Nothing Explains Essence

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    Essentialist facts, facts about what is essential to what, are explanatorily distinctive. They can often be appealed to in the course of metaphysically explaining some fact, while themselves serving as explanatory stopping points. In other words, when one arrives in the course of an explanation at an essentialist fact, it often seems like a legitimate place to stop. For example, we may ask why gold has atomic weight seventy-nine. We may then be inclined to answer "it is in the very nature of gold to be atomic weight seventy-nine. That is just what gold is." And this kind of explanation, in the right contexts, can seem satisfying; that is, not only does it provide an answer to the question posed about gold, but it provides a backstop to making further explanatory demands.

    There are a number of different views one might adopt as to what it means to say that essentialist facts are explanatorily distinctive in this way. If metaphysical explanations are grounding explanations, then one may hold that the essentialist facts are proper ends of metaphysical explanation in virtue of being *ungrounded*; where that is cashed out in terms of having no grounds or being *fundamental*.[1] Or alternatively, following Dasgupta, one might hold that the essentialist facts are ungrounded on account of their *autonomy*, where autonomy is cashed out in terms of *not being apt to be grounded*.[2] But there is another view, one that is typically only mentioned in the course of a cursory dismissal. This we may call the *zero-grounding view*. Just as we can think of certain logical truths as truths derivable from the empty set of premises, we can think of the zero-grounded facts as the facts that obtain in virtue of the empty set of facts. On this picture, the essentialist facts are grounded, but they are grounded literally in nothing—grounded for free, automatically, and by default.[3]

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[1] For discussion of fundamentality see Fine [2001], Schaffer [2010], Bennett [2017] and Sider [2011], among others.

[2] Dasgupta [2014], and [2016].

[3] For discussion of zero-grounding see Fine [2012], Litland [2017], [2022], Donaldson [2017], Muñoz [2020], and more recently, Kappes [2020a], [2020b], [2022]. The notion of being generated from nothing may be stronger in the case of grounding than in corresponding case of theorems. Given that validity is monotonic, it follows that a theorem is also derivable from *any* set of premises. But because ground is not monotonic, it may turn out that a zero-grounded fact is *only* grounded in the zero-ground.

This view has been unpopular for many reasons, including concerns about the obscurity of the notion of zero-grounding. Concerns notwithstanding, I think the zero-grounding view ought to be given a fair shake, and my present aim is to give it one. There is a case to be made that the zero-grounding view not only fares as well or better than the alternative ground-theoretic accounts in making sense of certain explanatory roles essences plausibly play, but also falls out naturally from an increasingly widespread and (what I think is an) attractive conception of what essences are.[4] The upshot is that the zero-ground view is at least as plausible as its rivals in certain respects. It should not be dismissed outright on intuitive, conceptual, or even metaphysical grounds.

Here is the plan. After some preliminary remarks on how we should understand what an essentialist fact is as well as which kinds of essentialist facts serve as explanation stoppers, I introduce a widespread and attractive picture of what the essentialist facts are; they are domain fixing facts.[5] After setting out the domain-fixing conception, I argue that this feature of the essentialist facts enables them to serve as explanation stoppers. This comprises the first two sections. In the remaining sections, I build the case for the zero-ground account. I do so by arguing that the zero-ground view accommodates the domain-fixing conception of essence better than certain competitors. Along the way, I clarify the notion of zero-ground as well as address a range of objections commonly raised against the view. The results will be provisional. Nothing I say here will definitively establish that the zero-ground view has to be correct. However, we will see that certain conceptual obstacles to the intelligibility of the view can be overcome, and that the view is not only plausible, but falls out naturally from the domain-fixing conception of essence.

1. Preliminaries: Essentialist Facts and Grounding

Essentialist facts and the claims that represent them are explicitly about what's essential to what. Here are a few variations on a well-worn example:

(1) Socrates is essentially human.

(2) It lies in the nature of Socrates to be human.

(3) That Socrates is human flows from the nature of Socrates.

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[4] I'm not the first to advance the zero-grounding view in relation to the explanatory distinctiveness of the essentialist facts. Miller [2022] and Kappes [2020a] both argue that this view is motivated by taking the essentialist facts to play the role of explanatory links. These sorts of considerations will not play a particularly significant role in the argument of this paper.

[5] I borrow this term from Raven [2020]

(4) It is true in virtue of the nature of Socrates that he is human.

