

## Essence and Accident: Against Limited Variety

Sarah-Jane Leslie

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When we define we seem in danger of circumscribing nature within the bounds of our own notions, which we often form out of a limited and partial consideration of the object before us, instead of extending our ideas to take in all that nature comprehends, according to her manner of combining.

Edmund Burke, *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful*

Essentialism has made a remarkable comeback in philosophy during the fifty or so years since Willard van Orman Quine repudiated the ‘invidious’ distinction between essence and accident (1953). David Wiggins (1967, 1980, 2001) and Baruch Brody (1973) reminded philosophers of the Aristotelian distinction between accidental change and coming and continuing to be, and suggested that this crucial distinction could only be respected if we took each persisting thing to fall under some essential kind or ‘substance sortal’ that specified the thing’s essence. Following the work of Saul Kripke (1963, 1980), many philosophers supposed that material entities, living things and artifacts have essences. Others, influenced in part by the work of Hilary Putnam (1975), went on to suggest that the essences of natural kinds serve as default ‘reference-magnets’ for many of our common nouns; these essences figure in the fixing of the reference of common nouns, even their reference in merely possible situations. Indeed, some have gone so far as to suggest that philosophy should return to its traditional ambition of systematically describing the essences of things, and exploring the relations of essential dependence among things; all this, of course, now shaped by empirical input about the natures of those things (e.g., Slote, 1974; O’Shaughnessy, 1980; Johnston, 1984; Fine, 1994, 1995a, b; Ellis, 2001; Oderburg, 2007; Koslicki, 2008). On this proposal, the mistake in so-called analytic philosophy was to restrict itself arbitrarily to an examination of what was, in effect, the essence of terms or concepts in so far as those essences could be determined simply by reflecting on their conditions of application made evident by ordinary usage. On the new view, philosophy should return to providing the real or essential definitions

of entities, quite generally considered. ‘Back to the essences of the things themselves’ could be the new motto.

As against this widespread revival of essence, I shall argue that no distinctively interesting work is to be done by a return to real definition as a method in philosophy. This is because upon analysis it turns out that the standard view of entities as exhibiting a *limited variety* of distinctions between essential and accidental properties is unstable. Either the distinction between the essential and the accidental is empty, or everything is essential or everything is accidental, or for any real definition available for any entity there is another, different real definition of an entity co-incident with the first entity.

For simplicity sake, in what follows I restrict myself to intrinsic properties, understanding intrinsic properties to be properties entities could have even when they are conceived in isolation from all other entities. A good test for a property’s being intrinsic to thing is to answer David Lewis’s (1983a) question: would the property be shared by any possible exact duplicate of the thing?<sup>1</sup> Peas in a pod or ball-bearings from a single assembly line would approach the condition of having exactly the same intrinsics as they approach the condition of being exact duplicates. If a property of a thing is not intrinsic, it is extrinsic, and such properties include relations -- or better, the properties of standing in this or that relation. (In fact, I believe the argument in this paper could potentially be extended to cover extrinsic properties, but for simplicity’s sake I will only consider intrinsic properties.)

There are a number of specific versions of essentialism, but each implies that for any entity there is a set of properties that the entity possesses that together determine *the* condition for the entity’s existing. So an entity’s essential properties are such that the entity in question possesses them in every possible situation or world in which that entity exists.

The formulation in terms of worlds needs further elaboration if we are not to trivialize the thesis that entities have essential properties. What about the property of being such that Fermat’s Last Theorem is true? Or that Frege’s extensionality axiom is

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<sup>1</sup> Compare Yablo (1998). Lewis’s test, though useful, differs from the idea that an intrinsic property is one preserved under increasing isolation from its environment. If there are identity properties such as being Socrates it is not intrinsic on Lewis’s test, for two peas in a pod, do not share their identity properties (or ‘haecccities’ in the jargon to come). But so long as extrinsic origins are not essential then identity properties will be preserved under isolation from the environment.

false? No entity can exist without possessing these properties; if essentialism amounted to no more than this claim, then it would hardly be an interesting or controversial thesis. Having these properties essentially in no way imposes any distinctive constraints on a thing's existing or possibly existing. Nevertheless, some philosophers adopt this weak characterization of essential properties and understand *essential properties* to be properties that are essential to an entity just in case it is *de re* necessary that the entity have the property (if it exists); otherwise the property is accidental. Other philosophers, such as Kit Fine (1994, 1995a, b), have argued – convincingly to my mind – that this merely modal characterization of essential properties is insufficient, since it delivers the wrong classification in a range of cases.

For example, Fine notes that it is surely essential to the singleton set containing Socrates that Socrates exist, yet one might very naturally think that it is *not* essential to Socrates that the singleton set containing him exist. However, given the logic of sets, the singleton of Socrates necessarily exists if and only if Socrates himself exists. Thus, if essential properties are just those properties that are necessarily had by the entity in question, then we are forced to count the property of being such that the singleton of Socrates exists among Socrates' essential properties. Similar points hold for logical and mathematical truths: is it really essential to Socrates that Fermat's Last Theorem be true? Or that the negation of the generalization of Frege's extensionality axiom ( $\sim\exists x\forall y(Fyx \leftrightarrow \sim Fyy)$ ) hold? These are both necessary truths (indeed, the second is a logical truth), and so hold in every possible world, and so a fortiori they hold in every possible world in which Socrates exists. As Fine points out, it seems somewhat of an abuse of the notion of essence, however, to say that it lies in Socrates' essence that  $\sim\exists x\forall y(Fyx \leftrightarrow \sim Fyy)$ .

It is not the goal of this paper to provide a definitive characterization of what an essential property is. But as a rough-and-ready guide, adapting Fine (1994), we may allow that a property is essential to an individual just in case a) the property is had by the individual in every world in which the individual exists b) the canonical characterization of the property does not involve direct reference to another individual unless the first individual consists in or owes its existence to the second, and c) the property is at least

somewhat distinctive in that it is not trivially possessed by every individual in every possible world.<sup>2</sup>

Along with their essential properties, entities are standardly taken to also possess accidental properties, both intrinsic and extrinsic. So it is often supposed that Socrates is essentially human – that is, Socrates could not possibly exist as a butterfly or as a carrot (e.g. Wiggins, 1980, 2001). However, it is very intuitive to suppose that Socrates might have been two inches taller than he actually was, or that he might have failed to marry Xanthippe. Unless we are quite wrong about what is possible, there is no possible world in which Socrates exists but fails to be human, yet there are possible worlds in which he is substantially taller than he is in the actual world, and worlds in which he does not tie the knot with Xanthippe.

The notion of essence can be further developed in two alternate ways, depending on whether an entity's essential properties are merely necessary conditions for its existing at a world, or whether they are also (non-trivially) sufficient for that entity's existing at a world. The strongest version of essentialism has it that entities have *real definitions* – that is, that we can give a specification of *what it is to be* that entity (e.g. Almog, 1991; Fine, 1982, 1999). If an entity has a real definition, then that definition will specify both necessary and sufficient conditions for that entity to exist in any possible world. A real definition should not be confused with a list of just any properties that are modally necessary and jointly sufficient for that entity's existence; a real definition specifies the entity's nature – it says what it is for that entity to be. For example, consider the set of prime numbers, extensionally given. Suppose we want to define *what it is to be a prime number*. It is certainly necessary and sufficient for being a prime number that something is element of that set, but intuitively this falls short of explaining what it is to be a prime number. A better account would go as follows: what it is to be a prime number is to be an integer greater than 1, and divisible only by 1 and itself.

