



Metaphysical Constraints, Primitivism, and Reduction

ABSTRACT: *The argument from absence of analysis (AAA) infers primitivism about some x from the absence of a reductive analysis of x . But philosophers use the word ‘primitive’ to mean many distinct things. I argue that there is a robust sense of ‘primitive’ present in the metaphysics literature that cannot be inferred via the AAA. Successfully demonstrating robust primitivism about some x requires showing two things at once: that a reduction of x is not possible and that an explanatorily deep characterization of x is not available. In order to secure this second explanatory claim, the AAA must wrongly assume that reductive analysis is our only source of explanatory characterization. I argue that this is false by offering a distinct way of providing explanatory characterizations backed by suitably understood metaphysical constraints. While there remains a minimal sense of ‘primitive’ inferable via the AAA, this sense is exhausted by the denial of reduction. With minimal primitivism as its target, the AAA is uninteresting.*

KEYWORDS: reduction, explanation, essence, primitive, personal identity

Introduction

Participants in many philosophical debates explain their targets by reductively analyzing them. For example, this is the goal of reductionism about causation, modality, goodness, knowledge, and personal identity. Reductionism about some x is attractive because it shows x is nothing over and above some more basic set of entities. Reductions unify and so reduce the number of independently existing things we must countenance and independent explanations we must give. But when a reductive analysis of x cannot be given, that counts in favor of primitivism about x .

Primitivism is often motivated via a familiar argument pattern: The argument from absence of analysis (see Chalmers 1996: 92 and Skiles 2014: 234). But philosophers use the word ‘primitive’ to mean many distinct things. Which of these can be inferred via the argument from absence of analysis (hereinafter AAA)? My aim is to argue that there is a robust sense of ‘primitive’ in the literature that cannot be inferred merely from the absence of analysis. While there remains a minimal sense of ‘primitive’ that can be inferred via the AAA, this sense

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is exhausted by the denial of reduction. With this as its conclusion, the AAA is hardly an inference at all. It only applies the term ‘primitive’ to those things that meet its definition.

Securing *robust* primitivism requires demonstrating two claims at once: a metaphysical claim that reduction is impossible and an explanatory claim that metaphysically deep explanatory characterization is unavailable. A metaphysically deep characterization of some x is an account of what it is to be x . I will argue that the AAA cannot secure this explanatory claim because the impossibility of reductive analysis does not entail that metaphysically deep explanatory characterization is unavailable.

I will start in [section 1](#) by describing the AAA in more detail. I am exclusively concerned with metaphysical primitives and ontological reduction. I clarify these notions in [section 2](#). To show that the AAA cannot demonstrate robust primitivism, [section 3](#) offers a source of metaphysically deep explanatory characterization independent of reduction. Unlike reductive and primitivist views, *constraintist* views characterize their objects by identifying properly construed metaphysical constraints. They give metaphysically deep explanatory characterizations of their objects (accounts of what it is to be them) and thus do what robust primitivism says cannot be done. But these explanatory characterizations need not support reduction and are available independently of reductive analysis.

Constraintist views show that metaphysical questions about the possibility of reduction are separable from explanatory questions about the possibility of metaphysically deep explanatory characterization. They occupy previously hidden space in a range of philosophical debates. I conclude in [section 4](#) by considering a case study from the metaphysics of personal identity to show how this space might be occupied. This shows the value of constraintist views in debates where neither reduction nor primitivism is appealing.

1. The Argument from Absence of Analysis

The AAA is a familiar strategy motivating primitivism about some bit of our ontology. It is used where there is an initial presumption of reducibility leading to unsuccessful attempts at reductive analysis. The AAA starts with the claim that some entity of interest, x , cannot be reduced. It reasons that if x is irreducible, then x is primitive. Attention spent on the AAA focuses on its preface: arguments against the reducibility of x . These might be inductive: our past failures form a sufficient inductive base to justify the conclusion that every future attempt at reduction will likely fail. They might be abductive: the best explanation for our failure to reduce x (either in the past or in principle) is that no reductive analysis is possible. Or x 's irreducibility might be implied by a general demonstration that reductive analysis is impossible.

This preface is interesting but not my concern. The AAA is my target and it is simple; it infers the truth of primitivism from the impossibility of reduction without intervening steps.

David Chalmers gives the AAA as one of several arguments supporting primitivism about phenomenal consciousness (1996: 92). He claims that reductively analyzing consciousness requires giving a story about how consciousness might possibly be entailed by physical facts. However, it is hard to see how any entailment from the physical facts to consciousness could get off the ground, and thus it is hard to see how reductive analysis is possible even in principle. Because no reductive analysis is possible, conscious ‘experience is likely “something of a primitive”’ (Chalmers 1996: 23).

Similarly, Ned Markosian uses the AAA to motivate primitivism about composition, otherwise called brutal composition (1998: 215). Markosian’s stated focus is (often) our composition concept. I am not concerned with conceptual reduction here, and I ignore other prominent examples, such as Williamson’s use of the AAA, for this reason (2000: 2–5). However, Markosian’s arguments against moderate answers to the special composition question (and so in favor of brutal composition) make repeated use of ontological vagueness to the effect that if, for example, fastening were the correct answer to the special composition question then composition in the world would be vague. These arguments from ontological vagueness make sense only if their targets (moderate answers like fastening) concern worldly composition because vagueness in our concepts does not make the world vague. These things encourage us to understand brutal composition as an instance of metaphysical (not merely conceptual) primitivism. On Markosian’s view, mereological concepts (and presumably relations) form a closed circle that cannot be understood in independent terms. The best reason for accepting this Doctrine of Mereological Circle ‘is that no non-mereological analysis of any mereological concepts, including composition, seems forthcoming’ (Markosian 1998: 217).