Each of these claims about what's essential to what are expressed using a variety of idioms. In what follows, we'll regiment each of these claims in a similar way. We will adopt the Finean convention of expressing essentialist claims by means of a sentential operator.[6] On this view, expressing claims about essence involves prefixing an indexed sentential operator "it is essential to the xx that" to a sentence. So, if we want to regiment the above claims, we first form the sentence "Socrates is human" and then prefix an indexed operator "□Socrates" to be read "it is essential Socrates that" or "it is true in virtue of the nature of Socrates that" yielding "□Socrates Socrates is human." Given these conventions we will regiment (1) – (4) all in the same way:

□Socrates Socrates is human

We will adopt familiar conventions with respect to statements of ground. We will take grounding claims to have the following form:

$\phi_0, \phi_1, \ldots < \psi$

and so, ground will also be expressed by means of a sentential operator. We will allow a collection of sentences to the left and exactly one sentence to the right. We will take "</≺" to designate full ground and partial ground respectively, and we make some standard assumptions about the nature of full ground.[7]

Essentialist facts can stand in a variety of relations to other essentialist facts. In particular, some essentialist facts are consequences of other essentialist facts. For example, we might take

(5) □Socrates Socrates is human or is not human

to follow from (2). This points to the relevance of Fine's distinction between *constitutive* and *consequential* essence.[8] As Fine introduces the distinction, the constitutive essence of an object comprises truths directly definitive of the object, or capturing how it is *at its core* whereas the consequential essence of an object comprises the class of truths following from the directly definitive truths (subject to certain constraints).[9]

On this understanding of the distinction, we might take (2) to belong to Socrates's constitutive essence, whereas (5) belongs to his consequential essence. In what follows, when

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[6] Fine [1994], [1995a].

[7] In particular that it is asymmetric, transitive, irreflexive. We thus obtain a partial ordering over the domain of facts. I note the standard assumptions here to help the reader gain a sense of what grounding is supposed to be, although nothing I say in what follows hangs on these assumptions being wholly vindicated across all instances of grounding. I also take partial ground to be definable in terms of full ground. P is a partial ground for Q just in case P on its own or together with some other facts fully grounds Q. See Fine [2012] p. 50.

[8] Fine [1995a].

[9] Fine [1995a], [1995b], and [2000].

we talk about essentialist facts, this should be understood primarily in terms of constitutive essentialist facts rather than consequential ones.

Essence Precedes Existence

Suppose you and I take a walk through a Williamsonian knife factory.[10] On the belt to our left, knife blades are carried down the line, and on the belt to our right, handles fitted for those blades pass. Instead of leaving it up to the machine, you grab handle H and blade B to form Knife K. This, however, wasn't an arbitrary choice. You had a particular knife in mind you wanted to make; the knife formed by combining that very blade with that very handle. Any other combination of handles and blades wouldn't have sufficed. They simply would have been different knives altogether. Luckily for you, facts about the nature of those knives were available to you prior to any effort you made to combine blades and handles, and these facts guided you in making the knife you wanted to make.

This kind of thinking has a long and venerable history. For many intellectualists (especially Leibniz), when God gets around to creating the world, he not only already knows exactly what he's creating, but God's understanding of what he's creating guides in some respect how he creates. Divine will follows divine understanding. We find God prior to creation brooding over the void. There is no world. God hasn't gotten around to that yet. God forms a plan. God wants to make Eve, in much the same way you wanted to make knife K. That is to say, God doesn't merely want to make some human or other, God wants to make that very human. So, God builds a world in such a way as to be a world in which Eve could and does exist. There is a fact, a fact about what it is to be Eve—her real definition or essence—which in some sense is already around before Eve is and plays a role in structuring how the world containing her takes shape.[11]

Some modern voices echo these early modern sentiments. Fine, in expression of a similar view, writes:

"The objects enter the world with their identity predetermined, as it were and there is nothing in how things are that can have any bearing on what they are."[12]

When Fine talks about nothing in how things are having *any bearing*, it's crucial to keep in mind what Fine means includes that they have no *generative* bearing. How things are do not

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[10] See Williamson [2013].

[11] See e.g., Mason's [1967] translation of the Leibniz-Arnauld Correspondence p. 13-17 for a rich expression of Leibniz's view.

[12] Fine [2005] p. 349

build/constitute/ground/metaphysically determine what's (constitutively) essential. This makes good sense on the relevant picture. How things as a matter of fact are, won't generate *what* those things are for a straightforward reason. The facts about what those objects are, the essentialist facts concerning them, were around prior to their actual existence.[13] The essentialist facts (like the Word perhaps) were with God in the beginning.

Dasgupta similarly urges us to think of the essentialist facts as *fixing the domain*. He writes:

"…...the essentialist facts concern what those things are in the first place. It is not that there is some independently given domain and the essentialist facts are certain facts about what properties they have. It is rather that the essentialist facts specify what the domain is in the first place."[14]

Again, this makes good sense on the relevant picture. We need not heed the impulse to treat the essentialist facts merely as facts concerning which properties are had by an object in some distinctive or special way—the essential way. On such a view, the essentialist facts are facts concerning which properties are had (in the essential way) by some antecedently specified domain of things. The objects come first, and the essentialist facts get tacked on in order to underscore the significance of certain of their features. This, however, threatens to misunderstand their relationship. The existence of objects, as well as which features they have at a world, is downstream from the facts about their natures. The facts about what things are—the essentialist facts—are not generated by facts about whether things are—the existence facts. Call the view that the essentialist facts are not generated by the existence facts the *domain fixing conception of essence*.