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<sup>2</sup> It should be noted this is just a rough-and-ready gloss, rather than a fully satisfactory account, since it does not rule out, e.g., conjunctions of genuinely essential properties with logical/mathematical truths. That is, if we suppose that *being human* is an essential property of Socrates, then condition c, as stated, would allow as essential the property of *being a such and such that there are infinitely many prime numbers*. For more discussion, including illustrations of how hard it is to come up with a fully satisfactory definition, see Fine (1994, 1995a, b).

Even die-hard essentialists may allow that while every entity must have an essence, not every entity has a real definition. Call a kind that collects its members or examples by a common essence an ‘essence-registering’ or ‘essential’ kind. Friends of so-called haecceitistic differences between individual members of an essential kind will expressly deny that there are non-trivial modally sufficient conditions for being one of those particular individuals.

(Here, it is helpful to keep in mind Robert Adams’ (1979) distinction between moderate haecceitism, which preserves a connection between a thing’s haecceity and its essential qualitative properties, and extreme haecceitism, which treats a thing’s haecceity as its only essential feature. On the first view, I do not have a real definition but only an essential characterization, say as a human being. On the second, much less plausible view, I have neither; indeed, extreme haecceitism allows I could have been a frog, a TV show, the Russo-Japanese War or a tennis racket. My only essential property is being me, whatever exactly that amounts to. In what follows extreme haecceitism is set to one side.)

One example where there seems to be haecceitistic differences between things of the same essential kind -- sometimes called ‘differences *solo numero*’ -- is that of points in absolute space. They are all essentially points and only essentially points; there is, as it were, no more to their essence than being points, but they are numerically different points. Just realizing the qualitative essence of a point -- just making it the case that something satisfies the real definition of an arbitrary point -- will not guarantee that you have realized point *a* or point *b*. Nonetheless, one might still believe that we can *specify* what it is to be a point, say as a zero-dimensional figure, where that specification, though essential, falls short of providing a real definition of point *a* or point *b* or any other particular point. I will call such a specification a *real characterization*. If an entity has only a real characterization, then there will be necessary but no (non-trivial) sufficient conditions for that entity’s existing at a world.

Philosophical essentialism has its share of critics as well as supporters. Post-Quinean criticisms of essentialism often go by way of challenging the essentialist’s conviction that a given property really is an essential one. Essentiality of origins, for example, has recently taken a bit of a beating (for an excellent and recent example of such work, see Mackie (2006).) But a more systematic critique of the *philosophical*

*interest of* essentialism seems to be available, and is in a certain way already implicit in the work of essentialists like Yablo (e.g., 1987), Fine (e.g., 1999) and Johnston (e.g., 1992, 2006). Rather than challenging candidate essential properties, I shall argue that any essentialism that is tailored to our intuitions about ordinary entities had better endorse two principles. However, these principles, once isolated and examined, prove jointly implausible. The first principle is that there is an applicable distinction between essential and accidental intrinsic properties:

- (1) Ordinary entities have some of their intrinsic properties essentially, and others accidentally.

The second principle is that there are a relatively small number of essences to be had by ordinary entities, and correspondingly there are a relatively limited number of entities in the ontology:

- (2) Essences exhibit a limited variety, and thus the entities around us are examples of a limited variety of essential or ‘essence-registering’ kinds.

Taken together (1) and (2) might be called ‘moderate essentialism’. Things have both accidental and essential intrinsics, there are a limited variety of admissible combinations of these, and hence a limited variety of essential kinds for things to exemplify. Given moderate essentialism, one can see a very nice (and indeed ancient) philosophical project operating in tandem with science. Science tells us the properties of things, but is systematically indifferent to whether they are had essentially or accidentally. Philosophy asks what it is to be this, that, or the other thing, and thereby diagnoses just which properties of the thing are essential, and which accidental.

However, we shall see that moderate essentialism cannot be given any sort of principled defense. If we wish to maintain that some properties are had essentially while others are had accidentally then where we initially thought there was only one entity we

will be forced to posit a plenitude of entities, massively overlapping and differing only in exactly where the essence/accident distinction is marked.<sup>3</sup>

Some further clarification is in order. The first is that when I speak of an entity having a property essentially versus accidentally, I mean to compare these ways of having a property along the dimension of genuine, unadulterated, *de re* modality. That is, if a property is to be essential to an entity, then this is just a matter of the relation between the entity and the property; it does not rest instead on the relation between, say, the entity, the property, and a salient conception of the entity, or a resultant similarity relation between that entity and other entities. Here I purposely mean to set aside counterpart-theoretic interpretations of modality. *Pace* Lewis (1986), I am inclined to agree with Kripke (1980) and others that counterpart-theoretic treatments of modality are quite revisionary, both conceptually and semantically. It remains an open question whether we have good reason to make the revision. In any case, counterpart theory is not the place to look for serious essentialism. Lewis himself (1986) made clear the relation between his counterpart theory and essentialism; though he allows that the term ‘essence’ can be given a meaning in his counterpart-theoretic framework, he described himself as an anti-essentialist wolf in sheep’s clothing, and a false friend of essentialism.

More generally, I also mean to exclude all ‘Aberlarian’ treatments of *de re* modals (e.g. Kaplan, 1969; Gibbard, 1975). Abelardian accounts of modality (after Peter Abelard, of Eloise and Abelard fame) hold that the subject position of *de re* modal claims is referentially opaque. Multiple counterpart theory (Lewis, 1986) is one way of implementing this thought, but it is not the only way. On an Abelardian treatment of *de re* modal or essentialist claims, such claims hold of entities only under a description or a conception, perhaps made salient by the context of utterance or the particular way the entity is characterized. Thus on an Abelardian account of modality there need be no tension between claims of the form ‘entity O (considered as an F) is necessarily F’ and ‘entity O (considered as a G) is possibly not F’ – a property could be had both ‘essentially’ and ‘accidentally’. As with counterpart theoretic treatments of modality,

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<sup>3</sup> Such plenitudinous ontologies are discussed in the literature; examples include Hawthorne (2006), Fine (1999), Bennett (2004), and Yablo (1987). Bennett observes that the best but still disappointing solution to the so-called grounding problem leaves one with a plenitudinous ontology. I am in complete agreement with Bennett on this, and discuss her views elsewhere.

Abelardianism does not serve up an account of what it is to be a given entity, but only what it is to be a given entity relative to a (salient) conception of that entity.

To be sure, some theorists have embraced counterpart theory or what is, in effect, Abelardianism, and they may find aid and comfort in what follows. But they cannot then endorse the proposed new self-understanding of philosophy as delivering the real definitions of things, or even the real characterizations of things. For if one or another version of Abelardianism is true then the philosophy of ‘essence’ is just a precursor to cognitive science. Our motto can then only be ‘Back to our ways of thinking about things.’