Martin Lipman argues for primitive temporal passage in part by arguing that existing reductive accounts of it fail and that it is not clear how they might be improved (2018: 96–101). Though he does not take this to be decisive, Lipman claims that the absence of reductive analyses clears the way for primitivism and shows that the view deserves serious consideration.

The AAA is used pervasively in the causation literature, where one main argument for causal primitivism comes from our persistent failure to analyze causal connections in noncausal terms (c.f. Schaffer 2008: 86–89; Rota 2009: 133–34). It appears in the literature on intrinsicity, discussed in detail by Alexander Skiles (2014: 234–37). And the AAA can be found outside metaphysics as well. G. E. Moore’s open question argument against ethical naturalism is perhaps an example (Moore 1993: 62–69).

2. What are Reductionism and Primitivism Anyway?

Though the AAA is widespread, it is unclear what sort of primitivism it is meant to support. It is time to be more specific about ‘primitive’ and ‘reduction’, narrowing focus along the way. My aim in what follows is not to taxonomize or to settle which sorts of primitivism ought to concern us. Instead, I will identify two prominent forms in the metaphysics literature: one minimal and one robust. And I

will argue that the AAA establishes only minimal primitivism while metaphysicians are often concerned with robust primitivism.

While there are many broad kinds of primitivity (Dasgupta counts six), I focus only on metaphysical primitivity and its companion ontological reduction (van Gulick 2001: 2–4; Dasgupta 2017: 81; McDaniel 2017: 82 and 223–28). In the primary sense, ontological reductions hold between objects, properties, or worldly facts rather than between representational entities. This distinguishes ontological reductions from conceptual and theoretical ones like those discussed by Nagel (1979) and Chalmers and Jackson (2001: 350–56). Bennett and I attempt to ontologically (rather than conceptually) reduce the relative fundamentality relation (Bennett 2017: ch 6; Bertrand 2017: 1280–85). And Schaffer endorses metaphysical primitivism about metaphysical grounding (2009: 373–77). Unlike other kinds, ontological reductions aim to tell us what there is in the world independently of our representations (Fine 2001: 3). Likewise, metaphysical primitives are primitive entities, parts of our ontology regardless of ontological category, rather than primitive concepts or theories. I take metaphysical primitivism (whether minimal or robust) to be minimally characterized by the following commitment.

Minimal Primitivist Commitment: If entity x is a metaphysical primitive, then x is not susceptible to ontological reduction.

Though it may be supplemented (as illustrated by robust primitivism), the minimal primitivist commitment binds up metaphysical primitivity with ontological reduction. The content of the minimal primitivist commitment is determined entirely by the requirements of ontological reduction.

2.1. Ontological Reduction

The phrase ‘ontological reduction’ like ‘metaphysical primitive’ is used to mean several different things. Again, I will not offer an account or settle which notion of ontological reduction we ought to use. Rather, I will adopt J. C. C. Smart’s influential necessary condition on reduction as a minimal commitment. Filling in this commitment leaves us sufficiently clear about metaphysical primitivity to move forward.

Minimal Reductive Commitment: ‘An entity x reduces to an entity y only if x does not exist over and above y ’ (Smart 1959: 143).

The minimal reductive commitment is animated by the thought that reduced entities arise from and depend on patterns of ontologically fundamental entities. They are nothing over and above their more fundamental bases in roughly the way a movie is nothing over and above its frames (Lewis 1994: 473–75; Schaffer 2015: 647–49).

Ontological reduction is asymmetric. If entity x can be reduced, then its reductive base is prior to or more fundamental than x and cannot be reduced to it. Skiles argues that this relative fundamentality requirement is a necessary condition on reduction, a

commitment also reflected in Jeffery King's compositional view (King 1998; Skiles 2014: 228). The relative fundamentality requirement underwrites the connection between reduction and parsimony, the idea being that reduced entities are not ontologically rock bottom, but their ultimate reductive bases might be. Finally, asymmetry is required if reductions back explanation.

Ontological reductions may be secured by identities between reduced entities and their bases, as when the identity theory of mind reduces (type or token) mental states to (type or token) brain states (Smart 1959: 145; Kripke 1980: 144–55). But properly understood relations of ontological dependence or determination secure weaker senses of reduction with significant presence in the literature. Derivative entities are nothing over and above the more fundamental entities on which they depend and are reducible to them. Gideon Rosen gives voice to a version of this thought with the grounding-reduction link: 'If [worldly fact] *p*'s being the case consists in [worldly fact] *q*'s being the case, then *p* is true in virtue of the fact that *q*' (2010: 123). This is further discussed by Skiles and also reflected in Occam's Laser, which forbids the unnecessary proliferation of fundamental entities while allowing the proliferation of derivative ones (Skiles 2014: 224; Schaffer 2015: 647–49). Derivative entities are an ontological free lunch: because they are grounded in the fundamental, they require no additional ontological commitment.

Care is required since grounding may but does not have to carry reductive implications. While this opens another path by which nonreductive views can be developed, the result is a sort of robust primitivism (the topic of section 2.3). Nonreductive grounding need not support deep explanatory characterization because identifying the nonreductive grounds of some entity *x* need not involve explaining what it is to be *x* (Bertrand, forthcoming: 9–12).