The domain fixing conception of essence is not the only available conception of essence, but it appears to be especially well-positioned to vindicate the explanatory distinctiveness of the essentialist facts. Here is a canonical example of a metaphysical explanation. Someone asks why a particular atom *A* is a gold atom and so requests a metaphysical explanation for that fact. One satisfactory answer might be "because *A* has atomic weight 79 and because that's what it is to be a gold atom."[15] Such an explanation includes an essentialist fact about gold that accounts for the connection between one of the grounding facts and what it grounds.[16] We might be

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[13] One must, however, be careful here. On this framing, it appears that objects can have essences without existing which engages with some rather delicate issues about being, existence, and quantification, the discussion of which lie beyond the scope of the present paper. In particular, such a conception appears in tension with what Williamson calls *the being constraint*. Roughly, the being constraint says that having properties requires existence, and it corresponds model-theoretically to the domain constraint; that all predicate extensions be drawn from the domain of that world. See Williamson [2013] § 4.1 for critical discussion.

[14] Dasgupta [2016] p. 389

[15] This case is borrowed from Kment [2014] §6.2.1

[16] It's worth pausing here to point out that invoking essences in this way looks like it appeals to a principle often referred to in the literature as *Essence Grounds Prejacent* (EGP) *s*: $\Box_x P < P$. This principle looms large in the background

interested in extending the explanatory chain, and tracing our way down the grounding structure of the world. We might observe that *A*'s atomic number is grounded in there being a certain arrangement of protons in *A*'s nucleus; and we might further observe that the arrangements of protons in *A*'s nucleus is grounded in there being certain arrangements of up-quarks, down-quarks and gluons. Each of these kinds of facts is a fact about *whether things are*: whether there is a certain configuration of quarks and gluons, whether there is a certain configuration of protons, whether something possesses a certain atomic weight, etc. These kinds of facts, existence facts, are worldly in the present sense. They are generated by the world being arranged in certain ways. But the essentialist facts, are importantly different. They are facts about *what things are,* and on the relevant picture these facts are not generated by worldly facts in virtue of being prior to them. In the course of a metaphysical explanation, when one arrives at an essentialist fact, there will be no worldly features that are generatively relevant to that fact's obtaining. They are in Fine's sense *unworldly* facts, and it's natural to think that for this reason the essentialist facts have their distinctive explanatory status. [17]

Contrast this conception with Raven's recent proposal inspired by Almog's conception of essences.[18] On this proposal, essences are produced by "generative cosmic processes."[19] Raven

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of a significant portion or recent work by metaphysicians theorizing in terms of essence and ground. However, it has recently come under more scrutiny. See Kment [2014] and Rosen [2010] for discussion in favor of EGP, and Glazier [2017] as well as Zylstra [2019] for objections. Here no stand is taken on the truth of the generalization expressed by the principle. In so far as essence theorists take essences to be explanatorily distinctive in the way characterized above, they will recognize the truth of a large class of instances of EGP. All we are interested in presently is developing an account of essence that explains how it can play the explanatorily role sketched above as exhibited in the large class such instances.

Despite no present stand being taken with respect to the generalization expressed in EGP, it is worth noting that were the generalization to be true, it would be germane to the argument developed over the next few sections. As Kappes (2020a) has pointed out, there is significant pressure in light of EGP to be open to the zero-grounding account. Here is a terse reconstruction of Kappes's argument. Given that essence iterates, essence facts are explained in further (iterated) essence facts (similar to how EGP would have it). But Kappes argues that it is a mistake to take the explaining essence fact to be a *reason why* the explained essence fact obtains. Instead, his proposal is that the explaining essence fact is a link of what he calls "empty-base explanation" that generates the explained essence from nothing. This is analogous to the proposal being made in the present paper. Where Kappes takes the explanatory link that generates an essentialist fact from nothing to be a further essentialist fact, the present proposal suggests that the link is an instance of zero-grounding. Kappes (2020a) anticipates this and later argues that if we are unsatisfied with his account of essentialist facts as explanatory links, we might be able to appeal zero-grounding grounding as a way to make sense of the intuition behind explanation by essential status. One way of taking the aim of this paper is to increase our confidence in Kappes (2020a) claim.

[17] Fine [2005] characterizes *unworldliness* in contrast to *worldliness.* For Fine, a truth/fact is worldly just in case it is made true by/grounded in the circumstances of the world. It is unworldly just in case it is true regardless of/is metaphysically independent of the circumstances of the world. This distinction is meant as a modal parallel to the distinction between *being true at a time* and being true *timelessly*.

[18] See Raven [2020].

[19] Almog [2010]

admits that it is vague just what these generative processes are, but he does offer the following gloss.