### Ontological Privilege and Real Definition

Ontologists typically exhibit a commitment to a limited number of essential kinds of entities in their ontologies, and take the view that these entities are individuated, at least in part, by their *distinctive* natures. Take for example, the assumed ontology in the philosophy of personal identity, where the model of philosophy as real definition or at least real characterization has some traction. One simply assumes that persons and person-like things survive the transition from being seated to standing up, and wonders instead if a person is the sort of thing that can survive, e.g., total psychological transformation, bodily death, head transplantation or teletransportation (e.g. Parfit, 1984; Shoemaker, 1970; Wiggins, 2001; Williams, 1970; Johnston, 2010). Thanks to its focus on what a person can and cannot survive, and hence on the distinction between the essential and non-accidental features of persons, the philosophy of personal identity can be understood as the attempt to determine *what it is to be a human person*. That is, it seeks to provide a real definition, or at least a real characterization, of the essence of those things that are persons.<sup>4</sup> The attempt to articulate the essences of the things that are persons typically operates on the assumption that any given person is not co-located with many persons or person-like entities having a vast variety of different essential

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<sup>4</sup> This aim is compatible with thinking that ‘person’ itself does not determine an essential kind, so that, for example, we might be essentially human animals that are temporarily and contingently persons.



properties. The received and organizing idea is that there is a unique candidate essence for human persons to have. The problem is only to specify it.

The philosophy of personal identity is just one context where the assumption of limited variety dominates. In theorizing about artifacts and their potentially essential origins, philosophers have typically followed the commonsense view that if one takes a number of planks and arrange them ship-wise, one has built one particular ship. They also take it that there are determinate answers to *de re* modal questions about the ship so made, e.g. *this* ship could have been built with an extra plank; *this* ship could survive being painted red. It is not that assembling the planks ship-wise produces an untold number of ship-like entities, each of which would support its own distinctive pattern of answers to the totality of *de re* modal questions concerning it. That is, we naturally believe that there is one particular ship or ship-like entity before us, and that it has its own distinctive and privileged essential nature. Such assumptions are generally made on the way into philosophical discussions of artifacts and their essential properties (e.g. Kripke, 1980; Salmon, 2005; Chisholm, 1967). Indeed, the so-called ‘problem of the many’ (Unger, 1980) is regarded as a problem or paradox *precisely because* it threatens to saddle us with the conclusion that whenever we have a ship or table or a such and such we have many (almost exactly) co-located ships, or tables, or such and suches.<sup>5</sup>

In contrast to such views of ontological and essential privilege are views like the one often attributed to Aristotle under the denigrating title of ‘Aristotle’s theory of kooky entities’. Such a view would allow that, in addition to the entity Socrates, there is a distinct entity Socrates-qua-sitting, or sitting-Socrates. Unlike Socrates, sitting-Socrates cannot survive the transition from being seated to standing up. When Socrates is seated, he co-exists with sitting-Socrates, but only one of the two remains when Socrates stands. Similarly, when the man Corsicus acquires musical ability, there comes into existence a further entity, musical-Corsicus. Musical-Corsicus could not survive the loss of musical ability; Corsicus, however, could easily exist in a tone-deaf state.

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<sup>5</sup> The problem of massive overlap discussed in this paper is not the same as Unger’s ‘problem of the many’. It has a different source, and moreover several theorists (Johnston, 1992; Lowe, 1982, 1995) have proposed that essentialism -- particularly hylomorphic essentialism with its concomitant distinction between identity and constitution -- can offer a solution to Unger’s problem. Moreover, Unger’s problem concerns massive but still *partial* overlap. I am dealing with cases of complete coincidence.

Should we really countenance such an array of entities? Such entities are frequently dismissed in contemporary discussions as being too, well, *kooky* (White, 1971; Matthews, 1982; F. Lewis, 1982).<sup>6</sup> For an essentialist, the natural way to ground such a dismissal would be to suppose that there is something defective about the putative essences of entities such as sitting-Socrates and musical-Corsicus. Entities such as Socrates and Corsicus are the sorts of things that are privileged enough to have proper essences (whatever that comes to), while sitting-Socrates and musical-Corsicus are not. If there are a limited variety of essences – as per assumption (2) above – then such a view will be sustainable. But the question immediately arises: what exactly makes for the metaphysical privileging of just *these* essences?

The first thing to note on the way to making this question come alive is that relative to many standard ontologies it is not a general truth that it lies in the essence of a given property to be had essentially if it is so had by anything. It is not the case that any property that is had essentially cannot be had accidentally. And it is not the case that any property that is had accidentally cannot be had essentially. For example, it is often supposed (e.g. Kripke 1980) that if we create a statue from a hunk of matter, then that statue is essentially originally constituted by that very matter. However, in the case of an animal it is often supposed that the animal is originally generated from gametes or sex cells, and that these are essential to its origins, even though the very same sex cells could have been differently materially constituted (think of matter exchange) and have remained numerically the same sex cells.

Likewise, it is also sometimes supposed that a given artifact is essentially the *kind* of artifact that it is – e.g. an ordinary axe is essentially an axe (e.g. Wiggins 1980, 2001). However, some tools are built so that they may be fitted with hammer heads at some times and with axe heads at others – these double-tools are only contingently axes, then, whereas ordinary axes may be essentially axes. Further, many essentialists will gladly say that a statue of Goliath and the lump of clay that constitutes it are not identical (e.g., Johnston, 1992; Fine, 2003, 2008), and that the clay is only accidentally Goliath-shaped, whereas the statue is essentially Goliath-shaped. So also, philosophers have proposed

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<sup>6</sup> A notable exception is Fine (1982, 1999).

that having a particular brain is essential to the human being whose brain it is but not to the human organism whose brain it is (e.g., Olson, 1999).

Others have suggested that there are limits here. One example offered is this: an entity can be contingently spherical or sphere-shaped, but there could be nothing that is contingently a sphere. Any sphere is essentially a sphere, and that is that. But this seems wrong. In a world of discrete matter like ours, nothing physical in space-time is really a sphere; all such things are only approximately spherical. The only spheres are abstract entities, such as the sphere of 8.5 inch diameter, and indeed an essentialist will naturally insist that such a thing is essentially spherical. But now suppose that we are in a world of continuous matter and someone sculpts a globe that turns out by a cosmic accident to be perfectly spherical. The thing he made, namely the globe, is a sphere, perhaps the only sphere ever physically realized. But the globe is contingently a sphere; that is to say, the artifact that is the globe is not so rigid and unyielding in its essence that it would not have come into existence if there had been an ever so slight, even utterly undetectable, lack of uniformity in its curvature. So it seems that among the things that could be not just spherical but spheres, some are spheres essentially and others accidentally. (Note how 'natural' being a sphere is, in the sense discussed in detail below.)

Gold and tin also provide a nice example, which helps to loosen up fixed ideas about essence and accident. When chemists say that the element Au is a metal they are best understood as saying that every large enough quantity of bonded gold atoms is metallic in structure. There is no non-metallic allotrope of gold. This is not an accidental matter, but arises from the limited number of ways in which Au atoms can bond to each other, which in its turn arises from the very chemical necessities which serve to define being a metal and being the element Au. Hence on a natural essentialist interpretation of the facts of chemistry every large enough quantity of bonded gold atoms is essentially some amount of metal. Tin, by contrast, has two bonded forms or allotropes; one is 'white tin' which is a metal, and 'grey tin' which occurs in a low temperature form, and has a non-metallic atomic structure similar to that of diamond. It does not lie in the nature of every large enough quantity of bonded tin atoms to be some amount of metal. While the element gold is essentially a metal, the element tin is only contingently a metal when

it is or contingently a non-metal when it is not. The property of being a metal is had essentially by the element gold and contingently by the element tin.

