

Are There Essential Properties? No.

Meghan Sullivan (University of Notre Dame)*

1 Hardcore Essentialism

Here is a story you might imagine hearing while touring a natural history exhibit:

Metamorphosis: Once there was a fertilized *Danaus plexippus* egg. Call it “Batra”. Battra began to grow, with cells fissioning and becoming more specialized, until Battra became a caterpillar. Two weeks later, Battra formed a chrysalis. After several more weeks, Battra emerged as a Monarch butterfly. Battra lived several more weeks until it was captured and mounted in this case. Over time, Battra’s wings grew fragile and disintegrated. Lepidopterists replaced parts of the wings with silk. Then Battra’s thorax deteriorated. Piece-by-piece it was replaced with modeling clay. Now Battra is on display here.

The metamorphosis story is intelligible. There is no sentence where meanings obviously shift or fail. It doesn’t commit pragmatic errors. Still, we might wonder whether it (or any story of radical change like it) could be true. This takes us into the territory of metaphysics. We might have thought, for instance, that any organic object is *essentially* organic: it could not exist without being organic. But if Battra is essentially organic, then the story is misleading—at some point in its transformation, Battra does not survive.

There is a long tradition of distinguishing properties based on whether they are essential to their bearers or merely accidental. The main idea can be grasped with a metaphor. Imagine reality as a pegboard, with pegs representing individual objects (like Battra) and rubber bands representing

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their properties (like being organic). Some essentialists think some bands are “glued” to their bearers—the only way to stop the peg from instantiating the property is to remove the peg entirely. Distinguish this *individual* essentialism from *kind* essentialism, the view that there are necessary connections between some properties—i.e. anything gold essentially has atomic number 79. For kind essentialists, the glue holds between bands. This chapter will be concerned with individual essentialism.

The simplistic picture can be made more precise. Here is a view which I will call *Hardcore Essentialism*:

There is some object o and some property P such that:

- (i) o has P ;
- (ii) if o exists, o must have P (without qualification); and
- (iii) P is a qualitative and discriminating property of o .

The first condition is straightforward, but (ii) and (iii) need elaboration.

The “must” in (ii) expresses a distinctive kind of metaphysical necessity—a necessity that is invariant and broader than mere logical necessity. If a hardcore essentialist says that Battra is essentially organic, he means Battra is organic in every possible world in which it exists. Compare that to the claim that Battra must be organic, *given that it has a body*. This only entails that in every world where Battra has a body, Battra is organic. Condition (ii) can be stated more precisely using modal logic. The hardcore essentialist thinks there are true instances of the following schema: for some property P , $\exists x \Box (\exists y (y = x) \rightarrow Px)$. Claims like (ii) are *de re* modal claims—they ascribe a modal status to particular objects (like Battra) rather than to sentences or propositions. Here \Box captures the distinctive kind of metaphysical necessity.

Condition (iii) distinguishes hardcore essentialism from other theories about the modal connection between objects and properties. A *qualitative* property is a property that more than one object can instantiate. Some philosophers think objects have “haecceities” or “thinnesses”—non-qualitative properties that pick out a particular object and are had only by that object. For instance,

we might think President Obama has the property of being Obama. If objects have haecceities, then it seems they must have them.¹ A *discriminating* property is a property that one or more objects can fail to instantiate. Some properties are necessary to their bearers but not discriminating, for instance being self-identical or being such that $2+2=4$. Debates over these properties are important, but considering them would take us too far afield of the main projects in this chapter.

There is a further reason to set aside haecceities and non-discriminating properties. Some philosophers are happy to accept conditions (i)-(iii) as *necessary* conditions for P being an essential property of o, but they deny that they are jointly sufficient. On the more demanding view, an essential property characterizes the underlying nature or gives the real definition of its bearer.² For instance, in addition to having the property of being organic whenever it exists, Battra also has the property of being the sole member of Battra's singleton set whenever it exists. But the former property seems more worthy than the latter of being called part of Battra's essence. To account for these differences, *harder-core* essentialists (as I will call them) insist on another condition for essentiality:

(iv) P is the real nature of o (or a part of the real nature of o).³

This condition siphons out properties that may happen to be modally glued to their bearers but are nevertheless somehow derivative.

I've described what hardcore essentialists believe. But why believe hardcore essentialism? Three prominent motivations have been given for hardcore (and harder-core) essentialism. In the next section, I will survey these motivations, identifying their key assumptions. Then I will describe why I find these defenses unconvincing.

