

A Ground-theoretical Modal Definition of Essence

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Julio De Rizzo

Abstract: I provide a case-by-case definition of essential truths based on the notions of metaphysical necessity and ontological dependence. Relying on suggestions in the literature, I adopt a definition of the latter notion in terms of the notion of ground. The resulting account is adequate in the sense that it is not subject to Kit Fine's famous counterexamples to the purely modal account of essence. In addition, it provides us with a novel conception of truths pertaining to the essence of objects, which might help to dispel doubts on the legitimacy of the notion of essence itself.

1. Introduction

The notion of essence has a long history. In one of its chapters, Kit Fine (Fine 1994a) famously argued that a purely modal account of essential claims is fundamentally misguided, and developed a theory in which the notion of essence appears as a primitive.

However, even if Fine's criticism of the modal account is taken for granted, resorting to primitivism is surely not the only option available. In this paper, I present a definition of essentialist claims in terms of *metaphysical necessity* and *ontological dependence*. Relying on suggestions in the literature, I adopt a definition of the latter in terms of *ground*. As a whole, then, I offer a ground-theoretical modal account of essence.

In simplified form, the idea underlying the account is to define truths belonging to the essence of an object *O* as the necessary truths that concern solely *O* or objects upon which *O* ontologically depends. It bears noticing that this reverses the order of analysis of two prominent Finean proposals, according to which i) *p* is a necessary truth if and only if *p* belongs to the essence of every object (Fine 1994a); and ii) an object *O* ontologically depends on an object *O'* if and only if *O'* is a constituent of a proposition that belongs to the essence of *O* (Fine 1994c).

For reasons of space, I will not discuss the merits of these and other proposals available (see Wildman 2018; Koslicki 2012). Instead of a proper defence, the more modest aim of this paper is to present an as yet unexplored stance on essence and on how it relates to commonly associated notions. By way of motivation for the account, however, let me briefly highlight four scores on which it might be attractive.

Firstly, it suggests a novel way of conceiving of essential truths based on *modality* and *ground*, which is of significance to those who find the latter legitimate, while having doubts on the notion of essence itself.

Secondly, it provides a way of fixing the extension of essential truths that accord with a *constitutive*, as opposed to a *consequentialist* conception of essence, in terms of independent notions, a task which has been acknowledged as challenging in the literature (Fine 1994c: 276-277.; Nutting et. al. 2018).

Thirdly, to mention a point of comparison with the Finean accounts, Fine's own primitive account of essence is oriented by the notion of *definition* (1994a, 1994b). But arguably, we evaluate definitions according to whether they get the order of ontological priorities right, that is, it is a constraint on definitions that prior objects figure in the definition of posterior ones. However, essentialist accounts of ontological dependence suggest that we read off *from definitions* what is ontologically dependent on what. Accordingly, rather than an independent principle governing definitions, the constraint is actually *derivative* upon them. This is not only strange in itself, but it is also arguably at odds with the intuitions we might appeal to when evaluating definitional or essentialist claims in accord with Fine's widely accepted assessment. Thus, one might sensibly ask, for instance, why is it not essential to Socrates that he belongs to his singleton? With the aid of ontological dependence, a straightforward and intuitively acceptable answer suggests itself, namely, that the singleton *depends on* Socrates, and by the model of definition, an object's essence should not concern any of its dependants. While this is

far from settling the matter, it surely points to a direction of priority of ontological dependence over essence, which the account proposed below vindicates.

Finally, the account has something to offer for non-primitivists about essence as well. The most prominent definitions of essence in response to Fine's criticism appeal to restrictions on *properties* necessarily instantiated by the objects whose essence is stated, be it in terms of *sparse* properties (Cowling 2013, Wildman 2013), or of *intrinsic* properties (Denby 2014).¹ There are pressing problems with these accounts (see e.g. Skiles 2015, Zylstra 2019a). For present purposes, it suffices to highlight that they incur substantial metaphysical commitments, and thus are considerably less flexible than the account presented below. For one, it is deeply controversial whether abundant or extrinsic properties pertain to the essences of objects, which these accounts exclude outright. On the other hand, these views either have consequences in conflict with Fine's criticism, or else call for intricate amendments to accommodate it.² The proposal developed below is not beset by these problems, and presents a more neutral alternative to non-primitivists at arguably lower cost.