Properties, particularly relatively determinate or specific properties of concrete inhabitants of space and time, do not in general come with instructions like ‘I am only to be had accidentally (or essentially)’. Given that, we cannot rely on the essence or nature of properties themselves to determine limited and privileged essences. In the case of our ‘double tool’, why are we so confident that there is only one entity there, which is just accidentally a hammer (when it is a hammer)? Why is there not a further entity there, namely the double tool-qua hammer? And in that spirit, why is there no such thing as pale-Socrates? Why isn’t *being pale* and *having the qualitative features that make up the essence of Socrates* a perfectly good real definition?

One argument for a plentitude of spatio-temporally overlapping things would proceed by way of a slippery slope from certain recognized entities, like presidents and passengers, to ‘qua’-entities in general. So, as S. Marc Cohen (2008) reminds us, presidents and people are counted differently, and so are not naturally taken to be identical. As of the time of this writing, there have been 44 U.S. presidents, while only 43 persons have been U.S. presidents. The 22<sup>nd</sup> president Grover Cleveland was re-elected for another term after the 23<sup>rd</sup> president Benjamin Harrison failed in his re-election bid; so Cleveland was sworn in as the 24<sup>th</sup> president four years after having been the 22<sup>nd</sup> president. Thus the American presidents, unlike the human beings Cleveland and Harrison, exhibit their sequential order in office *essentially* and in a way that guarantees that distinct continuous periods in office make for distinct presidents. A president is thus a qua-entity, with a human being as its constituting basis. So if we are willing to countenance presidents, why not Socrates-qua-pale, and so on and so forth?

The argument to be given here is not such a ‘slippery slope’ argument. The argument that follows depends on the observation that if kooky entities do not exist, even when the corresponding ordinary entities do, then the kooky entities would have to be *impossible*. For if kooky entities are possible, then the actual world is filled with them, since the existence conditions of many of them are actually satisfied. But, as I will argue, upon analysis no principled basis is to be found for holding that kooky entities in general are impossible. And if they are possible then they are actual, at least when their bases

(Socrates, Corsicus, and all the other entities of familiar reference) actually have the relevant properties. This argument from possibility does not depend on sliding down the slippery slope from our talk of presidents and passengers to a general theory of kooky or 'qua'-entities.

The opponent of 'qua'-entities must maintain that the proposed essences cannot be exemplified by entities, so that there cannot be entities with the relevant essences. How can this be so unless those essences either do not exist or place impossible conditions on entities? Compare properties, understood as the semantic values expressed by predicates: we have a clear understanding of why the property of being a round square cannot be exemplified or instantiated; it imposes impossible requirements on any entity. But the real definition of having the qualitative essence of Socrates and being essentially pale does *not* place an impossible condition on an entity.

#### A Familiar Example with a New Twist

Imagine we take a boat made of one hundred planks and remove each plank one by one, burning the removed plank immediately after we take it from what remains of the boat. Keep in mind the central essentialist idea that the essential characterization (or perhaps the real definition) of this kind of boat will determine its condition of being and of ceasing to be, and so determines some point in the process of removal and burning of planks --- presumably some point significantly before we have burnt all the planks --- as the point when the boat is definitely no longer in existence.

Some would speak of vagueness here, and nothing that follows depends on suppressing the thought that the question of when the boat ceases to be is a vague matter. However, it is quite hard for an essentialist who holds to limited variety to think of the vagueness as anything more than an epistemic matter. Since the exemplification of an essence is a condition of existence, ontological vagueness in essence means ontological vagueness in existence. But can there be anything in between being and non-being?

If we do allow for a range of indeterminacy, however it is understood, the argument that follows can be reformulated in terms not of different numbers of remaining planks, but in terms of different (and possibly vaguely defined) ranges of numbers of

planks. To keep things simple however, I will prescind from vagueness, and talk as if there is for this kind of boat, a number  $n$  of remaining planks such that the boat has definitely ceased to be when  $n$  or fewer planks remain.

Suppose  $n$  is 20 planks; that is, the essentialist truth about the boat is that when all that *remains of it* are 20 planks arranged however they might be, the original boat has ceased to be, and cannot be reconstructed by augmenting the 20 remaining planks. This property --- being such that it has ceased to be and cannot be brought back after its constitution has been reduced in this way to 20 planks --- is an essential property of the boat. Given that supposition, it is also plausible to suppose that any boat just like this boat has qualitatively the same essence as this boat, and hence this same essential property.

However, consider the following variant essence: the essence that is just like that of the boat, but which includes instead the property of being such that it has ceased to be and cannot be brought back after its constitution has been reduced in this way to 25 planks. We can even suppose for the sake of argument that no *boat* could possibly have such an essence (though how we would arrive at this result is itself quite mysterious). But even granting that dubious assumption, what one would like to know is why this could not be part of the essence of a very boat-like entity, as it were, a boat\*. Once we allow that, it will be utterly arbitrary not to allow there are very many boat\* essences in the offing. As well as the boat\*-25 essence there is the boat\*-28 essence, the boat\*-17 essence, and so on. If there are such essences then it follows that many boat\*s -- many distinct boat-like entities -- were entirely coincident with our boat during the period before it began to be destroyed by disassembly. They are distinct entities because they cease to be at distinct points (or -- to re-introduce vagueness -- during distinct vaguely bounded phases) in the process of disassembly.

So we have an essentialist ‘problem of the many’; a plurality of distinct but very similar essences with resultant massive coincidence of boat-like entities. Now imagine a fan of real definition or of real characterization trying to settle the essentialist question of under what conditions certain very boat-like entities cease to be. She should throw up her hands. The question looked interesting when operating on the assumption of limited variety of essence -- in this context the assumption that there was only one boat-like

entity in the vicinity of any boat. About that entity, and entities of the very same essential kind, there may have been an answer. But given all the boat-like entities in the vicinity of any boat, the essentialist question about the conditions of survival of boat-like entities is about as bad as the old question ‘What is the food for human beings?’

There is also the resultant epistemological question of how, given the ontology of the situation, we ever managed to get just one of the many boat-like entities, namely *the boat*, in mind as an entity about which we could then sensibly ask: what is *its* essence?

Some philosophers are prepared to countenance this kind of point in the case of artifacts, and allow that there is no good sense in which artifacts have real as opposed to nominal essences, while still holding that ‘Aristotelian’ substances, among them self-maintaining living things, do have real essences that make the question of their objective, non-relative conditions of survival a good one. Maybe boats and tables and cupboards are badly off, but surely cats or dogs or human beings can’t fail to have objective non-relative conditions of persistence?

I would like to believe this, but as emerges below, I cannot see any principled basis for evading the same considerations in the case of living things. The point is a quite simple and general one; it seems that we can ‘tweak’ a given essence and get another distinct essence that is very like it. And we can repeat the process in many ways along many different dimensions arriving at many, many variant essences. We then have a massive plurality of essences with a resultant massive co-incidence of entities.