¹For a prominent defender of haecceitistic essentialism, see Plantinga (1974). For criticism of the view, see Adams (1981).

²For example, Fine (1994). Fine goes further, suggesting that modal necessity (as in condition (ii)) ought to be defined in terms of real natures.

³L.A. Paul calls this "deep" essentialism. See Paul (2006).

2 Motivations

Why do we need any arguments for hardcore essentialism? You might think it is just obvious that any particular butterfly is essentially organic. Clearly essence talk is widespread and that it can be useful to sort properties as essential or accidental. What is open to debate is whether hardcore essentialism is the best explanation of these practices.

2.1 Explaining semantic intuitions:

One prominent defense of hardcore essentialism comes from intuitions about reference.⁴ Consider:

Andy has some water, *s*, and its actual chemical structure is H₂O. Is it possible that Andy could have the very same sample of water, even if its chemical structure were not H₂O? Consider a possible world where Andy has a sample of liquid with almost all of the same qualitative properties as *s* (clear, flavorless, life-sustaining...) except Andy discovers it has a different chemical structure, XYZ. Which is a better description of this world?

(a) In this world, *s* is XYZ rather than H₂O.

(b) In this world, Andy has something very similar to—but not the same as—*s*.

(b) seems like a better description than (a). If some substance is not H₂O, there is just no way it is the same sample of water.

Compare this to a different case:

Andy has some orange juice, *j*, and it is actually sold by Trader Joe's. Is it possible Andy could have the very same sample of juice, even if it were not sold by Trader Joe's? Consider a possible world where Andy has a sample of liquid with all of the same qualitative properties as *j* (orange, sweet, acidic...) except Andy discovers it is sold by a different company, Whole Foods. Which is a better description of this world?

(c) In this world, *j* is sold by Whole Foods.

(d) In this world, Andy has something very similar to—but not the same as—*j*.

⁴See for instance Lecture III of Kripke (1980). The Water-XYZ cases come from Putnam (1975), but it is unclear whether Putnam endorses hardcore essentialism rather than some form of meaning-relative essentialism.

(c) seems like a more accurate description. Any given sample of juice could be sold by different retailer.

If we are unable to describe a possible world where an object exists while lacking a particular property, then that property is essential to the object. If we are able to describe a world where the same object lacks the property, then the property is not essential. We are unwilling to describe a possible world where the sample of water exists but lacks the property of being H₂O. So being H₂O is essential to the sample. Similar arguments can be given for any chemical microstructure property. Chemical microstructure properties are qualitative and discriminating properties. So hardcore essentialism is true. Call this the *semantic motivation* for essentialism. It appeals to our beliefs about whether the same name (“s” or “j”) can pick out the same object in worlds where the properties of the potential referent vary. The crucial assumption of the semantic motivation is that we ought to take our beliefs about reference seriously as a guide to essence.

2.2 Grounding persistence conditions:

A second route to hardcore essentialism connects it with our beliefs about change. In 1775, Benjamin Franklin was promoted to French Ambassador. He lost some professional properties when he ceased to be the Postmaster General. Happily, it seems Franklin continued to exist after the change. In 1790, Franklin contracted pleurisy. He lost some of his organic properties when he ceased to live. Unhappily, it seems he also ceased to exist at this change. How do we explain the changes an object will or will not survive? A natural answer is by appealing to the object’s essential properties. Objects can gain and lose accidental properties, but they never survive a change in their essential properties. Facts about essences thus appear to serve an important role in explaining facts about persistence. Indeed, many philosophers have thought that the best solution to the paradoxes of persistence would involve offering a theory of essential properties.

Here is one way to make this reasoning more precise. According to the *persistence motivation* for essentialism, many objects have mind-independent, absolute persistence conditions. Persistence conditions require some kind of ground. Facts about essences are the best candidate for

the grounds of persistence conditions. Because there are many examples of persistence conditions which are qualitative and discriminating (i.e. Franklin's *being alive*), the essences which ground persistence are also qualitative and discriminating. Thus, hardcore essentialism is true.⁵ The crucial assumptions of the persistence motivation are (1) that we should take our beliefs about persistence seriously as guides to essence, and (2) that persistence conditions require some kind of grounding.