In §2, I will briefly introduce and lay bare some assumptions concerning the notions to be employed. In §3, I will then present the definition of essence followed by a discussion of its features and prospects in dealing with the counterexamples in Fine's criticism of the purely modal account, and an indication of possible extensions to quantified and modal truths. The final section concludes the discussion.

2. Essence, ontological dependence and ground

¹ Torza (2015) demonstrates that purely modal accounts cannot do justice to Fine's criticism, but must resort to stronger, hyperintensional notions, as in the case of these accounts and the one developed below.

² See De Melo (2019) and Bovey (forthcoming) for recent proposals building on the papers cited before.

Let us start by introducing the notion of essence. To illustrate, it is part of the essence of {Socrates} that $Socrates \in \{Socrates\}$; it lies in the nature of Socrates that he is self-identical; and it lies in the nature of Socrates and the Eiffel tower, taken together, that they are distinct. Following Fine, I will take essentialist claims to be formulated via the operator ‘it lies in the nature of ... that ...’, where the first blank is filled by names for (non-empty) pluralities of objects - objects ‘taken together’ -, and the second is filled by a declarative sentence. Since I will accept Fine’s counterexamples to the purely modal account, I will furthermore assume that it is *not* the case that it lies in the nature of Socrates that $Socrates \in \{Socrates\}$; and it is *not* the case that it lies in the nature of Socrates alone that he is distinct from the Eiffel tower (and analogous cases).

In Fine (1994b) and elsewhere, an important distinction is drawn between *constitutive* and *consequentialist* conceptions of essence. In short, under a consequentialist conception, statements of essence are closed under logical consequence, while under a constitutive conception, given that essential truths thus understood are meant to be ‘directly definitive of objects’ they pertain to, they are not. Thus, for instance, under the consequentialist conception, it lies in the nature of Socrates that he is human $\wedge 2=2$, since it lies in his nature that he is human, and it is logically true that $2=2$; moreover, it lies in the nature of Socrates that Plato is Greek $\vee \sim (\text{Plato is Greek})$, since this logically follows from every essential claim of his. While it is generally acknowledged that a constitutive conception is more commonly targeted by essentialist claims, including those underpinning Fine’s criticism of the purely modal account (Fine 1994b; Livingstone-Banks 2017; Zylstra 2019c), Fine himself recognizes the difficulty of specifying the notion satisfactorily, and writes that ‘there is still considerable doubt as to how the concept of constitutive essence is to be understood’ (Fine 1994b: 57-58; Fine 1994c: 276-277; see Koslicki 2012 and Nutting et. al. 2018 for discussion). It is noteworthy that the definition below captures a constitutive conception, which in light of these remarks should raise interest for the present account.

Let us turn to ontological dependence. It is usually contended that a set ontologically depends ('depends' for short) on its members, that is, in particular, {Socrates} depends on Socrates himself (Fine 1994c); that a fictional character depends upon its creator, e.g. that Sherlock Holmes depends on Conan Doyle (Thomasson 1998, 35-38); that a person depends upon their parents, for instance, that Socrates depends on Phaenarete and Sophroniscus (Kripke 1980, 112-114); and so on. (These are intended solely as illustrative examples.)

That an object depends on another builds upon the fact that the former's existence is somehow determined by a true claim concerning the latter. A natural way to make this precise resorts to the notion of *grounding*, a distinctive form of objective and non-causal explanation expressible by 'because' (Correia & Schnieder 2012). Thus {Socrates} depends on Socrates inasmuch as {Socrates} exists *because* Socrates exists; Sherlock Holmes depends on Conan Doyle, since Sherlock Holmes exists *because* Conan Doyle wrote a piece about him; and so on. Following the standard view, it is assumed that 'because' is asymmetric, transitive, and factive in the sense that if a because-claim is true, then the sentences flanking the operator are true as well (Fine 2012).

Importantly, in the previous cases, the dependence in question is rigid: thus {Socrates} not only happens to depend on its member, but *necessarily*, if {Socrates} exists, then it depends on Socrates (similarly with the other examples). In the definition of essence, I will restrict dependence to these latter cases. The rigid notion of ontological dependence to be employed is defined as follows (Correia 2005: 66; Schnieder 2006: 412):³

$\Box \forall x \forall y (x \text{ depends ontologically on } y \leftrightarrow_{df} \exists F \Box (x \text{ exists} \rightarrow (x \text{ exists because } y \text{ is } F)))$

³ The definition employs quantification in the position of general terms, which might in principle be interpreted in a number of familiar ways. Since it has no bearing on present purposes, I will leave this choice open in what follows.

