects that,

in a certain sense, can be 'generalized away' (Fine 1995c, 59). Here, we rely on an intuitive understanding of when an object is extraneous.[34] To use one of Fine's (1995b, 277, 1995c, 59) examples, suppose that it's a logical truth that 2 = 2.[35] In that case, *being such that 2 = 2* is a logical consequence of any property whatsoever. But, on Fine's view, there is a form of consequential essence such that Socrates's consequential essence of that form doesn't include *being such that 2 = 2*.

This gives us what Fine (1995c, 59) calls 'the constrained conception' of consequential essence.[36] For any object *x*, any properties *FF*, and any property *G*, *G* is in *x*'s constrained consequential essence if (i) *FF* are in *x*'s constrained consequential essence, (ii) *G* is a logical consequence of *FF*, and (iii) *G* doesn't involve any objects extraneous to *x*.

But, as Livingstone-Banks (2017, 10–11) and others have noted, constrained consequential essence includes too much.[37] In particular, the example from Section 2.2 affects constrained consequential essence just as much as it affects unconstrained consequential essence. The property in question – *being either a wrought-iron tower in a francophone country or not a wrought-iron tower in a francophone country* – is general. It doesn't involve any objects, so it doesn't involve any extraneous ones. So it's in Socrates's constrained consequential essence. But, on the central notion of essence, that property shouldn't be among his essential properties.

5.2. The constrained Fine–Rosen proposal

In proposing to define constitutive essence in 'Guide to Ground' and 'Real Definition', Fine and Rosen might have constrained consequential essence, rather than unconstrained consequential essence, in mind.[38] So perhaps they are endorsing the following proposal.[39]

> *The constrained Fine–Rosen proposal:* For any property *F* and any object *x*, *F* is in *x*'s constitutive essence $=_{df}$ (i) *F* is in *x*'s constrained consequential essence, and

[34]For details on the method of generalizing away, (see Fine 1995b, 277–278, 1995c, 59.) (See also Koslicki 2012a, 192–193 n. 3, 2012b, 193 n. 8; Livingstone-Banks 2017, 10.)

In 'Senses of Essence,' Fine (1995c, 59–60) seems to use the method to distinguish constrained and unconstrained consequential essence. (See Koslicki 2012a, 192–193.) By contrast, in 'Ontological Dependence,' Fine (1995b, 277–278) seems to use the method to define constitutive essence from consequential essence. (See Koslicki 2012b, 192–194; Dasgupta 2014, 589 n. 46. And see note 22.)

[35]For similar examples, (see Fine 1995a, 242, 2000, 543.)

[36]Koslicki (2012a, 193, 2012b, 193) calls it 'restricted consequential essence'.

[37]See note 10 on Oderberg (2011) and Koslicki (2012a, 2012b). And see Appendix 2.

[38]For further discussion, see Appendix 2.

[39]For qualifications, see note 25.

(ii) it's not the case that there is a property *G* such that the fact that *F* is in *x*'s constrained consequential essence is partly grounded in the fact that *G* is in *x*'s constrained consequential essence.

The constrained Fine–Rosen proposal fares no better than the unconstrained Fine–Rosen proposal. While the constrained Fine–Rosen proposal directly excludes properties with extraneous objects from Socrates's constitutive essence, it offers fewer resources with which to exclude other unwanted properties; condition (ii) of the constrained Fine–Rosen proposal is limited to constrained rather than unconstrained consequential essence.

As before, suppose that *being such that, for any object x and any property F, either x has F or it's not the case that x has F* is a logical consequence of any property whatsoever. Since that property is general, it doesn't involve any objects and hence doesn't involve any extraneous ones. So it's in Socrates's constrained consequential essence. In that case, the following fact obtains.

(Constrained Universal Fact 1) Socrates's constrained consequential essence includes *being such that, for any object x and any property F, either x has F or it's not the case that x has F*.

On the constrained Fine–Rosen proposal, unless (Constrained Universal Fact 1) is partly grounded in some fact about Socrates's constrained consequential essence, *being such that, for any object x and any property F, either x has F or it's not the case that x has F* will be in Socrates's constitutive essence. But what might partly ground (Constrained Universal Fact 1)?

Options 1–3 are familiar from the case of (Unconstrained Universal Fact) in Section 4; Option 4 works a little differently in this case.

5.2.1. Options 1–3

Perhaps (Constrained Universal Fact 1) is grounded in something like the following fact.

(Constrained Logical Fact 1) Socrates's constrained consequential essence includes *being such that it lies in the constrained consequential essence of universal quantification, disjunction, and negation to be such that, for any object x and any property F, either x has F or it is not the case that x has F*.