Another version of the thought that derivative entities are nothing over and above their more fundamental bases involves reducing some entity to its real definition: the nontrivial necessary and sufficient conditions for *x* that somehow arise from or are grounded in its nature (Fine 1994: 10–14; Rosen 2015: 199; Elgin, forthcoming: 5–9). The result is a statement of what it is to be *x* such that being *x* consists in, reduces to, or is nothing over and above some more fundamental thing's (or things') being the case.

2.2. Minimal Metaphysical Primitivism

Some entity *x* is a metaphysical primitive only if the consequent of the minimal primitivist commitment is true: *x* is not susceptible to ontological reduction. This means there is no more fundamental base to which *x* stands in reductive identity, no more fundamental ground that it is nothing over and above, and no set of facts the obtaining of which form nontrivially necessary and sufficient conditions on *x* arising from its nature.

Minimal metaphysical primitivism, unlike the robust sort to come, is exhausted by the minimal primitivist commitment. Some *x* is minimally metaphysically primitive if and only if and because it is not susceptible to ontological reduction.

Minimal metaphysical primitivity is often explicitly discussed in the literature. For example, Skiles explores minimal primitivism about intrinsicity while explicitly

contrasting it with what I will soon call robust metaphysical primitivism (2014: 222 and fn. 2). McDaniel considers three species of minimal primitivism concerning grounding, differentiated by the senses of reduction they involve (2017: 225–26). And Rota defines primitive (or basic) facts as ‘facts that are not reducible to other facts’ (2009: 135).

If minimal metaphysical primitivism is its target, then the AAA is straightforwardly valid. However, apart from its preamble, the AAA is also wholly uninteresting. To claim that some x is minimally metaphysically primitive is just to claim that it is not susceptible to ontological reduction. The AAA is hardly an inference at all. When we employ it, we merely apply a term to its extension.

While the AAA secures minimal primitivism, we have good reason to think it is not the only sort of interest. Were it aimed exclusively at minimal primitivism, the attention given the AAA would be surprising. We do not feel the need to name similar applications of terms to their extensions. Robust primitivism helps explain why philosophers have attended to the AAA. Furthermore, minimal primitivism is much too weak to capture positions often defended by actual primitivists. It is a purely negative view leaving open what primitive entities are like. Because of this, it runs together a range of different nonreductive views better kept separate. For example, nonreductive physicalism and Cartesian substance dualism are both instances of minimal primitivism about the mental. Yet, they intuitively belong to different kinds. On substance dualism, mental substances are *sui generis* and only causally related to physical ones. On nonreductive physicalism, the mental supervenes on or is realized by the physical and is not *sui generis*.

To distinguish views like these, the minimal primitivist commitment needs supplementation to produce a more stringent sort of primitivist view. I turn now to robust metaphysical primitivism and claim that it cannot be secured by the AAA.

2.3. Robust Metaphysical Primitivism

Robust metaphysical primitivism supplements the minimal primitivist commitment with the following:

Robust Primitivist Commitment: If entity x is a robust metaphysical primitive, then it does not admit of metaphysically deep explanatory characterization: we cannot say, in independent terms, what it is to be x .

Philosophers sometimes explicitly connect primitivity with inexplicability or with inexplicability in independent terms. For example, while objecting to ‘transcendental’ ontologies, E. J. Lowe claims the resemblance between concrete objects on these views ‘would have to be primitive or “brute” and ungrounded, and hence inexplicable’ (Lowe 2012: 234). Byrne and Hilbert criticize ‘minimal primitivism’ about color (distinct from my minimal metaphysical primitivism), the view on which colors are *sui generis* properties so that ‘the colors have no non-chromatic natures’ (Byrne and Hilbert 2007: 78). On this view what it is to be colored (or to be a particular color) is inexplicable in nonchromatic terms.

Similarly, Karen Bennett describes (and later rejects) what she takes to be the orthodox view on which ‘relative fundamentality is an inexplicable primitive that cannot be characterized at all; there is nothing in virtue of which relations like more fundamental than obtain’ (Bennett 2017: 139). The claim that primitives are inexplicable forms the basis for a familiar complaint against primitivism: that it is uninformative and so fails to provide ‘at least some understanding of the phenomenon’ (Skiles 2014: 243). And the related claim that metaphysical primitives lack natures forms the basis for Elgin’s argument against them. In brief, Elgin argues there are no metaphysical primitives because there are no things that lack natures (2018: 10–11).

Philosophers more often reveal their implicit commitment to robust metaphysical primitivism. For example, it is sometimes claimed that when x is a primitive we are reduced to metaphor when characterizing it. Martin Lipman claims that any description of primitive temporal passage is bound to be metaphorical because it is primitive (Lipman 2018: 111–12). Chalmers claims that since we cannot reduce consciousness, ‘the best we can do is to give illustrations and characterizations that lie at the same level. These characterizations cannot qualify as true definitions, due to their implicitly circular nature, but they can help to pin down what is being talked about’ (Chalmers 1996: 3). We are not reduced to metaphor or illustration if these primitives admit of metaphysically deep explanatory characterization.