To be sure, a case can be made for a notion that captures contingent dependency claims, such as that a particular table depends on its actual parts. This notion, however, would not do for our purposes. To see this, consider a particular leg on which this table actually depends. Since the table might have existed, while the leg did not, the former depends only contingently on the latter. According to the idea underlying the definition below, a truth lies in the nature of an object whenever the truth necessarily obtains and concerns only the object itself or objects upon which it depends. Thus, take the truth that the leg in question is self-identical. By the definition, this truth lies in the nature of the table. Now since essentialist truths are necessary, it lies in the nature of this table that the leg is self-identical in every possible scenario, including those in which the table fails to be composed by, thereby to ontologically depend on the leg. But this is strange, since in the scenario in question the leg is as extraneous to the table as, say, the Eiffel Tower is with respect to Socrates. The modally stronger notion above is meant to exclude this kind of case.

3. The definition stated

In the statement of the definition, ‘ φ ’, ‘ ψ ’ and ‘ θ ’ stand for formulas; ‘a’, ‘b’ and ‘c’ are used as names for objects; ‘ Γ ’, sometimes with subscripts, stands for pluralities of objects; ‘ \ulcorner ’ and ‘ \urcorner ’ are devices of selective quotation à la Quine. A language equipped with symbols for predicates, names for all individuals, negation, conjunction, disjunction and necessity, with the usual truth-conditions, is supposed fixed; the underlying modal logic is S5.

For ‘ $\ulcorner \varphi(a, b, c, \dots) \urcorner$ ’ a closed formula, in which ‘a, b, c, ...’ is the list of names of individuals that occur in ‘ $\ulcorner \varphi(a, b, c, \dots) \urcorner$ ’; and for non-empty Γ :⁴

⁴ If one places weight on ‘weak’ necessities, that is necessities conditionalized on the existence of entities – e.g., that *if Socrates exists*, then he is human – one might add to 1. cases of the forms ‘ \ulcorner If a, b, c... exist, then $R(a, b, c, \dots)$ \urcorner ’ and ‘ \ulcorner If a, b, c... exist, then $\sim R(a, b, c, \dots)$ \urcorner ’, which would make an exception to the other clauses. (This would *not* make existence essential to

It lies in the nature of Γ that $\varphi(a, b, c, \dots) \leftrightarrow_{df}$

It is necessarily the case that $\varphi(a, b, c, \dots)$; and (henceforth ‘a, b, c, ...’ in ‘ $\varphi(a, b, c, \dots)$ ’ are omitted):

1. for R a predicate, ‘ φ ’ is of the form ‘ $R(a, b, c, \dots)$ ’ or of the form ‘ $\sim (R(a, b, c, \dots))$ ’ and:
 $\forall x (x \text{ is among } a, b, c, \dots \rightarrow \exists y (y \text{ is among } \Gamma \wedge (x=y \vee y \text{ depends ontologically on } x)))$; or
2. ‘ φ ’ is of the form ‘ $\psi \wedge \theta$ ’ or of the form ‘ $\psi \vee \theta$ ’; and for some non-empty $\Gamma_1 \subseteq \Gamma$ and for some non-empty $\Gamma_2 \subseteq \Gamma$ such that $\Gamma_1 \cup \Gamma_2 = \Gamma$:
‘it lies in the nature of Γ_1 that ψ ’ and ‘it lies in the nature of Γ_2 that θ ’ hold; or
3. ‘ φ ’ is of the form ‘ $\sim(\psi \wedge \theta)$ ’ and ‘it lies in the nature of Γ that $(\sim\psi \vee \sim\theta)$ ’ holds; or
4. ‘ φ ’ is of the form ‘ $\sim(\psi \vee \theta)$ ’ and ‘it lies in the nature of Γ that $(\sim\psi \wedge \sim\theta)$ ’ holds; or
5. ‘ φ ’ is of the form ‘ $\sim(\sim\psi)$ ’ and ‘it lies in the nature of Γ that ψ ’ holds.

The idea behind the base clause is clear enough: a truth pertains to the essence of some objects whenever it is logically atomic or a negation of a logically atomic truth which obtains as a matter of necessity; and is such that it contains reference to, or is ‘intuitively about’, only the objects themselves or further objects on which they ontologically depend. The remaining clauses expand this idea to cover logically more complex truths so as to preserve this constraint.