Aristotle’s ‘qua’-entities exhibit just one broad type of variant essence, a variant essence derived from a more familiar essence by ‘essentializing’ a contingent feature of an ordinary entity. We should expect that there are also ‘ex’-entities, i.e. entities whose essences differ from the supposed essences of commonsense entities in the other direction, as it were. Subject to some qualification, when a commonsense entity O has a qualitative essence partly involving the property P then O is co-incident with another entity, an ‘ex’-entity -- in a certain way a more *anemic* entity -- an entity very like O but differing in that it has P accidentally. Subject to some qualification, there will also be ‘minus’-entities, so that when a commonsense entity O has a qualitative essence partly involving the property P then O is co-incident with another entity -- that is, an entity very like O but differing in that it does not have P. And, again subject to some qualification,

when a commonsense entity O has a qualitative essence partly involving a property P that involves the setting of the value of a parameter, such as the number of planks, removal of which makes for ceasing to be, then O is co-incident with another entity, an entity very like O but differing in the value to which the parameter is set.

It is now time to see just what those qualifications are, and why the sheer appeal to ‘kooky’ and ‘anemic’ entities is, rhetorically speaking, somewhat misleading. For the very specifications of these entities --- ‘pale-Socrates’, ‘God ex-goodness’ --- makes them seem ontologically derivative upon their underlying substances or bases. However from the more abstract point of view developed below, it is hard to see how an essentialist can be confident that there is something less fundamental about pale-Socrates or about God ex-goodness (a being just like God and as good as God, differing only in having this degree of goodness *accidentally*.) Socrates himself may be no more than pale-Socrates ex-pale.

#### A Little Model of Essence and Accident

In order to explore the ideas of ‘qua’-ing and ‘ex’-ing in their full generality, it will help to first explain a widely entrenched set of views concerning so-called natural properties. Focusing on natural properties allows us to simplify our picture of an entity’s essence and accidents. We can then model the essence of an entity not just as all the true predications which hold essentially of that entity, but, more tractably, as the perfectly natural properties the entity has essentially, in a sense of ‘perfectly natural’ to be explained.

Talk of properties is best understood as picking out two different sorts of things; either properties are just the semantic values for predicates -- so that there is a property for every interpreted predicate -- or they are the attributes of things, the sharing of which makes for *real* similarity, including similarity in resultant causal powers. So being five miles from some city larger than Aberdeen is a perfectly good property in the first sense, but sharing it does not make for real similarity. David Lewis (1983b) dubbed the attributes which make for real similarity ‘natural properties’ and followed David Armstrong (1978) in supposing that if there are such attributes then there is a limited



variety of them to be discovered a posteriori by looking at which attributes are invoked in the more basic scientific explanations. So the mass of an electron and the charge on the electron were offered by Armstrong as paradigmatic examples of natural properties. If physics arrives at a deeper understanding of physical reality these natural properties may be seen to hold in virtue of still more basic sources of real similarity; these latter, whatever they turn out to be, would be *even more* natural properties than the mass of the electron and the charge on the electron.

In this way Lewis explained that naturalness is a matter of degree, and like Armstrong, he supposed that at the base of all true predication lie the ‘perfectly natural’ properties. These were understood as (i) simple properties, i.e. uncompounded out of other properties, natural or otherwise (ii) fully determinate, i.e. not admitting of further specification, as when we further specify a color as red or a shade as chartreuse, and (iii) such that they fix all the true predications that hold of the entities that have them. Moreover, the perfectly natural properties are ontologically on a par; neither is ontologically more basic than any other. There is, for example, no pattern of generation among perfectly natural properties similar to that holding among complex individuals. Because of their uncompounded or simple character, the only patterns of metaphysically necessary exclusion among perfectly natural properties arise from logic, mathematics, and (*if this is different*) the metaphysical requirement that a given entity cannot have two utterly determinate values of a determinable, so that for example nothing can have both charge  $e$  and charge  $2e$ .

It is not the purpose of this paper to defend this widely entrenched doctrine of natural properties, but rather to put it to use in the examination of essence and accident. Whatever results are obtained below may be properly understood as conditional on this doctrine. One part of the doctrine that is not strictly necessary in what follows is that increasing degrees of naturalness of properties ‘bottoms out’ in perfectly natural properties. That there are not more and more natural properties *ad infinitum*, is a very natural, though not inevitable, assumption for those who believe that predication must have an ontological ground. In what follows, however, all that needs to be assumed is that there is some level at which we have natural properties that satisfy (i), (ii) and (iii)

above. These will be good enough for present purposes, and we may harmlessly refer to them as ‘perfectly’ natural properties.

Particularly relevant is (iii), the idea that the having of perfectly natural properties fixes all the true predications that hold of entities. In the context of a discussion of intrinsic essential properties and intrinsic accidental properties three further restrictions of this idea are very plausible.

*The Fixing of Intrinsic:* Just which intrinsic predications hold true of an entity is fixed by the perfectly natural properties the entity has intrinsically

*The Fixing of Essential Intrinsic:* Just which intrinsic predications essentially hold true of an entity is fixed by the perfectly natural properties the entity has intrinsically and essentially.

*The Fixing of Accidental Intrinsic:* Just which intrinsic predications accidentally hold true of an entity is fixed by the perfectly natural properties the entity has intrinsically and accidentally.

Now it is a simple matter to model the intrinsic essence and intrinsic accidents of any entity. For each entity there will be a *divided sequence* of perfectly natural properties intrinsic to the entity. The sequence begins with a list of all the perfectly natural properties that the entity has intrinsically and essentially; then there is a bright dividing line, and then there follows a list of all the perfectly natural properties that the entity has intrinsically and accidentally. A divided sequence thus characterizes the intrinsic profile of an entity, and distinguishes those intrinsic properties that are had essentially by the entity from those properties that are had accidentally. In this way, a divided sequence sets off an entity’s essential intrinsics from its accidental intrinsics, and thus serves to specify the full intrinsic essence of the entity. (Recall that this is fixed, i.e. metaphysically determined, by the perfectly natural essential properties of the entity.)

The essentialist will naturally suppose that there are divided sequences for all the entities there are; for if something exists, there is some essence that has to be realized for

it to be, and so some (possibly null) distinction between the entity's accidental and essential intrinsics, and so some bright line. A thoroughgoing essentialist -- one who supposes all intrinsics are essential -- will simply put the bright line at the very beginning of each divided sequence, a limiting case of 'division'. A thoroughgoing 'accidental' can also be accommodated: she will countenance divided sequences with the bright line at the very end, another limiting case of division. In this way, we can distinguish a thoroughgoing accidental from a 'modal nihilist' -- that is, someone who denies the existence of the bright line, someone who thinks that there is only one way to have a property and that this one way is neither having it accidentally nor having it essentially. (Quine, I submit, is properly interpreted as a modal nihilist. In repudiating the 'invidious' distinction between essence and accident Quine was not asserting that all properties are had accidentally, as a bare particularist or pure substratum theorist might. For that would be to *use* the invidious distinction, not to repudiate it. Quine did not believe in the line.)

One central question issue can now be stated in terms of the divided sequence model. Given that there are divided sequences for all the actual entities, and so for all the actual entities we ordinarily recognize, is there anything defective about the variant divided sequences we could specify by taking a given divided sequence and then moving the bright line right or left? Are those variant sequences somehow defective as far as specifying an intrinsic profile that an entity could have, i.e. as far as providing an inventory of essential and accidental properties an entity could have?