2.3 Methodology of metaphysics:

The third route to hardcore essentialism I've already hinted at. Observation can tell us a great deal about the interesting properties of things, but certain kinds of property ascriptions seem "deeper" than others. Consider the following pairs of (true), general property ascriptions:

- (1) Electron e is a particle whose upper limit radius is 10^{-22} meters.
- (2) Electron e is a negatively charged particle.
- (3) Barack Obama is disposed to don attire.
- (4) Barack Obama is a thinking animal.
- (5) Molecule w is the sole member of $\{w\}$.
- (6) Molecule w is composed of two hydrogen atoms bonded with one oxygen atom.

The claims in (1), (3) and (5) are all true, but they do not go very far in capturing what it is to be that electron, man, or molecule. In contrast, the claims in (2), (4), and (6) seem to better explain their subjects. Dating back to Aristotle, there is a tendency to understand metaphysics as the branch of philosophy which seeks explanations like (2), (4), and (6). As Kit Fine describes it, "One of the central concerns of metaphysics is with the identity of things, with what they are. But the metaphysician is not interested in every property of the objects under consideration... What is it about a property which makes it bear, in the metaphysically significant sense of the phrase, on what an object is? It is in answer to this question that appeal is naturally made to the concept of essence. For what appears to distinguish the intended properties is that they are essential to their bearers."⁶

⁵See for example, Wiggins (1980), Lowe (2008), Elder (2011). or Chapter 4 of Rea (2002) .

⁶Fine (1994, 1).

On the Neo-Aristotelian view, real natures play a central role in distinguishing good metaphysical theories from bad ones. So real natures are methodologically indispensable. If there are real natures, then presumably they are properties such that, if an object has them, it must have them. Many purported examples of real natures are qualitative and discriminating properties. So hardcore essentialism is true. Call this the *methodological motivation* for essentialism.

3 Questioning the Motivations

Are these motivations convincing? I think the assumptions underlying each are questionable, and taken together they offer (at best) a disjoint picture of what essential properties are like. More importantly, questioning the motivations for hardcore essentialism can point the way toward alternative accounts of what we are doing when we classify properties as essential or accidental.

Consider the semantic motivation first. The water-XYZ thought experiment which drives this argument is not without detractors.⁷ Objections to the semantic motivation are typically epistemological—the semantic case uses intuitions about conceivability and reference to motivate essentialism, but it is hard to say what exactly happens when we try to conceive of worlds where a sample of water is not H₂O. I won't repeat these epistemological objections here, but rather focus on objections that more directly target the assumption that our ways of referring reveal essentialist commitments.

Here is a tempting intuition about names—they persist in referring, even when the referent of a name has undergone radical change. The simplest case of this is names for past objects. When Benjamin Franklin died of pleurisy, the name “Franklin” did not cease to refer. Statements like “Franklin founded the University of Pennsylvania.” continue to be meaningful and true. And without much reflection, this seems true of names: anytime a name refers, it has a referent. What's the referent of “Franklin”? Well, it seems it is Franklin. So—if we are taking naive semantic intuitions seriously as a guide to essence—it seems that it is *not* essential to Franklin that he be

⁷See Searle (1983), Sidelle (1989) and Thomasson (2007) for criticisms of essentialist conclusions drawn from Twin Earth.

alive, since he is not alive, but is still a referent of the name “Franklin”.⁸

Or consider the ways we can seemingly use a name to track an object through a transformation. In the Metamorphosis story from Section 1, we named an egg, then described a series of gradual changes using that name. At the end of the series was a mostly inorganic object resembling a butterfly. While the best metaphysical description of the story is a subject of considerable debate, unreflective semantic intuitions lead us to think there is a shared referent of “Batra” at each step in the description—presumably Battra. I suspect we could tell a metamorphosis story for any candidate hardcore essentialist claims. We just need to be able to describe the object undergoing a series of gradual changes. The hardcore essentialist should presumably claim that in metamorphosis stories, the name words fail to co-refer when the object loses an essential property. He must then offer an error theory for why we mistakenly think reference persists in these cases. But any such error theory will undermine the semantic motivation for essentialism, which assumes we ought to take our beliefs about reference at face value.⁹

Perhaps hardcore essentialists could respond to these challenges by distancing themselves from the semantic motivation. What about the persistence and methodological arguments? Here hardcore essentialists can preserve one motivation but only at the expense of either repudiating the other or denying an attractive assumption about existence. Let me explain.