To illustrate, let us go through the usual examples. Consider the claim that it lies in the nature of {Socrates} that $\text{Socrates} \in \{\text{Socrates}\}$. Since {Socrates} exists because Socrates exists, {Socrates} depends ontologically on Socrates. By assumption, it is necessarily the case

every object, but rather only the claim that if they exist, then they exist, which is not problematic.) Notice that, in accord to the definition, one’s conception of essential claims goes hand in hand with one’s conception of necessary claims. That is, an account allowing for only weak necessities is bound to give rise to only weak essential claims – e.g. that it is essential to Socrates that *if he exists*, then he is human –, and only if one allows for ‘strong’ necessities, one gets ‘strong’ essentialist claims, that is claims without the restriction to the existence of the objects in question.

that $\text{Socrates} \in \{\text{Socrates}\}$.⁵ Since $\{\text{Socrates}\} = \{\text{Socrates}\}$ and $\{\text{Socrates}\}$ depends on Socrates, condition 1 is satisfied, and the claim follows. Consider now the claim that it lies in the nature of Socrates that $\text{Socrates} \in \{\text{Socrates}\}$, which should be false. Indeed, in spite of being necessarily true, this claim does not satisfy condition 1, since Socrates does *not* depend on $\{\text{Socrates}\}$. As a final illustration, consider the claim that Socrates is distinct from the Eiffel tower. Again in light of the first condition, it lies in the nature of Socrates and the Eiffel Tower that this claim holds; while the same claim does not pertain to the nature of either object by itself, as expected.

To be sure, a great deal of work is done by the notion of *a name occurring in a sentence* in the definition. One might take issue with this related to possible limitations of the implicit language. In addressing this worry, a straightforward alternative would be to reframe the definition in terms of entities corresponding to whole true sentences, for instance propositions, and objects occurring in them.⁶ While this would inflate the account's commitments, it would nevertheless deliver a definition free of linguistic assumptions.

Note that the definition underwrites a kind of monotonicity principle, also valid in the logic of essence proposed in Fine (1995), with respect to the plurality of objects whose essence is stated. That is, for any sentence p and pluralities of objects Γ and Δ , if \ulcorner it lies in the nature of Γ that $p \urcorner$ is true, then if $\Gamma \subset \Delta$, then \ulcorner it lies in the nature of Δ that $p \urcorner$ is true (see Zylstra 2019b for a defence). Furthermore, clauses 2-5 ensure that essentialist claims are closed under truth-functional operations in the specified sense, which is arguably desirable (Zylstra 2019c). By the same token, the resulting essential truths are not closed under logical consequence, since,

⁵ One could of course rely on the weaker claim that if Socrates exists, then this is the case, so that it lies in the nature of $\{\text{Socrates}\}$ that this holds. An analogous line of reasoning would apply. See footnote 4.

⁶ See (Batchelor 2013) for a concrete suggestion of how to deal with these notions. As mentioned above, (Fine 1994c) relies on an analogous notion when defining ontological dependence in terms of essence.

for instance, for $p \vee \sim p$ to be essential to some objects, both p and $\sim p$ would have to pertain to their nature as well, which cannot be the case. This shows that the resulting account is not consequential in the sense of Fine (1994b), as previously hinted at.

There is a natural distinction between mediate and immediate dependants, that is, objects which depend on a given object by way of depending on another, and objects which depend on a given object without a third ‘mediating’ between them. Thus assuming that Socrates depends on his parents Phaenarete and Sophroniscus, $\{\text{Socrates}\}$ depends mediately on them, given that the set depends on Socrates. (By the definition of ontological dependence stated above, this distinction is mirrored by the one between mediate and immediate grounds. See Fine 2012: 50-51.) As it stands, it is a consequence of the definition of essential claims that some claims lie in the nature of dependants which cite objects on which they only *mediately* depend. Thus, e.g. it lies in the nature of $\{\text{Socrates}\}$ that Socrates is son of Phaenarete and Sophroniscus, or still it lies in the nature of $\{\{\{\text{Socrates}\}\}\}$ that $\text{Socrates} \in \{\text{Socrates}\}$. While it is not clear that we should reject this kind of claim, it is worth mentioning that one obtains a less liberal conception of essence by resorting to *immediate* dependence in clause 1. instead of dependence *simpliciter*.⁷

One might extend the definition to cover essentialist modal claims by adding the clause:⁸

6. $\ulcorner \varphi \urcorner$ is of the form $\ulcorner \Box \psi \urcorner$ or $\ulcorner \Diamond \psi \urcorner$; and \ulcorner it lies in the nature of Γ that $\psi \urcorner$ holds.