> "First, a generative cosmic process is a *process*. It is a sequence of events or circumstances. Second, it is *cosmic*. The sequence's constituent events or circumstances are part of this cosmos, the actual cosmos. That makes them worldly. Third, it is *generative*. The sequence's constituent events or circumstances somehow conspire to produce items."[20]

So, what sorts of cosmic generative processes are such that they give rise to essences? Raven suggests the following examples. Socrates was produced by the familiar process involving a human sperm and egg. Singleton Socrates was produced by the familiar set-builder operation, and numerous chemical processes produce molecules.[21] We can follow Raven and fit the generative process account to our present purposes in the following way. Given that a generative cosmic process transpired, we may introduce the fact that it did. Call this fact a *generative fact*. If we understand production in terms of ground, then a generative fact concerning something grounds a corresponding essentialist fact about that thing. Call this the generative conception of essences.[22]

On the generative conception of essences, we find no similar motivation to see the essentialist facts as explanatorily distinctive in the way presently at issue. Every essentialist fact has a generative ground, and so we should not expect that this is a satisfactory place to stop.[23] Now, the proponent of the generative account can insist that in the course of metaphysical explanation, it is satisfactory to cite the essentialist fact's generator and then stop. They may do so by arguing that there's something special about *generative* facts that makes them explanation stoppers. Perhaps a compelling case can be made. But at the outset, we were interested in developing a view of essence that enabled them (not generative facts) to be the explanation stoppers. Insofar as we are interested in vindicating the idea that essentialist facts are explanatory ends, we should prefer a domain-fixing conception to a generative conception.

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[20] Raven [2020] p. 1059

[21] Ibid. p 1060

[22] Raven has recently made it clear that he didn't intend this to be a conception of essence *per se*. Rather it was meant to be a certain view as to what the grounds of certain essentialist facts are. It was meant to leave open whether other essentialist facts were not grounded in generative facts. Raven (personal correspondence)

[23] It is important to note, however, that they may be satisfactory stopping points in a different sense than the one presently being discussed. Glazier, partly out of dissatisfaction with ground-theoretic ways of understanding what it means to be an explanatory end, proposes *essentialist explanation* as a distinctive kind of explanation. On his view, essentialist facts can be ends of explanation if they admit of no further essentialist explanation. See Glazier [2017]. It may very well be the case that the proponent of the generative view can still maintain that essentialist facts are explanatorily distinctive in this special non-ground-theoretic sense. Thanks to an anonymous referee for pressing this point.

In what remains, I make the case for the zero-ground view of essence. I do so by arguing that the zero-ground view accommodates the domain-fixing conception of essence better than certain competitors. Along the way, I clarify the notion of zero-ground as well as address a range of objections commonly raised against the view.

3. Fundamentality and Domain-Fixing

If the domain-fixing facts are not grounded in worldly facts, one perfectly good way to meet that condition is to have no grounds at all; to be *ungrounded*. No facts figure into the generation of the ungrounded facts. One way to cash this out would be to maintain that the ungrounded facts are absolutely fundamental. If true, this would account for the explanatory distinctiveness of the essentialist facts. They figure into explanations all while serving as explanation stoppers on account of lying at the terminus of the world's layered structure. So, the proposal at hand would be:

> **Fundamental Essences**: The essentialist facts are absolutely fundamental.

There is a quick argument as to why this proposal won't succeed. Absolutely fundamental facts should involve only fundamental constituents. Facts like [$\Box_{Socrates}$ Socrates is human] and its ilk involve clearly non-fundamental constituents, so the fundamental essentialist facts are not absolutely fundamental.[24] I won't rest my case on any arguments of this sort. Despite their intuitiveness, it's unclear how to assess purity principles in the present context. When defending purity, Sider writes "When God was creating the world, she was not required to think in terms of non-fundamental notions like "city, smile, or candy."[25] But on the domain fixing conception, there is real sense to be made of saying that God must think in terms of notions like "is human", "has atomic number 79," etc. Afterall, facts involving them, essentialist facts, constrain God's proverbial world-building. If we assess purity in terms of the constituents of facts that God's world building is ultimately to be constrained by or considered with respect to, it's unclear that the essentialist facts on a domain fixing conception could not count, or at least there is a real threat to prejudicially rendering judgment to the contrary.

Instead, we should reject the absolute fundamentality of the essentialist facts on the grounds that it makes incorrect predictions about the modal freedom of the essentialist facts. This can be brought into sharper relief by thinking of grounding in terms of a fact-generating machine and the role that the absolutely fundamental facts play on such a picture. On this view, grounding is analogous to a machine that generates facts from other facts.[26] The machine is fed facts and spits

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[24] Glazier [2017]'s argument against the fundamentality of essentialist facts takes this line.