Commitment to robust primitivism about some x is also made via the claim that facts about the distribution of x are brute. While this is not the same as claiming that what it is to be x is brute, any answer to the question ‘what is it to be x ’ will entail answers to questions of the form ‘under what conditions does some y count as an x ’. Roughly, if we can say what it is to be x , then we can use that explanation to identify those conditions under which something counts as one: if what it is to be x is to be Φ , then some y counts as an x when y is Φ (the general, special, and inverse-special composition questions are instances of this schema, see Hawley 2006: 483). In this way, Josh Parsons’ antireductionism about intrinsicity is an instance of robust metaphysical primitivism. It is the thesis that intrinsicity cannot be reductively analyzed and ‘it is simply a brute fact about some properties that they are intrinsic’ (Parsons 2001: sec. 2.23; also Skiles 2014: 222). The claim that intrinsicity facts are brute entails that intrinsicity is itself inexplicable. Similarly, Markosian endorses the brutality of composition facts: ‘for any x s, if there is an object composed of the x s, then it is a brute fact that there is an object composed of the x s’ (Markosian 1998: 215). As Markosian understands it, this means there is no other fact or facts in virtue of which composition facts obtain. And this again entails that composition is inexplicable: if it were not, then we could explain why there is an object composed of the x ’s by appealing to the nature of composition (Markosian 1998: 215; Hawley 2006: 488).

Because robust metaphysical primitivism is a stronger commitment than antireduction, it does not obviously follow from the absence of analysis and certainly does not follow, as in the AAA, with no intervening steps. Being irreducible is not the same property as being inexplicable. It might nonetheless be thought that the robust primitivist commitment is entailed by the absence of analysis so that in absence of ontological reduction, our theoretical targets do not

admit of metaphysically deep explanatory characterization. If this were so, then we could modify the AAA to secure robust primitivism as well as minimal primitivism. In what remains I argue that this is false.

3. Metaphysical Constraints and the Argument from Absence of Analysis

Now that the distinction between minimal and robust metaphysical primitivism is in hand, a dilemma for the AAA comes into view. The AAA concludes that x is metaphysically primitive based on the fact that x cannot be reduced. However, the argument applied to existing sorts of metaphysical primitivism is either uninteresting or unsuccessful. Suppose by ‘metaphysically primitive’ we mean that x is minimally metaphysically primitive. Something is minimally metaphysically primitive if and only if and because it is irreducible. The AAA is therefore an uninteresting application of a term to its extension. Suppose that by ‘metaphysically primitive’ we mean that x is robustly metaphysically primitive: it is both irreducible and inexplicable or inexplicable in independent terms. Then the AAA fails to prove its conclusion. It does not follow from the irreducibility of x that x lacks a metaphysically deep explanatory characterization because reduction is not the only way such characterizations can be given. It is to this claim I now turn. I offer a way of giving metaphysically deep explanatory characterizations backed by metaphysical constraints. Resulting constraintist views are both nonprimitivist and nonreductive in the sense that they do not require commitments to either sort of view (contrast this with antireductive and antiprimitivist views, which are committed to the absence or presence of reduction respectively).

By showing that the AAA does not establish robust metaphysical primitivism, we deprive that sort of view of an important avenue of support. Though there may be good reasons for thinking some things are robustly primitive, showing that they are irreducible is not enough.

3.1. What about Nonreductive Views

Before we begin, a brief detour is called for. Are preexisting nonreductive views not already sufficient to show that robust primitivism does not follow from the absence of reduction (and if so, why introduce the notion of constraint)? In short, no. Nonreductive views offer the important insight that there is space between reductionism and primitivism. However, it is not clear that existing nonreductive views genuinely fall between reduction and robust primitivism, as I understand them.

Consider the case of nonreductive physicalism in the metaphysics of mind. While precise statements are controversial, physicalism is (roughly) the claim that the world is at bottom physical: in some sense, there is nothing over and above the physical phenomena (cf. Melnyk 2008: 1282; Ney 2008: 1036–38). While reductive physicalism aims to reduce the mental by identifying mental and physical phenomena, nonreductive physicalism is distinguished by its rejection of reductive identities in favor of (at minimum) the supervenience of the mental on the physical. The idea is that though not identical, the mental is nonetheless nothing

over and above the physical because there can be no mental change or difference without a physical one. Many supervenience theses are available varying in scope and strength. However, each involves necessary covariation, and none are sufficient to entail reductive identities.

Though nonreductive physicalism is supposed to resist the reduction of the mental to the physical, I am not sure it does. Physicalism of any sort seems to require that there is nothing over and above the physical. Yet, this is just what the minimal reductive commitment requires of reductive views. Nonreductive physicalism involves (minimally) a set of supervenience claims. Yet, supervenience is claimed to be sufficient for reduction in other contexts, as in the debate about causal primitivism (e.g., Schaffer 2008; 85). And the supervenience of the mental on the physical is often explained by appeal to grounding (cf. Schaffer 2017: 14–16). Grounding brings about reduction provided that groundees are nothing over and above their grounds.

However, if nonreductive physicalism is genuinely nonreductive, then, as Andrew Melnyk argues, it is plausibly too weak to count as physicalism since it fails to secure the claim that the mental is nothing over and above the physical (2008: 1284–91). While proper physicalism rules out primitivism about the mental, supervenience-based nonreductive physicalism is consistent with it. Though it requires necessary covariation between the mental and the physical, it does not offer or even require that there be any explanation for this covariation. Thus, supervenience-based nonreductive physicalism is consistent with a state of affairs in which supervenience is a brute modal relationship between entirely distinct primitive kinds (Melnyk 2008: 1287). Grounding-based nonreductive views are consistent with primitivism about the mental for a different reason. To count as nonreductive, these views must admit the mental as something over and above the physical. This rules out reductive explanations for necessary covariation because any such reductive explanation will require that this not be the case.