⁷ Note that, even with the restriction in place, the account underwrites cases such as that it lies in the nature of $\{\text{Socrates}\}$ that $\text{Socrates} \neq \{\text{Socrates}\}$, or that it lies in the nature of $\{\text{Socrates}, \text{Quine}\}$ that $\text{Socrates} \neq \text{Quine}$. In their favour, it might be highlighted that differences between a set and its members, and between members themselves, are ‘directly definitive’ of sets, just as claims of membership, e.g. that $\text{Socrates} \in \{\text{Socrates}\}$, are.

⁸ Analogous clauses would deal with iterations of essentialist claims. However, it has been a matter of discussion whether the resulting sentences should indeed turn out essential under a constitutive conception (Glazier 2017: 2885). Besides, one might add a separate clause relating the negation of necessities with possibilities of negations, in analogy with the interaction of conjunction, disjunction and negations thereof. I leave these out for simplicity.

Alongside this clause, one might also want to add to the first clause above cases of the forms $\ulcorner \diamond R(a, b, c, \dots) \urcorner$ and $\ulcorner \diamond \sim R(a, b, c, \dots) \urcorner$, in order to make room for contingent possibilities that might nevertheless be essential to their bearers, for instance, that it lies in the nature of Socrates that possibly he is Roman, or that it lies in his nature that possibly he is not Greek.

As for quantifiers, as in Fine's own primitivist account, there are some options one might pursue. Should we take it to be part of the nature of a set that *every* set has the members it has? Or should we grant that it lies in the nature of a particular object that *some* object is distinct from it? Irrespectively of these questions, it seems plausible enough that it does not lie in the nature of Socrates that he is a member of *some* set (for the same reason as it is ruled out that it lies in the nature of Socrates that he is a member of {Socrates}). In the same vein, one might find it plausible that it lies in the nature of {Socrates} that it has *something* as a member.⁹ A natural suggestion in line with these considerations is to let in only quantified claims resulting from, that is quantifying in, 'previously' defined essentialist claims. That is, we add as a further clause to the definition:¹⁰

7. $\ulcorner \phi \urcorner$ is of the form $\ulcorner \forall x \psi(x, a, b, c, \dots) \urcorner$ or of the form $\ulcorner \exists x \psi(x, a, b, c, \dots) \urcorner$;

and \ulcorner it lies in the nature of Γ that $\psi(a^*, a, b, c, \dots) \urcorner$ holds.

(It is assumed that the variable 'x' is substituted for every occurrence of 'a*' in $\ulcorner \psi(a^*, a, b, c, \dots) \urcorner$; and that 'a*' is a name distinct from any of 'a, b, c, ...'.) This clause covers the cases just mentioned. It also allows, for instance, that it lies in the nature of any particular object alone

⁹ In passing, Fine suggests that the latter claim belongs only to the essence of {Socrates} under a consequential reading (Fine 1994c: 276).

¹⁰ Definite descriptions, treated as quantificational expressions, might be dealt with along the same lines. Again, one might want to add separate clauses relating the negation of universally quantified claims with the existentially quantified negations thereof, and conversely.

that every object is self-identical, or that it be part of its nature that some object is self-identical. Again, related questions arise for any account of essence, and for the purposes of vindicating the definition it suffices to indicate that it is flexible enough to admit of different stances on them.

4. Conclusion

Essence, ontological dependence and ground have by now become indispensable notions in the metaphysician's toolkit. Since they orbit related debates and exhibit structural similarities - for one, they all seem to resist an account in purely modal terms -, it seems natural to inquire about the relations between them. Among these, that a notion is definable in terms of another stands out as something of distinctive interest. For, in exploring available options of primitives, one offers ways not to embrace the whole package of notions, and if sparsity can be had, it arguably should be. It was my aim in this paper to contribute with a further way in which this might be done.¹¹

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¹¹ For similar efforts, beyond those already cited, see (Correia 2013), (Correia, Skiles 2017) and (Zylstra 2019d). I thank two anonymous referees for very helpful comments on a previous version of this paper.

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