[25] Sider [2011] p. 106

[26] This analogy is due to Fine [2012] and Litland [2017].

out facts grounded in the facts the machine is fed. On this picture, a fact is ungrounded (and so absolutely fundamental) if the machine does not spit the fact out.[27] Since the grounds necessitate the grounded, when God is done brooding over the void and gets around to making a world, all God has to do is put the fundamental facts in place.[28] The rest follows. An important consequence of this widespread way of thinking is that God has quite a bit of flexibility with respect to what's fundamental. On this picture, the fundamental facts are subject to significant variation as we go from possible world to possible world. After all, since they are never the outputs of the grounding machine, all that remains to be decided is whether or not they are selected as inputs. So, God as it were, in choosing which possible world to make actual, makes a decision regarding what set of fundamental facts to feed into the grounding machine. By feeding in one set as opposed to another God introduces different constitutive facts which result in different worlds being produced by the machine. The resulting view is that what is fundamental can exhibit a large degree of modal flexibility.[29]

This simply is not so with the domain fixing facts. On the domain fixing picture, the essentialist facts constitute an invariable framework within which cross-world variation takes place. Recall that God cannot do anything to generate the domain fixing facts. They are already in place. They provide the framework in which God makes generative decisions, not the facts yet to be decided.[30] If the fundamental level is the stage on which recombination occurs, the essentialist facts sit off-stage.[31] The thrust of this view is that the essentialist facts, in playing the role of domain fixers, exhibit no modal flexibility. They are world-to-world invariant, and serve as constraints on the facts that might play the role of a fundamental fact by means of constraining how facts are generated. The core features of the fundamental facts simply don't track the core features of domain-fixing facts. They have a different metaphysical profile. Instead, they track core features of existence facts. This is not to merely observe that the essentialist facts are necessary whereas the fundamental facts are contingent (although I am deeply sympathetic to such a view). Rather it is to say that nothing in being fundamental as

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[27] Fine [2012].

[28] Some have argued that grounding does not entail necessitation. See e.g., Leuenberger [2014] and Skiles [2015]. Typical worries stem from trouble in telling a well-motivated story about what grounds certain kinds of universal generalizations. I find these kinds of worries generally unmoving. For a convincing line of reply see deRosset [forthcoming] ch 8 § 3.

[29] This is typically cashed out in terms of modal recombination principles. Recombination is supposed to follow from the Humean principle of "no necessary connections between wholly distinct entities." See e.g., Lewis [1999] and [2001]. There is an interesting question as to how to determine when two entities (in this case, facts) might fail to overlap. Dixon [2016] proposes a characterization of overlap between facts in terms of what he calls *groverlapping*. If two facts are different, they *groverlap* just in case (1) either one partly grounds the other or (2) they share a common ground. Fundamental facts certainly won't groverlap. One might on this basis attempt to directly vindicate a modal recombination principle for the fundamental facts. For discussion of this sort of argument see Wang [2016].

[30] See Fine [2005], p. 325–26.

[31] See Hofmann [2006] p. 427

such guarantees or explains the necessity of the essentialist facts, and that is something we should expect of a view that purports to capture the explanatory distinctiveness of the domain fixing conception. Thus, given a domain-fixing conception of essence, we should reject Fundamental Essences.

4. Zero-Ground, Autonomy, and Domain Fixing

4.1 Zero-Ground

An alternative view emerges if we pursue the grounding machine metaphor a bit further. On the machine picture of grounding, an *ungrounded* fact is never output by the grounding machine. By contrast, a *zero-grounded* fact is a fact that is produced by the machine given no input. When the machine is fed no input, it rumbles along generating various outputs.[32] If, the machine spits out ϕ given no input, we represent the relevant grounding claim as $\emptyset < \phi$, and say that ϕ is *zero-grounded*. To incorporate the theological metaphor, when God decides to feed some set of facts into the grounding machine, the machine will have *already* spit out the set of zero-grounded facts. The zero-grounded facts then will have a very distinctive metaphysical profile. The existence facts (among others) are the facts God must put into the grounding machine, as it were, to generate a world. The zero-grounded facts will have been output by the machine prior to any existence facts put into place by God. Thus, they will float free of both the fundamental facts and the host of facts brought in their generative wake. Moreover, they will play an important role in structuring the possible facts the worlds comprise, that is, they will introduce general constraints on world-building. If the machine has already produced ϕ given no input, then no fact incompossible with ϕ can obtain (lest the world be an impossible one). These two features— (1) being generatively independent of the existence facts and (2) serving as general constraints on world building—are the two core features of the domain-fixing facts. So, if we accept:

Nothing Explains Essence: The essentialist facts are zero-grounded

We can straightforwardly vindicate a domain fixing conception of essence.[33] When building a world that contains gold, why must the world be arranged in a way that ensures it has atomic

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[32] Litland [2017]

[33] Here we rely on the grounding machine metaphor to cash out the notion of zero-grounding. Despite the power of the metaphor, it would be nice if something could be said about that of which it is a metaphor. A very attractive picture developed in Litland [2017] ties the mechanisms of the grounding machine to explanatory arguments. In such a setting the notion of zero grounding is much less mysterious. A truth ϕ is *zero-grounded* if there is an explanatory argument from the empty collection of premises to the conclusion ϕ (ibid., p. 298). We can think of explanatory arguments as composed from basic explanatory inferences; e.g., conjunction-introduction, disjunction introduction, the inference from a is F to a is G—where F is a determinate of the determinable G. (ibid., p. 289).