I assume with many metaphysicians that existence is an all-or-nothing matter. The sense of existence of interest to metaphysics is not susceptible of vagueness.¹⁰ Because existence is an all-or-nothing matter, persistence is also an all-or-nothing matter: for any given object undergoing a change of properties, it either survives the change or it does not. If survival is all-or-nothing,

⁸B-theorists and other eternalists about past existents will offer a theory of how this could be true—Franklin is still alive in another region of space-time. But this won’t vindicate the semantic motivation, since it is implausible to think that our ordinary semantic practices belie any deep eternalist commitments.

⁹In a similar vein, Quine argues that there are no meaningful criteria of transworld identity using intuitions about gradual change across worlds. He writes, “our cross-moment identification of bodies turned on continuity of displacement, distortion, and chemical change. These considerations cannot be extended across worlds, because you can change anything to anything by easy stages through some connecting series of possible worlds.” Quine (1976, 861).

¹⁰Lowe (1989, 4). Sider (2011) and van Inwagen (1998) give some more recent arguments for the univocity of existence. One can endorse the univocity of existence while still admitting it is vague—perhaps by endorsing some kind of metaphysical indeterminacy. But I reject this as well. For more on vagueness and persistence conditions see Sullivan (2012).

then the properties that account for the persistence conditions of objects must not be susceptible of vagueness. Why? Because if they were susceptible of vagueness, then some persistence conditions would be vague, and so some existence would be vague. To illustrate, compare the following two statements of persistence conditions for a given teapot, *t*:

P1) If *t* is shattered, *t* will not survive.

P2) If *t* loses 10^{22} or more of its molecules, *t* will not survive.

P1 is hopelessly vague, because there are many indeterminate cases of shattering. If a teapot breaks into seven pieces, has it shattered? Thirty-seven pieces? P2 is less vague (though of course the losing relation among a teapot and its parts is susceptible of some vagueness). Determinacy of existence pressures us to think that objects have very precise persistence conditions. So if the hardcore essentialist is right that we need essences to serve as the persistence conditions of objects, then these essences must also be very precise properties, more like P2.

But according to the methodological motivation, we should believe in essences because they are the proper subject matter for metaphysical explanations. The kinds of properties that make for good explanations tend to be general properties, highly susceptible of vagueness. Compare two possible real definitions of a given teapot, *t*:

D1) To be *t* is to be a small vessel for pouring hot water.

D2) To be *t* is to be a small vessel for pouring hot water that has not lost 10^{22} or more of its molecules.

If essences are the kinds of properties which characterize the real nature of their bearer and contribute to good explanations, then D1 seems more likely than D2 to be a true essence ascription. But D1 is much *less* suited to be a persistence condition than D2. D1 is much more susceptible of vagueness. A similar kind of argument can be given for other kinds of essence ascriptions. We might think any particular organism is essentially an organism (when giving its real definition) but acknowledge that being an organism is hopelessly vague. We might think any given water molecule

is essentially composed of H₂O while acknowledging that molecular composition is susceptible of vagueness.

The essentialist has options for accounting for this role incompatibility. First, he might insist that the properties which serve as persistence essences are distinct from the properties that serve as real natures. In this case, he must admit that the different motivations for essentialism do not both support a single theory of essential properties. Indeed, the metaphysician's term "essence" is ambiguous between properties that play these different roles. Second, he can give up the assumption that existence is always determinate. Finally, he might promote one of the motivations for essentialism and deny the other.

But for me, these challenges raise the question of whether we can do without modal glue entirely. The resulting picture of reality would be simpler—we would no longer postulate an absolute distinction among objects' properties. And, as I'll argue, the resulting picture may better account for the role that essence ascriptions play in our everyday thought. But if we mean to deny hardcore essentialism, we need some other theory of why it seems so attractive to categorize properties as essential and accidental. What are we doing when we ascribe essences?