Universal quantification, disjunction, and negation are concepts rather than objects, so perhaps they don't count as extraneous objects.

Or perhaps (Constrained Universal Fact 1) is grounded in the following two facts.

(Constrained Logical Fact 2) It lies in Socrates's constrained consequential essence that all general logical truths are reflected in Socrates's constrained consequential essence.

(Additional Fact 2) It is a general logical truth that, for any object *x* and any property *F*, either *x* has *F* or it's not the case that *x* has *F*.

Socrates isn't extraneous to himself, so *being such that all general logical truths are reflected in Socrates's constrained consequential essence* might be in his constrained consequential essence. (A general logical truth is one that doesn't involve any objects.)

Or perhaps (Constrained Universal Fact 1) is grounded in the following fact.

> *(Constrained Arbitrary Fact)* For a given arbitrary object *x*, Socrates's constrained consequential essence includes *being such that, for any property F, either x has F or it's not the case that x has F*.

On any of these options, (Constrained Universal Fact 1) is partly grounded in a further fact about Socrates's constrained consequential essence, as desired.

But what partly grounds this further fact? What partly grounds (Constrained Logical Fact 1), or (Constrained Logical Fact 2), or (Constrained Arbitrary Fact)? If there is no further fact about Socrates's constrained consequential essence that partly grounds these facts, then the constrained Fine–Rosen proposal strands an unwanted property in Socrates's constitutive essence: either a property about the constrained consequential essences of logical concepts, or a property about Socrates's own constrained consequential essence, or a property about arbitrary objects.

5.2.2. Option 4

As before, suppose that *being such that Socrates is either a philosopher or not a philosopher* is a logical consequence of any property whatsoever. That property doesn't involve any objects that are extraneous to Socrates. So *being such that Socrates is either a philosopher or not a philosopher* is in Socrates's constrained consequential essence. In that case, the following fact obtains.

> *(Constrained Instance Fact 1)* Socrates's constrained consequential essence includes *being such that Socrates is either a philosopher or not a philosopher*.

And perhaps (Constrained Universal Fact 1) is partly grounded in (Constrained Instance Fact 1).

But, if (Constrained Instance Fact 1) partly grounds (Constrained Universal Fact 1), then it must be among some facts that collectively ground (Constrained Universal Fact 1). These facts would presumably include other instances of (Constrained Universal Fact 1), including the following putative fact.

> *(Constrained Instance Fact 2)* Socrates's constrained consequential essence includes *being such that the Eiffel Tower is either in France or not in France*.

But the Eiffel Tower is an extraneous object, so there is no such fact about Socrates's constrained consequential essence. Since partial grounding is factive and there is no such fact, (Constrained Universal Fact 1) isn't partly

grounded in such a fact, in which case it isn't partly grounded in (Constrained Instance Fact 1) either.

Perhaps (Constrained Universal Fact 1) isn't partly grounded in (Constrained Instance Fact 2); perhaps (Constrained Universal Fact 1) is instead grounded in (Constrained Instance Fact 1) together with some additional facts that are not about Socrates's constrained consequential essence.[40] But what might these additional facts be? Perhaps they are something like the following facts.

> *(Additional Fact 2)* It is a general logical truth that, for any object *x* and any property *F*, either *x* has *F* or it's not the case that *x* has *F*.

> *(Additional Fact 3)* Every general logical truth is reflected in Socrates's constrained consequential essence.

But (Additional Fact 2) and (Additional Fact 3) might suffice to ground (Constrained Universal Fact 1) on their own, and grounding is non-monotonic. That (Constrained Universal Fact 1) is grounded in (Additional Fact 2) and (Additional Fact 3) doesn't entail that it is also grounded in (Additional Fact 2), (Additional Fact 3), and (Constrained Instance Fact 1) collectively. And perhaps (Additional Fact 2), (Additional Fact 3), and (Constrained Instance Fact 1) don't collectively ground (Constrained Universal Fact 1).

5.3. Further constraints?

Proponents of the constrained Fine–Rosen proposal might impose further constraints on which logical consequences affect constrained consequential essence in an attempt to prevent there being such a fact as (Constrained Universal Fact 1) in the first place. For example, they might say that logical truths aren't directly reflected in constrained consequential essence. More precisely, they might say that, for any object *x*, any properties *FF*, and any property *G*, *G* is in *x*'s constrained consequential essence if (i) *FF* are in *x*'s constrained consequential essence, (ii) *G* is a logical consequence of *FF*, (iii) *G* doesn't involve any objects extraneous to *x*, and (*iv*) *G* isn't the property *being such that P*, for some logical truth *P*. In that case, there need not be such a fact as (Constrained Universal Fact 1).[41]

But there would still be such a fact as the following fact.