As the bright line moves right, more and more possible entities will be defined, each with its own idiosyncratic combination of essence and accident. Each will have a more demanding essence than the original. These are the 'qua'-entities, all co-incident with the original entity. As the bright line moves left, more and more possible entities will be defined, each with its own idiosyncratic combination of essence and accident. Each will have a less demanding essence than the original. These are the 'ex'-entities.

What exactly is defective about the 'qua'-entities and the 'ex'-entities? In what follows it is argued that none of the thoughts people have had about just where the defect lies prove workable.

Notice that the examples of 'qua'- and 'ex'-entities already presented must be understood as given against the background pretense that the properties in question are

perfectly natural. This is inevitable since we may not as yet know any of the perfectly natural properties by name. (So I will continue with the pretense in what follows.) The point is that whatever the perfectly natural properties are, there will be ‘qua’- and ‘ex’-entities. So even if there is something not quite right about sitting-Socrates or God-ex-goodness there will be analogs of these ‘kooky’ and ‘anemic’ entities at the level of the perfectly natural properties that figure in the respective divided sequences for Socrates and God.

How do matters stand if we are moderate haecceitists in the sense discussed earlier? Then the divided sequences will have identity properties or haecceities -- such as *being Socrates* or *being Corsicus* -- nestled among the essential properties on the left hand side of the divided sequences that specify the perfectly natural intrinsic property profile of some actual entity. To arrive at variant sequences from a given divided sequence, we first extirpate the haecceity and then move the bright line to the left or right (cf. Yablo, 1987). There is nothing inconsistent about extirpating the haecceity from a divided sequence since moderate haecceitism entails that the qualitative essence of an entity does not entail its haecceity; so that entities can differ *solo numero*; that is, without differing in their qualitative essences.

By beginning with divided sequences corresponding to familiar entities such as Socrates or Corsicus, extirpating the relevant haecceity and then moving the bright line, we arrive at a variant divided sequence or intrinsic property profile that is not that of Socrates, or of Corsicus, or of any other familiar entity; one which, for all that has been said so far, gives a qualitative characterization of an admissible or ‘valid’ essence. Such variant qualitative essences will be exemplified by entities that have the same qualitative intrinsic features as some familiar actual entity such as Socrates or Corsicus. The variant qualitative essences may not specify the full essential characterization of the variant entities in question, since they omit the unknown haecceities of the entities that exemplify them. However, these variant qualitative essences differ from the original qualitative essences in respect of just which perfectly natural intrinsic properties are essential and just which perfectly natural intrinsic properties are accidental. So they specify entities that differ from the original familiar entities, but co-exist with the original familiar

entities. Once again, we have a massive plurality of valid qualitative essences with a resultant massive plurality of co-incident entities.

### The Advantage of the Divided Sequence Model

Why this detour in terms of perfectly natural properties? For all we know, the less-than-perfectly-natural properties that we ordinarily speak of may admit of hidden patterns of necessary implication and necessary exclusion of other properties. Thus Socrates may be essentially an animal, and an animal may be essentially a thing that dynamically maintains itself in existence despite regular changes in its posture. So there may indeed be no such thing as sitting-Socrates, since it would have an essence which required both that it survive changes in posture and that it not survive straightening out after sitting. There may however be Socrates-ex-animal, and indeed sitting-(Socrates-ex-animal); in order to see if this is so we would have to trace down the patterns of implication and exclusion among ordinary properties. So those who have suggested that there is nothing wrong with qua-entities in general have perhaps gone too far.

(Yablo (1987) is well aware of this point, and so focuses only on what he terms ‘cumulative’ rather than ‘restrictive’ properties – where restrictive properties are ones whose inclusion in an essence bar other properties from being included in the essence. Yablo goes on to give a formal model of properties and essence against this background, and the divided sequence model given here owes a great debt to his discussion. However, Yablo’s goal was to argue for a notion of contingent identity, and as a result, some of his points about essence were perhaps obscured, and have not been fully assimilated.)

The important thing about perfectly natural properties is that there is no corresponding problem about necessary implication and necessary exclusion of other properties. Recall the characterization of perfectly natural properties. Perfectly natural properties are in a certain way simple; no perfectly natural property is compounded out of, or generated from, other properties. Where there is still compounding or generation, we have not yet reached the level of the perfectly natural properties, for these are supposed to be the basic ontological ground of true predication. (It is having one or another of them that ultimately makes the relevant predications true.) Thus there is no

reason to suppose that the instantiation of a perfectly natural property by an entity is ontologically dependent on the entity instantiating some other perfectly natural property. Likewise, given no compounding or generation, there is no reason to suppose that the essential instantiation of a perfectly natural property by an entity necessitates the entity instantiating some other perfectly natural property.

Of course, there may be some metaphysically *contingent* law-governed connections between having one perfectly natural property and having another perfectly natural property. After all, modeling the basic laws of nature as relations among perfectly natural properties was part of the original motivation for talking of perfectly natural properties, at least for Michael Tooley (1977), Fred Dretske (1977) and David Armstrong (1983). However, the metaphysical contingency of laws only requires the co-instantiation of certain pairs or clusters of perfectly natural properties in the actual world, and in all worlds where our laws hold. We can be assured that *any* variant divided sequence already satisfies that constraint, for we may think of the variant sequence as coming from the divided sequence corresponding to the property profile of some actual entity. Every actual entity conforms to the basic laws of nature and so will instantiate the pairs or clusters of properties required.<sup>7</sup>

What then of relations of necessary exclusion among perfectly natural properties -- do these create obstacles? As already noted, perfectly natural properties *do* stand in relations of necessary exclusion to other perfectly natural properties. Perfectly natural properties are fully determinate, and having a determinate within some determinable range excludes having any other determinate within that range. Nothing can have a mass of  $k$  kilograms and a mass of  $2k$  kilograms. Nothing can be simply and uniformly pure white and simply and uniformly dark black in the same area of its surface. Once again,

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<sup>7</sup> There is another, highly controversial, thesis that the basic laws of nature are, in effect, conditional essentialist truths, i.e. that they imply that it lies in the essence of things that anything that exemplifies the properties invoked in the antecedent of the law must of unrestricted necessity exemplify the properties invoked in the consequent of the law. (Ellis, 2001) This is the idea that the basic laws of our world hold in every possible world. Only if that were so would there be some restriction on moving the bright line to specify a valid variant essence for some entity to have. Even if this were so, our little model would need only a little modification. Instead of sequences of perfectly properties we would only need to speak of clusters of sequences of perfectly natural properties, where a cluster is closed under law-like implication among properties. The bright line could then be understood as moving back and forth across the clusters of properties, specifying variant essences as it moves.

we can be assured that every variant divided sequence satisfies the constraint of not including more than one determinate property within a determinable range. For we may think of any variant divided sequence as coming from a divided sequence corresponding to the intrinsic property profile of some uncontroversially *actual* entity. Obviously every actual entity conforms to the requirement of not exemplifying more than one determinate property from within any given determinable range.