4 Meaning-Relative Essentialism

Lets say an *anti-essentialist* is anyone who denies at least one of the three conditions of hardcore essentialism. The most obvious target is condition (ii): if *o* exists, *o* must have *P* without qualification. (Only an extremist would deny (i) or (iii), since this is tantamount to denying that objects have qualitative and discriminating properties). There are two ways that an anti-essentialist might object to condition (ii). First she might object that the condition, as explained, makes no sense. W.V.O. Quine famously presses this kind of objection to essentialism—arguing that all *de re* modal ascriptions are unintelligible.¹¹ Call any view which denies the coherence of (ii), *pure anti-essentialism*. Pure anti-essentialism is tough to defend. Many *de re* modal claims seem perfectly intelligible (at

¹¹Quine (1961).

least as intelligible as any topic in metaphysics).¹²

A second way to object to (ii) is to admit that we can make sense of essence ascriptions, but insist that they aren't true without qualification. When we say that an object has a property essentially, we aren't asserting some absolute fact about a connection between the object and that property; rather we are asserting some qualified fact about the connection between the object and the property. More recent kinds of anti-essentialism pursue this approach. On these views, we interpret "x must have P" as an instance of the following schema:

Relative Essentialism: For some property P and some parameter R, $\exists x \Box_R (\exists y (y = x) \rightarrow Px)$.¹³

According to the relative essentialists, there is no one absolute modal connection between an object and any of its properties. Rather the connection between an object and its property is only deemed "essential" relative to some parameter. How we fill out parameter R determines what kind of relative essentialist you are.

To date, the most popular version of relative essentialism holds that something has a property essentially relative to a convention for referring to and individuating objects. For instance, a given sample of water is essentially H₂O given that, in our language, chemical microstructure properties are the proper way to individuate samples of water. If we had a different language that used some other set of properties (say, color and viscosity) to individuate samples of water, then water would not be essentially H₂O, because samples that are not H₂O can have the same color and viscosity as water. Call this view *meaning-relative essentialism*, since according to the view, essential property ascriptions only hold relative to semantic or metasemantic facts.¹⁴ (The view is also sometimes called "conventionalism".) Using the schema above, the meaning-relative essentialist understands the "must" in condition (ii) as follows: given semantic convention C, for some property P, $\exists x \Box_C (\exists y (y = x) \rightarrow Px)$. Substitute a different convention in the schema, and the result

¹²See for instance Plantinga (1974).

¹³I'm grateful to Sam Newlands for discussion on this way of presenting the issues.

¹⁴Versions of this kind of view can be found in Sidelle (1989). Thomasson (2007) and Thomasson (2010) develop a view where essence attributions reflect linguistic prescriptions for using name words and kind terms. She calls the view "modal normativism".

is a different essence ascription, which may be false given the particular convention.

There are some problems for meaning-relative essentialism. First, in making essences semantically dependent, it seems that the meaning-relative essentialist also makes *existence* semantically dependent. The meaning-dependent essentialist insists that Battra is essentially organic only relative to a way of individuating butterflies. When most of Battra's body has been replaced by inorganic parts, does Battra still exist? If our convention imposes an organic requirement on picking out Battra, then it doesn't survive. If our convention imposes some other requirement for picking out Battra (say that it look like a butterfly), then Battra survives. So it seems Battra's existence at a time depends on semantic facts.¹⁵ The same holds for any other object. But this is absurd.¹⁶

Anti-essentialism is often taken to be a fast-track to ontological anti-realism, and many meaning-relative essentialists are happy to accept this result. But I don't think the meaning-relative essentialist is *forced* to adopt anti-realism. Behind this objection is an assumption that the persistence motivation for essentialism is sound. If essences are semantically dependent, and essences ground persistence, then persistence conditions are semantically dependent. If persistence conditions are semantically dependent, and persistence conditions ground facts about existence, then existence is also semantically dependent. But existence is not semantically dependent, so neither are essences. Or so the objection goes. In response to this objection, the realist meaning-relative essentialist would do well to deny that persistence conditions are grounded in facts about essences. There may be semantically-independent facts about which objects exist, which properties they instantiate, and how long they have persisted or will persist. But these facts are grounded in something other than facts about essences, or perhaps they are grounded in nothing at all. I don't think that abandoning the persistence motivation is a great cost since, as we've seen, even hardcore essentialists are pressured to divide the persistence and methodological motivations.

Other problems for meaning-relative essentialism are more difficult to answer. For instance, the theory also seems far too permissive. Suppose we adopt a language with the convention of

¹⁵Or metasemantic facts: facts about which conventions have been adopted.