My goal is not to argue against nonreductive views here. I say only that nonreductive views are not clear witnesses of my claim that the AAA cannot demonstrate robust primitivism. Constraintist views witness this clearly.

3.2. Metaphysical Constraints

For some worldly fact F and entity x , F counts as a metaphysical constraint on x iff that F is part of what it is to be x . I assume here that natures are structured complexes made up of worldly facts and that by discovering the nature of x , we are discovering what it is to be x . Beyond this, there is no need to appeal to a particular account of essence or nature. The constraints on x are the case in every possible world in which x exists so that, however else they might differ, x -worlds resemble one another with respect to x 's constraints. In addition to making up the core of what x is, parts of its nature play a constraining role by restricting the way x or its counterparts might be across the possible worlds in which it obtains. It is because they play this constraining role that the constraints on x can be used for a metaphysical explanation of facts about it or about the world more generally (see Bertrand, forthcoming: 9–12).

For an example of a plausible metaphysical constraint, consider the intuitively close relationship between free will and the power to do otherwise. This is often enshrined in the principle of alternative possibilities (AP), which says that a person acted freely, and so is morally responsible for an action, only if she could have done otherwise (Frankfurt 1969: 829). It is plausible to understand this relationship as a metaphysical constraint on free will: a constitutive part of what it is for a will to be free that constrains the way in which free willings might be across the possible worlds that feature them.

For a very different example, consider the uniqueness of composition, which is (if true) a plausible metaphysical constraint on composition. Composition is unique if and only if it is the case that for any composite objects x and y with exactly the same proper parts, x is identical to y (Simons 1987: 62–63). That composition is unique is plausibly a constitutive part of the nature of composition because uniqueness partially constitutes the distinctive relationship between parts and wholes. It identifies the conditions under which composite objects are identical: they are identical iff they share exactly the same proper parts.

As each example illustrates, metaphysical constraints underwrite metaphysically deep explanatory characterizations of their objects. By uncovering that having the power to do otherwise is part of the nature of free will and thus capturing a metaphysical constraint, a theory of free will partially explains what it is for a will to be free. Similarly, by uncovering that composition is unique, a theory of composition captures a constitutive part of its nature, providing a partial characterization of the nature of composition (understood as a worldly thing rather than a representational entity).

This suggests a generalizable picture of the way metaphysical constraints underwrite metaphysically deep explanatory characterizations. Namely, one way of providing a deep characterization of some x is to capture a metaphysical constraint on x . Because metaphysical constraints are constitutive parts of natures, information about them constitutes correct, necessary, and informative answers to questions of the form ‘what is it to be x ’ and thereby helps to explain facts concerning what is and what is not an x . By identifying and precisely grasping the metaphysical constraints on composition and free will, we better understand what it is for composition to occur and what it is for a will to be free.

3.3. Constraints Need Not Reduce

Like reductions, metaphysical constraints underwrite metaphysically deep explanatory characterizations. However, metaphysical constraints can obtain independently of reductive analysis; they do not need to support or entail reductive analyses in order to characterize their objects or to explain facts concerning them. When some x is irreducible but metaphysical constraints on it can be identified, x can receive a metaphysically deep explanatory characterization in terms of its constraints. Thus, x is irreducible, but robust primitivism about it is false. So robust primitivism does not, in general, follow from the absence of analysis as the AAA requires.

To see why metaphysical constraints can obtain independently of reductive analysis, recall the minimal reductive commitment from [section 2.1](#): ‘An entity x reduces to an entity y only if x does not exist over and above y ’ (Smart 1959: 143). In order to be reductive by the lights of the minimal reductive commitment, metaphysical constraints need to serve as the reductive base of their targets so that these targets are nothing over and above the constraints on them. This is not generally true: sometimes things do seem to exist over and above their constraints. This claim separates my view from the one defended by Elgin ([forthcoming](#)). On Elgin’s view, partial real definitions provide partial reductions. I am arguing that entities are not generally reducible to their real definitions.

To see that constraints need not serve as reductive bases, consider that metaphysical constraints sometimes take their objects as constituent parts. This would not be possible were entities nothing in addition to their constraints. The alternate possibilities constraint on free will illustrates this. AP sets out a necessary relationship between free will and the power to do otherwise that is (if true) plausibly a constitutive part of the nature of free will. However, that free will and the power to do otherwise are so related is itself a fact that is composed of the properties and objects that are its parts. Accordingly, the AP constraint on free will has free will as a proper part. Something analogous is true for the uniqueness of composition. In settling the individuation conditions for composite objects, uniqueness makes free use of the composition relation. Composite objects are just those objects that are composed of other objects. Though we are not obligated to understand uniqueness in this way (since mereological notions are interdefinable), understanding uniqueness and ‘composite object’ in terms of composition does not seem to involve a mistake even though uniqueness is, if true, a constraint on composition.

Gideon Rosen observes that some thing similar is true of recursive real definitions such as the definition of natural number: ‘To be a natural number is to be either zero or the successor of a natural number’ (Rosen 2015: 196). Real definitions are accounts of what it is to be some x and are, I take it, constituted by metaphysical constraints on x . Though this real definition says what it is to be a natural number, it does so by appealing to a notion (the successor of a natural number) that is dependent on, and (I add) partially constituted by natural number. In each of these examples, the metaphysical constraints on x themselves involve x . Thus, any reductive analysis of x based on these constraints is doomed to include the target of analysis in its analysans.