It is natural to see these explanatory inferences as importantly connected to the essences of certain items (e.g., conjunction, disjunction, etc). Some attention has been focused on developing inference-based accounts of the nature of logical operations. As an illustration, on such a view we may define conjunction as the operation such that one can

weight 79? Because any world with gold having atomic weight 56 would be incompossible with [□*being gold* ∀x (Gold(x)→ A79(x)]. And since [□*being gold* ∀x (Gold(x)→ A79(x)] holds by default, the only possible gold-containing worlds will be ones where it has atomic weight 79.

Not only does the zero-ground account vindicate the core features of a domain fixing conception of essence, it also explains them. It lies in the nature of being zero-grounded that whatever is zero-grounded is grounded independently of any existence facts. Further, since metaphysical ground necessitates, it will lie in the nature of zero-ground that whatever is zero-grounded holds necessarily, and so introduce modal constraints on worldly generation.[34,35] In what follows, I argue that these explanatory features of the zero-ground account give them a dialectical advantage over Dasgupta's autonomy account. We now turn to the details of Dasgupta's account.

4.2 Autonomy

If, on the domain-fixing conception, the essentialist facts constitute an invariable framework in which cross-world variation takes place, then in some sense they serve as a kind of "scaffolding" around which the world is built. Dasgupta deploys such a metaphor in the course of motivating the autonomy of the essentialist facts. Autonomous facts are *not apt* to be grounded; thus, questions about what grounds them are illegitimate. This stands in contrast to *substantive* facts, facts apt to be grounded, for which questions of ground legitimately arise.[36] Dasgupta then wants us to accept:

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infer P ∧ Q from P, Q. (see e.g, Fine [1994] and Correia [2012]). Call the inference involved in this definition of conjunction an *essentialist inference*. We can exploit this essentialist inference to determine when certain truths involving "∧"are zero-grounded— in particular, the truth that [P, Q < P ∧ Q], since we will be able to construct an explanatory argument from the empty set of premises to [P, Q < P ∧ Q]. See Litland [2017] p. 302 – 304.

One may attempt to extend this picture more generally and characterize the essences of other items in terms of *essentialist inferences*. Take our knife K_1 composed of handle H_1 and blade B_1. On such a view, we might consider the following an explanatory argument involving K_1: [H_1 is joined with B_1 ∴ K_1 exists]. If this is an explanatory argument, it's natural to see it as involving an essentialist inference that is related to the essence of K_1. We might try to exploit this essentialist inference in a way analogous to the case of conjunction above to show that from no premises we can derive [if H_1 is joined with B_1 then K_1 exists], which on this view would be a zero-grounded truth. Interestingly, this "zero-grounded" truth seems to express exactly what we would want to regard as a constitutively essential truth about K_1.

This is the barest sketch of one way to cash out the grounding-machine metaphor for zero-grounding and how to assimilate Nothing Explains Essence into that picture. The devil, of course, is always in the details; details which I leave to future work.

[34] Muñoz [2020] argues that certain facts are zero-grounded but only contingently so (in particular, negative existentials). This however relies on there being good reason to reject necessitation, which I do not think there is. See footnote [26].

[35] For further productive discussion of the differential modal import of being fundamental/ungrounded and being zero-grounded, see De Rizzo [2020].

[36] Dasgupta [2016], p. 383

Autonomous Essences: The essentialist facts are not apt to be grounded

If this account is correct, we straightforwardly vindicate the explanatory distinctiveness of the essentialist facts. Why do essentialist facts serve as acceptable ends of metaphysical explanation? Because they aren't the sorts of things for which metaphysical explanations are appropriate. I simply can't sensibly inquire further into an explanation for facts like [$\Box_{Socrates}$ Socrates is human].

Dasgupta thinks the autonomy of the essentialist facts drops out of the domain-fixing conception. One immediate concern facing an autonomy account is to make sense of the various attempts philosophers have made to provide grounding explanations for essentialist facts. If the essentialist facts are autonomous, then there is something deeply confused about such attempts. But, the worry goes, such attempts do not seem confused in the way demanded by the autonomy account. Dasgupta responds to this worry by invoking a domain-fixing conception of essence.[37] He attributes the drive to explain essentialist facts as being tied to a misunderstanding about the relative priority of the existence facts and the essentialist facts. Existence first views, recall, understand essentialist facts as facts about which properties are had in the essential way by an antecedently given domain. This makes the essentialist facts appear substantive: apt for grounding. If one has a property essentially and not accidently, one might see a legitimate need to explain that. Once we switch to a domain fixing conception, where the essentialist facts specify the domain, then they become detached from and precede worldly goings on. This makes them appear *non-substantive*, and thus autonomous.