¹⁶Chapter 4 of Rea (2002) uses considerations about grounds of persistence to argue against meaning-relative essentialists. Lowe (2008) uses similar arguments to dispute concept-dependent essentialism.

referring to and individuating objects based solely on their locations. This would be a bizarre convention, but it is a potential one nonetheless. At 10:00am, President Obama is a human sitting in his chair in the Oval Office. At 10:30am, a poached egg is in the chair. Is there an object that is Obama at 10am and the egg at 10:30? It seems natural to think Obama *just could not* become a poached egg (let alone in half an hour). No sensible account of essence and accident ascriptions allows for contexts in which “Obama could be a poached egg” is true.¹⁷ But there is at least one convention—the one described above— such that Obama’s essence does not preclude him from being a poached egg. If that convention were in play, “Obama could be a poached egg” would be true. So, it seems, the conventionalist must deny that there is an absolute or unqualified limit on what Obama could become. The (sensible) permissiveness of semantic conventions leads to an objectionably permissive anti-essentialism.¹⁸

Finally, meaning-relative essentialism fails to give a convincing theory of why we care so much about essential properties. Actual semantic conventions are in an important sense arbitrary. They evolved to solve coordination and communication problems, but in many cases one convention could be just as useful as another. Suppose we had a different convention for referring to and re-identifying people—say, by being the same person disposed to don attire rather than being the same thinking animal. We could use such a convention to solve coordination problems. But then Obama would be essentially disposed to don attire but not essentially a thinking animal. So why think there is anything “deep” to Obama being a thinking animal? Arbitrarily adopted semantic conventions cannot account for why some true property ascriptions are more explanatorily valuable than others. So meaning-relative essentialism fails to account for one of the main ways we use essentialist discourse, namely, to distinguish good explanations.

I think the meaning-relative essentialists are right in denying (ii). They are also right in thinking that when we ascribe essential properties to an object, the ascriptions are context sensitive. Where they go wrong is in choosing the relevant parameter R. There is a better form of anti-

¹⁷Note that harder-core essentialists seem committed to saying that “Obama is essentially a non-poached egg” is false, since being a non-poached egg is not a good candidate for being a real nature.

¹⁸For a version of this objection see Paul (2006). She poetically accuses the meaning-relative essentialist of “selling his soul to Quine.” (p.345)

essentialism available.

5 Explanation-Relative Essentialism

There are at least three features I want in a theory of how and why we classify properties as essential or accidental.

First, I want a theory that is consistent with realism. In particular, it should be consistent with the view that the existence of many objects and many of their properties does not depend on our concepts or semantic conventions. As we've seen, meaning-relative essentialists struggle on this point unless they deny that essences ground persistence conditions.

Second, I want a theory that does justice to the purpose of essential property attributions. At the very least, the theory should be consistent with the view that there are better and worse theories of objects and their properties, that better theories ascribe essences and worse theories do not, and that these differences in explanatory value do not arise arbitrarily. As we've seen, meaning-relative essentialism and weaker forms of hardcore essentialism struggle on this front.

Third, I want the theory to explain the apparent context-sensitivity of essence attributions while still being consistent with the view that there are absolute limits on the properties an object could have. So the theory should explain why the correctness of essential property attributions might sometimes vary across contexts, but there should be no context where President Obama is only accidentally human. As we've seen, hardcore essentialism flatly denies there is any context sensitivity in true essence attributions. Meaning-relative essentialism explains the context sensitivity of essence attributions, but it allows too much freedom.

I think the best way to satisfy these three desiderata is to employ the framework of a relativist theory but instead of looking to semantic conventions to provide parameter R, prioritize the role that essences play in good explanations. Before explicitly stating the relativist theory I support, it will be helpful to lay out some assumptions about the nature of explanation which will underwrite the theory.

An explanation is an answer to a “why” question. Why did Joe’s cancer metastasize? Why did Scotland’s recession end while England’s didn’t? An *explanatory framework* is a set of norms for giving a good explanation in a particular domain. For instance, there is a framework for good explanations in medicine. If a physician wants to explain why a particular tumor metastasized, any good explanation will reference changes in the extracellular matrix surrounding the tumor. A good medical explanation need not describe the quantum state of a particular electron orbiting a hydrogen atom in the tumor. But a good quantum explanation might very well focus on the spin state of atoms in the system. Different domains of inquiry come with their own explanatory frameworks—medicine, quantum mechanics, economics, logic, theology, astronomy, astrology, and so on. I further assume (more controversially) that that there are objective norms governing some explanatory frameworks. We discover these norms as a good science develops. Degenerate systems of inquiry like astrology are degenerate, in part, because there are no objective norms to govern their explanations.¹⁹ What accounts for the objectivity of these norms and how do we come to know them? Here there is flexibility in the theory, and presumably we should take our guidance from the best theories of objective explanation in the sciences.