For the same reason, metaphysical constraints sometimes violate the relative fundamentality requirement on reduction: necessarily, if x reduces to y (or the y ’s), then y (or the y ’s) are ontologically prior to, more basic than, or more fundamental than x . Unlike reductive bases, metaphysical constraints need not be any of these things. For example, being the successor of a natural number is not plausibly more fundamental than being a natural number but does feature into the above real definition and is plausibly part of a metaphysical constraint. Something like this is responsible for Boris Kment’s distinction between reductive and nonreductive real definitions, where reductive real definitions must not (and nonreductive ones may) mention the definiendum or some entity that

ontologically depends on it (Kment 2014: 159). Constraints and their objects sometimes stand as parts of a closed circle of interrelated entities like those plausibly formed by mereological, modal, and moral properties. Yet, nothing seems to prevent, for example, mereological relations from having purely mereological natures. Reductions, by contrast, must be wholly independent of their objects if they are to avoid triviality or vicious circularity.

It might be a concern that constraints are not independent enough to characterize their objects explanatorily. I respond that explanatory characterizations can be *correct* without being independent (and are sometimes only correct when dependent in this way). This is so in cases where the target is a part of a closed circle of interrelated entities, such as those plausibly formed by mereological, modal, and moral properties. In these cases, the nature of the target involves other entities in the circle. Explanatory characterizations can also be *satisfying and informative* without being completely independent of what they characterize. For example, the uniqueness of composition settles the individuation conditions for composite objects and belongs in a satisfying and informative characterization of the composition relation even though it makes use of the composition relation (or other mereological notions) in that characterization. And constraints can be used to explain nearby facts about the instantiation behavior of the composition relation as well. These explanations do not even have the appearance of circularity (see Bertrand, *forthcoming*: 12–14).

Metaphysical constraints need not be related to their objects via the reductive relations discussed in section 2.1. This is an additional reason to think that entities are genuinely something over and above their constraints. Entities do not generally stand in reductive identities with their constraints because they need not even belong to the same ontological category as the latter. While composition is a relation (or so I will assume) among concrete objects, the metaphysical constraints on composition are not. They are worldly facts like the fact that composition is unique. For the same reason, entities are not identical to the complete set of their constraints: their complete natures. A complete set of constraints is a set of worldly facts or a single complex one.

Alternatively, some x might be reduced to its constraints by being (wholly or partly) grounded in them. This is not plausible either. Since metaphysical constraints need not be ontologically independent of what they constrain, attempts to ground objects in their constraints invite violations of the irreflexivity of grounding by inviting cases where objects wholly or partly ground themselves. As a result, it is not clear that the grounding claims required by this strategy can even satisfy the formal requirements typically placed on grounding. In addition, grounding is a generative relation often taken to be a metaphysical analog of causation. ‘Roughly speaking, just as causation links the world across time, grounding links the world across levels. Grounding connects the more fundamental to the less fundamental’ (Schaffer 2012: 122; see also Sider 2011: 152; Bennett 2011: 79–84). Less fundamental entities exist and have the features they do in virtue of the more fundamental entities that ground them. But metaphysical constraints and their objects need not stand in generative relations to one another: entities seem not to be generated by what it is to be them.

Metaphysical constraints also function differently in explanatory contexts and back different sorts of explanation (Bertrand, [forthcoming](#): 9–12).

When metaphysical constraints do support it, reduction plausibly comes in the form of reductive real definitions: nontrivial necessary and sufficient conditions for x that somehow arise from or are grounded in the natures of what they define. Indeed, we might think that every constraint is part of a reductive real definition in virtue of the following supplementation principle: supposing that P partially characterizes x , there must be some S such that $S + P$ fully characterize x .

This supplementation principle is false: metaphysical constraints need not feature in reductive real definitions. As Rosen points out, the notion of essence (i.e., the natures in terms of which the notion of constraint is defined) is more general than the notion of real definition. Rosen claims that everything has an essence: ‘definable or not, there will be truths of the form $\Box xP$ [in English, it lies in the nature of x that P], and we may identify x ’s essence with the class of such truths. Even if the Gettier examples show that knowledge is indefinable, it still lies in the nature of knowledge that if S knows that p then p is true’ (Rosen 2015: 194). Things may have essences without having real definitions. Perhaps the case of knowledge is an example. And real definitions do not have to be reductive either: things and their natures (and so their metaphysical constraints) need not be ontologically independent of one another (hence Kment’s distinction above). It thus does not follow from the fact that something has a nature or even a complete real definition that it is reducible.

In light of this discussion, I do not think it is plausible to require that constraints serve as the basis for reductive analysis. Constraintist views, those that offer metaphysically deep explanatory characterizations of their objects making use of metaphysical constraints, are nonreductive without being antireductive. While the constraints these views appeal to may sometimes be the base of reductive analysis, they may also be distinct from such a base. That some x is subject to metaphysical constraint implies nothing about its reducibility. Whether there are constraints on x is independent of whether x is reducible so that metaphysical constraints, and the metaphysically deep explanatory characterizations they underwrite are in principle available even in cases where no reductive analysis is possible.

4. Constraints Reveal Hidden Dialectical Space

Let us take stock. Though the argument from absence of analysis is pervasive, when it is aimed at metaphysical primitivism it is either uninteresting or invalid.

Suppose that the target of the AAA is minimal metaphysical primitivism: the sort of primitivism that is exhausted by the claim that its target is irreducible. Then the AAA consists merely in the application of a term to its extension. The inference from irreducibility to minimal metaphysical primitivism is not threatened by metaphysical constraints or their attendant constraintist theories. However, it is hard to see how anything could threaten the inference, since it is hardly an inference at all.