The trouble with this sort of motivation is that nothing in the domain fixing conception of essence forces the autonomy of the essentialist facts. As we saw previously, there is another account, the zero-ground account that also vindicates the features of the domain fixing conception. Can anything be said to motivate the autonomy view over the zero-grounded view? Here things are far from clear, but there is some reason to be skeptical. Earlier we saw that not only does the zero-ground view accommodate the core features of the domain fixing view, it also explains them. The same does not seem to be true for the autonomy account. In particular, it struggles to explain the modal force of the domain fixing facts. If I direct my attention solely to the category *fails to be apt for grounding* there is no reason to think that it has any interesting modal force. To be autonomous is to fail to be apt for grounding. Autonomous facts are not ground-able. So, (unlike the zero-ground account) the modal force intrinsic to metaphysical ground won't be available as something to which an appeal may be made in guaranteeing the necessity of autonomous facts. Moreover, it's unclear what else could be appealed to in order to ensure the relevant modal force. Once we step outside the ground-theoretic order in the ways demanded by autonomy, we seem to lose the key source of modal force. Dasgupta tries to

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[37] Ibid. p. 388

ensure the necessity of the autonomous facts by appealing to paradigm examples: essences, definitional facts, and identities. But this at best shows that some of the things that are autonomous hold necessarily. A distinctive advantage possessed by the zero-ground account is that it can show that the modal force of the domain fixing facts holds on account of their being zero-grounded. If the autonomy account is to be dialectically on a par with the zero-ground account, it would need to show that the autonomous facts hold necessarily on account of their autonomy. Dasgupta can't secure this by re-invoking the domain-fixing conception of essence because there is at least one other alternative that vindicates it. Merely appealing to the domain fixing conception, as Dasgupta does, will not entail that the *autonomous* facts are modally stable. Even if the autonomous facts were all and only the essentialist facts, he wouldn't have shown that they were necessary *because* they were autonomous. So, nothing about world-to-world invariance seems to follow from autonomy.

The proponent of Nothing Explains Essence can tell a principled story about the connection between the zero-grounded facts and necessity by appeal to independently plausible features of metaphysical grounding. There doesn't appear to be a similar story to tell for the autonomous facts. Earlier we observed that switching to a domain fixing conception, where the essentialist facts specify the domain, made the essentialist facts appear *insubstantial*, and thus autonomous. Now we are in a position to see this as a mere appearance. Not only does nothing in the domain fixing conception suggest that the essentialist facts are autonomous, nothing in the nature of being autonomous guarantees that such facts exhibit the features demanded of the domain fixing facts. To treat the domain fixing facts as autonomous is a conceptual overreach.

The zero-grounded facts, in contrast, have exactly the features demanded by the domain-fixing facts. If the essentialist facts are domain fixing facts, and the zero-grounded facts have the same metaphysical profile as the domain fixing facts, this gives us some good reason to think that the essentialist facts are zero grounded. If any account of the explanatory status of essences promises to drop out of a domain-fixing conception of essence, it will likely be the zero-ground account. This completes the first part of the case for the zero-ground account, which is summarized in the table below.

	(1) Explanation Stopper	(2) Modal Import	Explains (1) and (2)
Fundamental Essences Essentialist Facts are Fundamental	✓	✗	✗
Autonomous Essences Essentialist Facts are not Apt for Grounding	✓	?	✗
Nothing Explains Essence Essentialist Facts are Zero-Grounded	✓	✓	✓

Again, to reiterate, the aims here have been modest. I've not argued that the zero-ground account must be true, or that we must reject an autonomy or fundamentality account. I've simply shown that from the perspective of essentialist facts as domain fixing facts, there is surprisingly good reason to prefer a zero-ground account. On the whole, it appears to do the best job of vindicating the features the essentialist facts would need to have in order to play that role. This is reason enough to take the view more seriously than it has in the extant literature. In the last section, I'll try to show how a zero-grounding theorist might address some of the common objections against the view.

5. Some Objections and Replies

The first worry has to do with the explanatory distinctiveness of the essentialist facts. Glazier thinks that the zero-ground account cannot capture a reasonable sense in which the essentialist facts are satisfying end points of explanation. If the essentialist facts are zero-grounded, then they are grounded. In other words, they will have a further explanation. So, having a ground at all undermines the intuition that they can serve as good explanation stoppers, even if it is a strange sort of ground.[38] There are two sorts of responses I think a zero-ground theorist can make. The first is to just dig in their heels and say that while it's true that zero-grounded facts have a further explanation, the correct reply to the question "what grounds the essentialist facts?" is quite literally "Nothing!" It seems perfectly reasonable to consider one's self at the end of the explanatory road when one pushes up against facts which hold by default.

The other kind of response is to adjust or clarify the sense in which the zero-grounded facts resist explanation. Recall the canonical case of metaphysical explanation presented earlier. Someone asks why a particular atom *A* is a gold atom and so requests a metaphysical explanation for that fact. Their interlocutor responds by asserting

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[38] Glazier [2017] p. 2883

(1) because *A* is an atom with atomic number 79

and

(2) because that's what it is to be a gold atom.