According to *explanation-relative essentialism*, an essence ascription is true relative to an explanatory framework if and only if an object is ascribed that property in any good explanation of that type, and there are objective norms governing explanatory frameworks in that domain. A property is only essential to an object relative to an explanatory framework, and true essence ascriptions may vary across frameworks. Even more precisely, explanation-relative essentialism holds:

An object *o* is essentially *P* relative to framework *E* iff:

- (i) *o* has *P*;
- (ii) in any good explanation of type *E* which involves *o*, *o* has *P*; and
- (iii) there are objective norms governing explanations of type *E*.

¹⁹Another way to put this is that there are objective laws that back good sciences, but no such laws backing degenerate sciences. The relationship between irreducible laws and objective explanatory norms is an interesting one, which I cannot consider here.

We can use this framework to define accidental properties.

An object *o* is accidentally *P* relative to *E* iff:

(i) *o* has *P*;

(ii) *o* is not essentially *P* relative to *E*;

Outside of an explanatory framework, an object's properties can be considered neither essential nor accidental.²⁰

It is easiest to understand how the theory works by applying it to some very simple models.

Case 1: Physics. I'm offering an explanation for why some coin, *c*, completes an electrical circuit. *c* has the properties of conducting electricity and of being a unit of account in a financial market. Any good physical explanation of why *c* completes a circuit will cite its conductivity. Suppose there are objective norms underlying physical explanations. Then it is true that *c* essentially conducts electricity in my explanatory context. But *c* is only accidentally a unit of account, since a good physical explanation involving *c* need not cite *c*'s economic properties.

Case 2: Economics. I'm offering an explanation why *c* is worth ten cents. Any good economic explanation of why *c* is worth ten cents will cite its property of being a unit of account in a market. Suppose there are objective norms underlying economic explanations. Then *c* is essentially a unit of account in my explanatory context. But *c* accidentally conducts electricity, since economics is indifferent to the electrical properties of currency.

Case 3: Astrology. I'm offering an explanation for why John is extroverted, honest, and likely to marry someone born in late December. Suppose John has the property of being born in late December and being a Sagittarian. Any "good" astrological

²⁰This notion of an explanatory framework is irreducibly normative and also supposes that within a framework there are invariant standards for counting some proposition as a good answer to a why question. Compare to more radically contextualist theories of explanation like van Frassen (1988).

explanation of John's personality and destiny will cite his sun sign. But John is not essentially Sagittarian, since there are no objective norms to underwrite astrological explanations. His astrological sign is, at best, accidental in this context.²¹

This gives a sketch of how explanation-relative essentialism predicts the truth of essence ascriptions. But explanation-relative essentialists may fill in the details in different ways. For instance, some explanation-relative essentialists might suppose that many special sciences are governed by objective norms and are not reducible to one another. Such philosophers might countenance a far wider variety of true essence ascriptions than reductive physicalists. And if there are no objective explanatory norms, then explanation-relative essentialism predicts that there are no true essence ascriptions. Here my aim is to describe the general framework as an alternative to hardcore and meaning-relative essentialism, deferring such issues in implementation to later work.

So how will explanation-relative essentialism address our three desiderata?

First, to preserve realism, the explanation-relative essentialist should use the same strategy I suggested on behalf of the meaning-relative essentialist. Facts about explanatory norms and interests determine facts about essences relative to a context, but facts about essences do not determine persistence conditions. When we ascribe an essence to an object, we are *highlighting* one of its properties and claiming that the property enjoys a certain kind of explanatory indispensability. Whether a coin conducts electricity does not vary with our explanatory interests. But whether that property counts as essential to the coin may well vary.

Second, explanation-relative essentialism gives an account of the relationship between essences and our judgments about good or bad explanations, since essences are defined as *whatever* properties are indispensable to good explanations in that context. But it is not arbitrary which of an object's properties count as essential. Essence ascriptions are correct only insofar as they reflect objective explanatory norms that operate in that context. And it may be the case that some objects must have some properties in *every* explanatory context with objective norms. In this case, we might say that some property is super-essential to its bearer.²² For example, perhaps in every

²¹I say "at best" because being Sagittarian may not be a property at all.