### The Principle of Limited Variety

The principle of limited variety of essence comes to this: only some divided sequences *really* specify essences for possible entities to have. So all this ‘moving of the bright line’ is to no avail. There is no guarantee that the result specifies an essence. But this supposed fact, if it is a fact, surely cannot be a contingent matter, a matter subject to change over time and/or variation across possible worlds. So it is a necessary, dare one say essential, feature of some divided sequences that they do not specify an essence for a possible entity to have. The bright lines associated with each entity’s divided sequences are curiously immobile, and necessarily so.

I shall proceed to argue that there is no good model available of just why this necessary or essential restriction would hold. There is nothing contradictory or impossible about the combinations of properties that the derived sequences appear to specify as essential. By their very construction, the combinations do not violate metaphysically necessary conditions on co-instantiation. And by construction, each derived variant sequence consists of combinations of properties which in fact are co-instantiated in some one individual, for example, in any one of the individuals whose intrinsic essence and accidents are wholly specified by the divided sequence from which the variant sequence was derived.

Nor is there room to insist that the variant divided sequences are defective as specifications of essence because an essential property of one thing cannot be an accidental property of another and vice versa. The counter-examples reviewed above show these general claims are false, even in the case of very natural properties such as being spherical.

So far the argument has involved two considerations. The defender of the principle of the limited variety of essences needs an impossibility proof in order to show that the variant divided sequences cannot specify essences. The relevant impossibility proof is hard to come by, especially given these two facts:

- (i) The properties which make up any supposedly 'invalid' variant sequence are all co-instantiated in an entity whose essence was specified by a 'valid' divided sequence, namely one from which the variant sequence could be derived.
- (ii) It does not lie in the nature of properties to be had essentially and it does not lie in the nature of properties to be had accidentally.

#### Available Impossibility Proofs?

What form would such an impossibility proof take? It would have to appeal to a metaphysical necessity arising from the nature of essences which entails that certain divided sequences do not specify essences.

There is one extreme case where a restricted possibility proof might indeed seem viable. Consider the divided sequences that purport to specify what we might call 'min'-entities -- entities all of whose intrinsic properties are accidental. (Of course, these sequences are divided only in the logician's limiting sense, as the bright line comes at the very beginning of each sequence.) An essentialist might well claim that as a matter of metaphysical necessity if an entity exists then it must have some intrinsic essence or other, and so must have some intrinsic property essential to it. Thus a bare particular or some intrinsically characterless prime matter could not exist as a matter of metaphysical necessity.

What does seem true is that this is a very natural claim for an essentialist to make. But here too, it is hard to credit the claim of metaphysical necessity -- necessity grounded in the essences of things. Bare particulars and intrinsically characterless prime matter are very odd entities, but they are not square circles or square roots of days of the week. .



When it comes to the other end of the spectrum -- the 'max' entities, entities all of whose intrinsic properties are essential -- it is far less natural for an essentialist to deny that they are metaphysically possible and so deny that they are co-instantiated whenever something else has those intrinsic properties. God, as traditionally conceived in natural theology, has all of his intrinsic properties essentially; likewise with mathematical and logical entities. Perhaps no such God or God-like thing exists, and perhaps some version of nominalism, if it could be sustained, would be the best resting place when it comes to the abstract. But where is the proof that God as traditionally conceived is intrinsically metaphysically impossible? And where is the proof that numbers, functions and logical operations as the realist conceives of them are intrinsically metaphysically impossible, that is, impossible just thanks to their intrinsic characterization? A thousand years of work on nominalism has failed to deliver it.

It thus seems far from plausible to lay it down that as a matter of metaphysical necessity each entity must have *some* accidental intrinsic property. Why then are the 'max'-entities to be rejected? What is defective about their essence?

Turn now to the middle range of the spectrum, which includes the divided sequences that correspond to actual entities, along with the sequences corresponding to their 'qua'-variants and 'ex'-variants. The essentialist who hopes to avoid massive co-incidence of entities, varying simply in what is essential and accidental to them, faces a particularly difficult task in the middle range. Her hope is to reduce the vast plenitude of apparent essences to a limited variety, and so avoid massive co-incidence of entities both in this world and in any other world indiscernible from this world at the level of the distribution of intrinsic properties. To achieve this result she must hold to a host of combinations of metaphysical necessities and metaphysical impossibilities, of which the following is just one example.

*Invid*: It is metaphysically necessary that Socrates' divided sequence specifies an essence and it is metaphysically impossible that the divided sequence associated with pale-Socrates specifies an essence.

Just how does the structure of essence get to be so exquisitely sensitive? (By stipulation, one suspects.) Moreover, how miraculous it is that our ordinary inventory of entities happens to present mostly combinations of essence and accident that are admissible! Even more so, when we face the psychological data that strongly suggests that the basic form of our essentializing inventory of entities is already considerably filled out by the age of three or four (e.g. Gelman, 2003), and that basic ontological expectations about the nature of entities are present from even the first few months of life (e.g., Baillargeon, 1987; Spelke, 1990), Offhand, one would have supposed that the recognition of the alleged exquisite sensitivity of essence should lead to skepticism about whether the kinds we recognize from four years on (at a somewhat conservative estimate) actually do exhibit admissible combinations of essence and accident, and hence given the demands of philosophical essentialism, to a skepticism about whether the apparent entities which fall under these kinds -- ships and sealing wax and kings -- really exist.

Here metaphysical and epistemological considerations work together. The metaphysical demand for exquisite sensitivity when it comes to available essences makes it correspondingly unlikely that we as a species have naturally developed a conceptual scheme that in any way maps the entities with real essences. Moderate essentialism can be thus seen to require exquisite sensitivity, and this in its turn prompts a reasonable skepticism about the truth of any particular version of moderate essentialism we might come up with. Thus any moderate essentialism which we find intuitive will lack the epistemic credentials required by any theory that can be reasonably understood as a genuine constraint on either philosophical or empirical work. For example, the Kripke (1980)/Putnam (1975) theory of natural kind terms seems to be in deep trouble, given exquisite sensitivity. For in that theory, our natural kind terms are supposed to group things by their essences -- they are supposed to be associated with what we might call 'essence-registering' kinds. The theory makes an epistemic assumption; namely that we have epistemic access, by way of perception and demonstration, to a limited variety of 'essence-registering' kinds of entities; and it is these essences that are supposed to determine the reference in every possible world of our natural kind terms. However, if the thesis of limited variety of 'essence-registering' kinds requires the exquisite sensitivity exhibited by *Invid* then it is hard to credit the claim that in using our natural

kind terms we are indeed connecting with kinds whose members share essential features. That would just be too lucky.

Another observation about *Invid* and its cousins is that presumably such exquisitely fine-grained lines between what is metaphysically necessary and metaphysically impossible arise out of the nature of essence and accident. From our perspective this nature can only seem brute, i.e. itself utterly unexplained. For, since the denial of *Invid* and its cousins is not like the assertion of the existence of a round square, one cannot see *why* the distribution of necessity and impossibility *Invid* and the like assert is itself necessarily so.