Suppose that the target of the AAA is robust metaphysical primitivism instead: the sort on which primitives are both irreducible and inexplicable. Then the AAA is

invalid. Even when some x is irreducible, it does not follow that no metaphysically deep explanatory characterization can be given. This is because metaphysical constraints can but do not have to bring about ontological reduction; yet, they always underwrite explanatory characterizations of their objects.

Constraintist views, those that account for their objects by uncovering metaphysical constraints, are distinct from and independent of ontologically reductive views. Therefore from the fact that x is irreducible it does not follow that x is metaphysically unconstrained. In [section 3.2](#), I argued that metaphysical constraints underwrite metaphysically deep explanatory characterizations of their objects. A metaphysically deep explanatory characterization of some x is an account of what it is to be x . And metaphysical constraints just are constitutive parts of natures so that the metaphysical constraints on x are parts of what it is to be x . Identifying the metaphysical constraints on x is just capturing correct, necessary, and informative answers to questions of the form ‘what is it to be x ’ and thereby helping to explain facts concerning what is and is not an x . This tells us something important: the explanatory question (whether it is possible to explain what it is to be some x) is separable from the ontological question (whether x can be reduced). Because constraintist views pronounce on the explanatory question without making commitments with respect to the ontological one, they are available irrespective of the prospects for reductive analysis.

Metaphysical constraints and their attendant constraintist theories show that metaphysically deep explanatory characterizations can sometimes come apart from ontological reduction. This happens in cases where some x is irreducible but metaphysical constraints on it can be identified. In such cases, x can receive a metaphysically deep explanatory characterization in terms of its constraints in absence of reduction. And it is because such cases are possible that the AAA is incapable of demonstrating the truth of robust primitivism. Robust primitivism is neither equivalent to nor entailed by the absence of ontologically reductive analysis because robust metaphysical primitivism is sometimes false of entities that are ontologically irreducible.

Constraintist views promise to open new dialectical space in debates where participants have restricted themselves either to primitivism or reductive analysis. Constraintist views are certainly not robustly primitive. And it would be a mistake to say generally that they count as reductive or minimally primitivist: we should distinguish views that make reductive or antireductive commitments from those views that are agnostic about reduction altogether. Though there are many things for which reductive analysis is so far unavailable, we may still provide metaphysically deep explanatory characterizations of these things underwritten by metaphysical constraints. We need not concede the explanatory project to robust primitivism. In what remains of this section, I will present the debate concerning personal identity to illustrate how the space opened by metaphysical constraints might be occupied.

4.1. Case Study: Personal Identity

Constraintist theories are especially promising in debates where reductionists and robust metaphysical primitivists have reached a stalemate. Consider the debate

about the persistence question in the metaphysics of personal identity: ‘under what possible circumstances is a person who exists at one time identical with something that exists at another time’ (Olson 2016: 4). This question is often paraphrased as a request for necessary and sufficient conditions aimed at providing criteria (I take it, a reductive real definition) of personal identity. These criteria serve as a reductive base for personal identity so that what it is for a person to persist over time is nothing over and above satisfying them.

Purported reductive analyses have come in roughly two kinds. The first, the psychological approach, claims that some psychological relation is necessary and sufficient for persistence. One candidate reductive base is psychological connection. A being at some future time $t+n$ is psychologically connected with you at t if she is in the psychological states she is at $t+n$ because or in large part because of the psychological states you are in now (Lewis 1983: 55–56). Another candidate is psychological continuity. A being at $t+n$ is psychologically continuous with you at the present time if some of your current mental states are related to hers by a chain of psychological connection. These are offered as criteria for personal identity so that, as Lewis claims, ‘what matters in survival is mental continuity and connectedness’ (Lewis 1983: 56). The second, somatic approach, claims that identity through time consists in some (perhaps brute) physical relation. For example, a being at $t+n$ is identical to you iff you share the same life, are the same animal, or have the same body or brain (Thomson 1997: 202; Olson 1999: 94–106). What matters for survival (on this approach) is the sameness of a particular kind of physical object so that the problem of personal identity reduces to the more general problem of identity over time.

Though otherwise very different, these approaches agree that there is something it takes for us to persist; that is, our identity through time consists in or necessarily follows from something other than itself. In other words, personal identity can be reductively analyzed (Olson 2016: 7).

Unfortunately, attempts at reductive analysis have been uniformly subject to devastating counterexamples against their sufficiency. The psychological continuity view is threatened by fission cases where more than one future person is psychologically continuous with you, but each future person fails to be identical to the other. Because identity is transitive, something more than continuity must be required. In contrast, different versions of the somatic view are plagued by transplant cases that preserve the relevant physical relations while destroying psychological features that intuitively matter. When a reductive analysis cannot be given (suggested by our uniform failure to give one), that is evidence in favor of anticriterialism: the view that there are no criteria of personal identity so that it is robustly primitive (Merricks 1998: 107). While anticriterialism does not entail that persistence or existence at a time is brute, unexplainable, or uncaused, it does follow that no informative explanation of what it is for a person to survive can be given. Says Merricks, ‘if criterialism is false, then facts of identity over time have absolutely no grounding . . . are brute and unexplained and uncaused’ (Merricks 1998: 118). That your future self exists is explained causally. But there is no need to explain why you are identical with your future self because identity facts are primitive: they do not require explanation (cf. Merricks 1998: 119). Constraintism

constitutes a third sort of account distinct from reductive and primitivist ones found in the literature. Like the anticriterialist, the constraintist view is consistent with the irreducibility of personal identity. However, it does not follow that there can be no account of what it is for something to persist. Though no criteria of identity may be possible, a metaphysically deep explanatory characterization of persistence over time is available in terms of its metaphysical constraints.