> *(Constrained Universal Fact 2)* Socrates's constrained consequential essence includes *being rational and such that, for any object x and any property F, either x has F or it's not the case that x has F*.

[40]Thanks to Gabe Rabin for a suggestion along these lines.
[41]Thanks to Einar Duenger Bøhn and Gabe Rabin for suggestions along these lines.

Socrates's constrained consequential essence presumably includes *being rational*; and, for any object *y*, it's a logical truth that, if *y* has *being rational*, then *y* has *being rational and such that, for any object x and any property F, either x has F or it's not the case that x has F*. (Clause (*iv*) doesn't rule this out, since it doesn't rule out *being rational and such that P*, for some logical truth *P*.)

But, as before, what partly grounds (Constrained Universal Fact 2)? If there is no further fact about Socrates's constrained consequential essence that partly grounds (Constrained Universal Fact 2), then on the constrained Fine–Rosen proposal Socrates's constitutive essence includes *being rational and such that, for any object x and any property F, either x has F or it's not the case that x has F*. But, on the central notion of essence, that property doesn't belong among his essential properties.

Proponents of the constrained Fine–Rosen proposal might say that (Constrained Universal Fact 2) is partly grounded in the following fact.

> *(Conjunct Fact)* Socrates's constrained consequential essence includes *being rational*.

And there is such a fact as (Conjunct Fact). (We are speaking loosely in describing (Conjunct Fact) as a conjunct of (Constrained Universal Fact 2).[42])

But, if (Conjunct Fact) partly grounds (Constrained Universal Fact 2), then it must be among some facts that collectively ground (Constrained Universal Fact 2). In general, if a conjunction is partly grounded in one of its conjuncts, then it's grounded in all of its conjuncts together (Fine 2012a, 58). For example, if the fact that Socrates is rational and Plato is rational is partly grounded in the fact that Socrates is rational, then it's grounded in the fact that Socrates is rational together with the fact that Plato is rational.

If this pattern of grounding is reflected in essence, then (Constrained Universal Fact 2) would need to be partly grounded in its other conjunct. But its other conjunct is (Constrained Universal Fact 1); and, on the response under consideration, there is no such fact. So (Constrained Universal Fact 2) isn't partly grounded in such a fact, in which case it isn't partly grounded in (Conjunct Fact) either.

6. Conclusion

Constrained and unconstrained consequential essence are closed under logical consequence in some way. As we see it, this is the source of the

[42] A bit more formally, here we are taking '*P*' to be a conjunct of '*P*∧*Q*', and we are taking '*E*(*P*)' to be a conjunct of '*E*(*P*∧*Q*)', where '*E*' is an essence operator of some kind. See notes 30 and 33.

problem. Because they're closed under logical consequence in some way, constrained and unconstrained consequential essence include too much: they both include properties that, on the central notion of essence (what Fine calls 'the notion of essence which is of central importance to the metaphysics of identity'), are not essential.

The Fine–Rosen proposal starts with some form of consequential essence and attempts to use partial grounding to filter out unwanted properties to end up with constitutive essence: if the fact that some property is in an object's constrained or unconstrained consequential essence is partly grounded in the right way, then that property is not in that object's constitutive essence. The problem is that partial grounding cannot remove all of the unwanted properties that logical consequence (perhaps subject to constraints) allows in. It seems almost inevitable, then, that on the Fine–Rosen proposal constitutive essence is going to end up including properties that, on the central notion of essence, are not essential.

Proponents of the Fine–Rosen proposal might try adding additional constraints, or taking the relevant notion of logical consequence to be non-classical in some way.[43] But constitutive essence still will include too much on such modifications of the Fine–Rosen proposal, as long as the relevant notion of logical consequence can add more properties than the relevant constraints and relevant applications of partial grounding can remove.

Perhaps, despite the difficulty of drawing the line between constitutive essence, on the one hand, and constrained or unconstrained consequential essence, on the other, constitutive essence should be taken to be primitive instead.[44]

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[43]Thanks to Einar Duenger Bøhn for a suggestion along these lines.

[44]See Dasgupta (2014, 589), Koslicki (2012b, 195, 2013, 56 n. 29) and Correia (2013, 286–287) also seem sympathetic to the idea of taking constitutive essence to be primitive.