Why does (2) resist further explanatory probing whereas (1) does not? Because (1) is a worldly sentence and (2), in virtue of representing a zero-grounded fact, is not. I cannot give the same kind of explanation for the essentialist facts as I can for the worldly facts. When I reach the essentialist facts, I arrive at a place for which *no worldly feature* is relevant. Trace your way down the ground-theoretic hierarchy from the derivative down to the absolutely fundamental. None of these facts will be of any help in accounting for the essentialist facts. This is a dreadfully strange position to find oneself in; strange enough to justify skepticism about explaining them further. Both of these responses seem to capture a reasonable sense in which essentialist facts could serve as ends of metaphysical explanation.

These responses also allow the zero-ground theorist to dissolve an apparent tension between metaphysical rationalism and essentialism. Metaphysical rationalism, as we'll understand it, is the view that all facts have a metaphysical explanation as captured by some version of the principle of sufficient reason.[39] Since the essentialist facts in some sense resist metaphysical explanation, essentialist facts threaten to serve as counterexamples to the metaphysical rationalist's core dictum.[40] The zero-grounding account shows that there is a reasonable sense in which they can resist explanation while being compatible with the truth of metaphysical rationalism.[41]

The second worry has to do with an apparent lack of connection between zero-grounded facts and essentialist facts. Most are introduced to the technical notion of being zero-grounded by contemplating cases of degenerate grounding. Immediately after introducing the notion, Fine says:

"suppose we thought that there was a operator of conjunction '∧' that could apply to any number of sentences A, B,…. It might then be maintained, as a general principle, that the conjunction ∧(A, B,…) was grounded in its conjuncts A, B,…. So in the special case in which the operator ∧ was applied to zero statements, the resulting conjunction T = ∧() would be grounded in its zero conjuncts."[42]

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[39] For discussion of the Principle of Sufficient Reason generally see Della Rocca [2010] and Amijee [2020].

[40] Raven [2020] develops such a worry.

[41] That is, the zero-ground account can resolve the tension without having to motivate some restriction on the "all" as it is featured in the typical expressions of metaphysical rationalism.

[42] Fine [2012] p. 48.

If the zero-grounded facts are degenerate cases of grounding principles, then what could the grounding principles be such that the essentialist facts are degenerate cases of them?[43]

The response here is that no such grounding principles need to be advanced. There are other conceptual routes into the notion of zero-ground. Rather than introduce the category by appeal to degenerate cases of grounding, we can introduce it in the way we did initially: by appealing to Litland's machine picture of grounding. This hasn't appeared to many to help establish a connection between the zero-grounded facts and the essentialist facts, but this stems from failure to appreciate the conceptual connections between the zero-grounded and domain fixing facts. The very reasons to think that the essentialist facts play a domain fixing role are reasons for thinking they are generated by the grounding machine given no input.

The last worry that I'll address here concerns the essentialist facts all having the same ground: the empty ground. Dasgupta puts the worry like this:

> "Suppose that it is essential to water that it is a compound, and essential to {Socrates} that it contains Socrates. If we say that essentialist facts are zero-grounded then we are conceding that both these essences are substantive (that is, apt for being explained), and moreover that they both have an explanation; and we are then saying that their explanation is exactly the same (that is, the zero explanation). And this is hard to believe: if the facts are substantive and if they have an explanation, surely the explanation is different in each case."[44]

Here, I think the best response for the proponent of the zero-ground account is to insist that this is not a special problem for the zero-ground account. We certainly do not want a strong ground-theoretic identity criteria for facts that (say) individuates facts on the basis of their grounds. In light of this, we should allow that some distinct facts share the same ground. In fact, standard principles in the logic of ground will deliver this; for example, that both [~~p] and [p ∧ p] are grounded in p. The salient question that must now be confronted is "what gives rise to the phenomenon of distinct facts being sourced in the same grounds?" In order to see if there is trouble for the zero-ground account along the lines Dasgupta presses above, we first need to see what the general story for this phenomenon is. We can then assess whether the zero-ground account can accommodate this after the fact. But it certainly not the case that the zero-ground theorist is beholden to a demand to provide an answer to this question (given that more than just the zero-grounding theorist confronts such a problem).[45]

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[43] Glazier [2017] p. 2883
[44] Dasgupta [2014] p. 590
[45] It's worth mentioning that some have appealed to the role of explanatory arguments in grounding to make sense of how facts like [p ∧ p] and [p ∨ p] can have the same ground, yet different explanations. See e.g., deRossett [2013] p. 22–24. If that is ultimately the correct way of squaring away Dasgupta's worry, we have reason to be

6. Conclusion

The view that nothing explains essence has been widely ignored in the burgeoning essence literature. Having examined the methodological, metaphysical, and intuitive strikes against the view, the zero-ground account of essence does not seem to be much worse off from a domain-fixing perspective than prevailing alternatives (e.g., generative process, fundamentality, and autonomy-based accounts) and in many ways is better equipped to vindicate certain features many have desired essences to possess. I conclude that there is no reason not to treat it as a viable option. The zero-ground account appears to be the most promising way of developing the domain fixing account.[46]

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