²²Distinguish this from another view called "super-essentialism", the view that every property an object instantiates

objective explanatory context, any good explanation which involves President Obama is one in which he is human. In this case, humanity would be super-essential to Obama. Depending on how many objective explanatory contexts there are, explanation-relative essentialism may or may not be very permissive with accidental property attributions. This is a benefit of the theory. Unlike meaning-relative essentialism, explanation-relative essentialism need not (for all we have assumed about explanation) supply any context where Obama is only accidentally human.

Do such essences characterize the methodology of metaphysics? Some might take on the explanation-relative essentialism framework, but still insist that there is a important framework for *metaphysical* explanation, with its own corresponding objective norms. What were formerly thought to be the absolute essences of an object are just the properties that are indispensable to a metaphysical explanation of that object. For example:

Case 4: Metaphysics. I am offering an explanation for why some object, *c*, has proper parts. Suppose *c* has the properties of being extended in space and time and of being an automobile. Any good metaphysical explanation of *c*'s proper parts will cite its extension in space and time. No good metaphysical explanation will cite its being an automobile. Suppose there are objective norms governing metaphysical explanation. Then *c* is essentially extended but only accidentally an automobile.

On this approach, explanation-relative essentialism resembles harder-core essentialism, but with three differences. First, harder-core essentialists typically assume that facts about essences are needed to ground explanatory norms. The explanation-relative essentialist thinks facts about explanatory norms are prior. This should be taken as a benefit for explanation-relative essentialism: we have a stronger grip on the norms governing good explanations than on what properties are “metaphysically special.” Second, the harder-core essentialists assume there is one privileged context of explanation—the metaphysical context—which determines absolute essence ascriptions. The explanation-relative essentialist thinks the metaphysical context is (at best) one among many. It may be part of any good metaphysical explanation involving a coin that it have the properties of

is essential to the object.

being extended. But there may be economic explanations that are indifferent to whether the coin is extended—the explanations would be just as good for the purposes of economics if the coin were not extended in space and time. Whether all explanatory frameworks reduce to the metaphysics framework is a highly contentious issue, and one which the explanation-relative essentialist need not take a stand on. Third, while the harder-core essentialist may think there is a single, exhaustive essential/accidental classification of an object's properties, the explanation-relative essentialist thinks that outside of a context of explanation, such a classification is incoherent.

To summarize: explanation-relative essentialism gives a theory for why correct essence ascriptions and good explanation tend to go hand in hand. Depending on how conservative one is with objective explanations, it need not be very permissive with accident ascriptions. And it does not merely collapse into harder-core essentialism.

What about the third desiderata—accounting for context-sensitivity of essence ascriptions? Recall the metamorphosis story that began this discussion. Presumably in storytelling contexts, there are very few (perhaps no) objective norms governing explanations and so very few (or no) correct essence ascriptions when we are operating in this context. Thus, we can tell Kafkaesque stories about one thing transforming into another, and explanation-relative essentialism predicts that the story would strike as coherent. If we were entertaining the metamorphosis story in a more restrictive context (say offering zoological explanations about insect life cycles), then the story is no longer coherent, since organisms are never made of inorganic material in zoological theories. We can observe this shiftiness in essence attribution whenever we have a smooth shift involving explanatory contexts that the object and properties might feature in. For instance, the following speeches sounds correct...

(1) Gold atom g essentially moves more slowly than a photon. Well, not if special relativity is false. (Shift from an SR-based physics framework to a non-SR physics or broadly metaphysical framework.)²³

(2) Peter is essentially an organism. Well, not if he has an immaterial soul. (Shift from

²³Inspired by, but distinct from, Sider's examples in Sider (2011, 181).

a biological or materialist framework to a dualist's framework.).

... while (3) sounds bad:

(3) Gold atom g is essentially slower than a photon. Well, not if a many-valued logic is correct. (Shift in context is not smooth, since gold atoms do not typically figure in non-classical logical explanations)

6 Conclusion

I find explanation-relative essentialism an attractive alternative to hardcore essentialism. It does justice to the connection between essences and good explanation. It is fully consistent with ontological realism. And it does all of this without requiring any “modal glue” in the world. I’ve only given a programmatic overview of the theory here. But in the absence of better motivations for hardcore essentialism, I think there is much to recommend this anti-essentialist alternative.

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