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Appendix 1. Properties, propositions, and operators

It is somewhat controversial to take the distinction between what is essential and what is necessary to apply to properties. Doing so incurs ontological commitments to properties. We are not troubled by such commitments. In taking the distinction as we do, we take ourselves to follow Fine (1994, 3, 6), who talks about whether or not a property is 'an essential property' of an object, and about what it is 'for an object to have a property essentially'.[45]

One could avoid such ontological commitments by using predicate modifiers, like 'necessarily' and 'essentially', or sentential operators, like 'It is necessary that' and 'It lies in the essence of Socrates that', to express claims about necessity and essence (Fine 1995c, 53–56, 60–61, 71 n. 9). In Fine's formulation, the sentential operator for essence would be 'It is true in virtue of the identity of Socrates that' or 'It is true in virtue of the nature of Socrates that' rather than 'It lies in the essence of Socrates that'.[46] For Fine (1995b, 273), 'It is true in virtue of the nature of Socrates' is not to be analyzed in terms of 'in virtue of' and 'nature'; rather, the sentential operator is taken to 'indicate an unanalyzed relation between an object and a proposition'.[47]

More recently, in part in response to Correia 2006, Fine (2015, 297–301) has suggested using a two-place connective, 'an essentialist arrow', to express claims about essence. One could also avoid ontological commitment to properties by using that two-place connective.

Those who approach essence via sentential operators instead of via properties could take the essence of an object *x* to be a set of propositions such that, for any proposition *P*, *P* is a member of that set if and only if *P* is the proposition that *x* has *F*, for some property *F* such that it lies in *x*'s essence to have *F*. We take it that this is the sort of view that Fine (1995c, 55) has in mind when he says, 'one might regard the essence of an object as the class of its essential properties or as the class of propositions true in virtue of what the object is'.[48] Rosen (2015b, 195–197) conceives of essence in terms of propositions rather than in terms of properties. We find it more natural to conceive of essence in terms of properties than in terms of propositions, but we suspect that nothing much hangs on the choice.[49]

Appendix 2. Constrained and unconstrained consequential essence in the literature

Most who write on consequential essence don't explicitly distinguish constrained and unconstrained (or, in Koslicki's terminology, 'restricted' and 'unrestricted') consequential essence. Koslicki (2012a, 2012b) does; but Gorman (2005), Oderberg (2007), Livingstone-Banks (2017), and Tahko (forthcoming), for example, do not. Tahko and Gorman don't explicitly mention any constraints on which logical consequences affect consequential essence, so perhaps they have unconstrained consequential essence in

[45]See also Fine (1994, 1, 4, 7, 8, 9, 13).
[46]See also (Fine 1995a, 241–242, 1995b, 273, 2000, 543).
[47]See also (Fine 1995c, 69 n. 2).
[48]See also (Fine 1995b, 276).
[49]Thanks to Jon Erling Litland and an anonymous referee here.

mind. Oderberg (2011, 99–100) and Livingstone-Banks (2017, 10) explicitly mention constraints on which logical consequences affect consequential essence; it seems that they have both constrained and unconstrained consequential essence in mind. In 'Essence, Necessity, and Explanation', Koslicki (2012a) considers constrained consequential essence; but, in 'Varieties of Dependence', Koslicki (2012b) might be considering both constrained and unconstrained consequential essence.

It is not clear whether, in proposing to define constitutive essence in 'Guide to Ground' and 'Real Definition', Fine and Rosen have constrained or unconstrained consequential essence in mind. In 'Guide to Ground', Fine (2012a) doesn't explicitly mention any constraints on which logical consequences affect consequential essence. He describes 'a "consequentialist" conception of essence' as 'one in which the essentialist truths are taken to be closed under some notion of logical consequence' (Fine 2012a, 78). Perhaps in using the phrase 'some notion of logical consequence' (rather than 'logical consequence' *simpliciter*) he means to allow for the possibility of constraints on which logical consequences affect consequential essence; but perhaps not. In 'Real Definition', Rosen (2015b) doesn't explicitly mention any constraints on which logical consequences affect consequential essence. He says simply, 'The consequential essence of *x* is a class of propositions closed under logical consequence' (Rosen 2015b, 195). (Rosen is conceiving of essence in terms of propositions rather than in terms of properties. See Appendix 1.) Perhaps he is tacitly assuming that there are constraints on which logical consequences affect consequential essence; but perhaps not. For this reason, we consider both the unconstrained Fine–Rosen proposal (in Sections 3 and 4) and the constrained Fine–Rosen proposal (in Section 5).