A first approximation of such an account can be made from the most attractive pieces of reductive theories while disavowing their reductive aspirations. For example, a promising constraintist theory might adopt a psychological approach by identifying psychological continuity as a metaphysical constraint on persistence over time rather than as part of its reductive base. On this view, a constitutive part of what it is for a future person to be identical with you is for that person to be psychologically continuous with you. Psychological continuity is necessary for persistence but does not need to be sufficient for it. Accordingly, the resulting view is not threatened by challenges to sufficiency that plague its reductionist cousins.

The research project underwritten by metaphysical constraints is distinct from the project of reductive analysis. Though it need not reductively analyze, the constraintist project will, if successful, secure a deep explanatory characterization. By identifying constitutive parts of the nature of diachronic personal identity, it offers an interesting and informative answer to the question what it is for a person to persist over time. Constraintist views thereby shoulder the explanatory burden that the anticriterialist shrugs.

4.2. A Revealing Objection

It might be objected that the constraintist theory of personal identity gives, at best, a partial characterization of persistence over time and so only partially explains what it is for a person to persist through time. In contrast, if a reductive account had been available, it would have fully characterized and so fully explained identity over time. Because the constraintist account gives a merely partial characterization, it falls short of explaining what it is for a person to be identical with some past or future thing.

Notice, first, that such a constraintist account could in principle be complete without serving as a reductive base (see [section 3.3](#)). Nonetheless, constraintist theories are often partial. Rarely (if ever) do we completely grasp the metaphysical constraints on the entities about which we theorize. Requiring this would set the bar for theorizing implausibly high. However, it does not follow that any theory of personal identity underwritten by metaphysical constraints will fail to characterize persistence over time. Failing to characterize completely is not the same as failing to characterize at all. When a theory is underwritten by an incomplete set of constraints, it provides a partial explanatory characterization of its target, and such a partial characterization is a significant achievement, particularly in contexts where no complete reductive analysis is forthcoming (for a similar thought, see Elgin, [forthcoming](#): 12–15).

Importantly, we cannot say the same for incomplete reductive accounts. Reductive accounts explain what it is to be their targets by reducing them:

showing them to be nothing over and above some independent y or y 's. Because incomplete reductions do not do this, they do not even in part discharge the explanatory burden reductive accounts shoulder. Partial reductions do not offer partial explanations because this would require showing that some x is *partially* nothing over and above some further y . Yet, partial nothing over and aboveness seems a contradiction in terms. Reduction is all or nothing. In contrast, constraintist theories characterize their targets by giving information about what it is to be them. A partial collection of this information partially discharges the explanatory burden assumed by constraintist accounts and constitutes an explanatory achievement as a result.

It might be thought that their differences in completeness give a reason to prefer reductive views to constraintist ones when both are available. I am skeptical that this is the case because I am skeptical that reductive views really must provide complete explanatory characterizations. For example, suppose that what it is for a person to persist over time is exhausted by its reductive base. The resulting reductive explanation may say little about the nature of personal identity in absence of an additional deep explanatory characterization of the items in that reductive base. In absence of this, a reductive explanation of personal identity does nothing but point to some further thing. In contrast, metaphysical constraints are not often complete but do illuminate the natures of their targets. When doing metaphysics, we might have reason to prefer illuminating explanations to complete ones.

Setting this skepticism aside, constraintist views are important because it is not often the case that reductive views and constraintist ones are both available. It is not the case that reductive analysis is available, for example, in debates where the AAA is appropriate. And it is not the case that reductive analysis is readily available in debates for which the new ground broken by constraints is most promising. In these debates—personal identity is an example—there is an impasse between reduction and primitivism. Each view is subject to significant objections that make neither view attractive.

Theories underwritten by constraints contribute to debates like these by offering explanatory characterizations that are not vulnerable to existing objections, are informative, and do not require reduction. Rather than defusing objections to reductive or primitivist views, as friends of either view must, constraintist theories make their contribution by untangling ontological questions concerning whether and how personal identity can be reduced from explanatory questions concerning what it is to be identical with some future thing. By providing an attractive third option in debates in which neither reduction nor primitivism is appealing, theories underwritten by metaphysical constraints promise to circumvent the deadlock between existing views.

5. Conclusion

The argument from absence of analysis is used pervasively but is of limited appeal. As a means of inferring minimal metaphysical primitivism, the argument is uninteresting: it merely applies the term 'primitive' to those things that meet its definition. As a means of inferring robust metaphysical primitivism, the argument

is invalid. From the impossibility of reductive analysis it does not follow that metaphysically deep explanatory characterization is unavailable. Metaphysical constraints underwrite metaphysically deep explanatory characterizations in the absence of reductive analysis. It follows that a widespread way of supporting primitivism (the AAA) is unable to demonstrate a prominent form of primitivism in the literature (robust primitivism).

The news is not all bad. Since metaphysical constraints make possible metaphysically deep explanatory characterizations in the absence of reduction, these characterizations are easier to come by than successful reductions. Metaphysical constraints reveal new dialectical space in a range of philosophical debates. It is occupied by constraintist views that characterize their objects in terms of metaphysical constraints without attempting to reduce them or to demonstrate that reduction is impossible. This new dialectical space is especially valuable when, as in the case of diachronic personal identity, existing views are unappealing.

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