### Essences are not Themselves Lists of Properties

A number of contemporary philosophers have worked with a conception of essence that is not that of a list of properties, however unified. Thus Joseph Almog (1991) makes a principled distinction between having a property and having an essence, where the first determines *how* an entity is and the second determines *what* an entity is. And when Fine informally glosses his formal semantics for essentialist claims like ‘Socrates is essentially human’ in term of its lying in the essence of Socrates to have the property, he does not seem to be supposing that the essence of a thing is some property or conjunction of properties. Johnston (1984) supposed that there are essential kinds, and the metaphysical basis of an entity’s having this or that essence is simply its exemplifying this or that essential kind -- be it an essential kind of trope, such as a fully determinate shade of red, or an essential kind of ‘full-blooded’ individual, such as the kind Human Being. Since what it is to be the redness of this rose petal is just to be a case or example of a particular essential kind -- namely such and such fully determinate shade of redness - - no further question arises as to why the trope in question is essentially a redness. Since what it is to be Socrates is to be a particular case of the kind Human Being no further question arises as to why Socrates is essentially human. Johnston (2010) appeals to generics like ‘The Tiger migrated from Africa to Bengal’ to argue that it is a category mistake to identify kinds with properties or with complexes of properties.

Let us then grant that it may be mistaken to *identify* an essence with a list of essential properties or a conjunction of the same. But notice that the present argument does not depend on this identification. All we need to assume is that a list of essential properties specifies an essence or is in one-to-one correspondence with an essence. It is difficult for an essentialist to resist this idea. For each thing there is its essence and the properties of the thing that lie in or flow from that essence, namely its essential properties. The defense of a limited variety of essences for things to have will thus be no better off than the defense of a limited variety of sequences of essential and accidental properties for things to have.

Suppose we do adopt a 'kind-basic' essentialism -- one that counts essence as more basic than essential properties. This allows for a different level at which the constraint of naturalness *might* apply. Yes, one might say, the variant sequences are no less natural as sequences of properties, but they correspond to less natural or less admissible candidates to be essences.

The thought is entertainable in the abstract, but one would wish to know why the variant sequences fail to correspond to less natural candidates to be essences. For, as already noted, they are sequences of the very same properties. Even if essences are more basic than essential properties, still the one-to-one correspondence between a given essence and its associated properties suggests that an essence will be as natural as its associated natural properties. Absent a further account of the naturalness of essential kinds or essences, we just have the blank insistence that the position of the bright line in a 'valid' sequence is fixed as a matter of metaphysical necessity, a metaphysical necessity grounded in the essence of essence.

There remain two sorts of answer as to how the supposed immobility of the bright lines arises from the essence of essence; they are, unsurprisingly, answers taken seriously in the Aristotelian tradition, and they will be examined in what follows. Both are versions of thought that the supposed variant essences do not exist; they imply that the property sequences associated with the supposed variant essences do not in fact determine an essence.

## The Idea of Self-Maintaining Substances

It is important to see that the argument for a plenitude of essences, and of entities with them, is consistent with allowing that an entity corresponding to a divided sequence and a variant entity corresponding to a variant of that sequence may be deemed to belong to different *categories* by this or that ontological scheme. For example, Aristotle located Socrates within the category of substance and treated pale-Socrates as an ‘accidental whole’ -- a non-substantial entity whose exact categorical status is a matter of some dispute. Merely locating these entities in different categories does not address the worries that lead to a plurality of essence, with its consequent massive overlap of entities.

Philosophers such as Johnston (1984, 2010) and van Inwagen (1990) have revived the idea of living things as substances in the sense of things that, for as long as they live, they actively maintain their essences in their natural environment -- say by way of dispositions to various life functions, where these life functions themselves preserve the organic basis of the dispositions themselves. So if we think of sitting-Socrates as Socrates-with -his-body-in-a-certain-bent-position then we may reasonably doubt that sitting-Socrates will count as a living substance, for the bodily position partly definitive of sitting-Socrates is not self-maintaining.

This shows that, if we include the property of being a living substance among the intrinsic and essential properties of Socrates, then the kooky entity sitting-Socrates is not well modeled by the modern theory of ‘qua’-entities (as given, say, in Fine (1982); in contrast, see Yablo (1987)). Sitting-Socrates is not specified simply by taking one of Socrates’ accidental properties and then ‘essentializing’ it. We need to move the property of sitting to the left or essential side of the bright line and the property *and* move the property of being a self-maintaining living thing to the right or essential side of the bright line. In our terminology, sitting-Socrates is a ‘qua and ex’-entity. In general, various worries about metaphysical inconsistencies in ‘qua’ entities are easily met by moving to the corresponding ‘qua and ex’ entities, or in some cases to certain ‘qua and minus’ entities. We might, for example, have to drop the property of being a substance from Socrates’ intrinsic profile altogether, if we are to respect an ontology which insists that nothing can be contingently a substance.

Notice that, while one might think substances are ontologically basic, it would be odd to think that only entities in the category of substance have essences, at least in the sense of essence we are concerned with here. The essence of a thing is the condition of the entity existing. So, if we are essentialists, we should think that all things in whatever category --not just those self-maintainers which deserve the name of 'substances' -- have an essence. Properties, tropes, events, propositions, numbers, accidental wholes -- whatever lies in one's inventory of reality -- all have essences, if anything does.

Nor should the friend of limited variety lean too much on the idea of essentially self-maintaining entities, for it is far from clear that there is a limited variety of *these* entities. We may ask: exactly which 'self' is being maintained? Consider tanned-Socrates. Given the environment in which this thing comes into being, i.e. sunny Athens, can it not be said to be self-maintaining in that environment? After all, the co-incident rational animal Socrates naturally locomotes in the sun, and thanks to his genetic makeup, acquires a deep tan, and remains tanned. Why is this not a case of tanned-Socrates maintaining itself over time? Or suppose that the reason why the rational animal Socrates remains pale is that he is hypersensitive to the sun, and knows this, and so never goes outside in the daylight. Is this not a case where two co-incident things are both self-maintaining, namely Socrates and pale-Socrates?

The problem deepens when we consider both fully determinate and merely determinable styles of self-maintenance. Someone who has had her thyroid glands ablated, so that she no longer naturally produces thyroid hormone, maintains herself in a different way from the normal person; she *ingests* thyroxine tablets. Did the ablation cause one self-maintainer to cease to be, only to be replaced by a different self-maintainer? Was not one fully determinate cluster of life functions replaced by another? To the extent that we think not, it seems clear that we are thinking of the life of a living thing as the sort of thing that can be characterized, without incompleteness, in determinable terms so that it is the same cluster of life functions operating before and after the ablation. Still, producing thyroxin naturally is a life-maintaining function -- and ingesting thyroxine is a quite different life-maintaining function. (People died of hypothyroidism before the availability of the substitute.) Are we then to think that in the case of ablation there are (at least) three self-maintainers: the one who survives since her

essence is properly specified (inter alia) in terms of the determinable life function using the hormone thyroxin or its artificial substitute thyroxine, the one who ceases to be since her essence is properly specified (inter alia) in terms of the determinate life-function of producing and using thyroxin, and the one which comes to be thanks to the ablation, since her essence is properly specified (inter alia) in terms the determinate life-function of ingesting the artificial substitute for the hormone?

Hence, talk of self-maintaining substances will not serve to significantly limit the variety of co-instantiated essences, for two reasons. The co-incident entities need not all be substances in the specified sense, so the requirement that substances be self-maintaining does not have sufficient scope to significantly limit massive co-incidence; and whenever we have a self-maintainer there will be many co-incident ‘selves’ being maintained.

Is *Ur-essence* the Solution?

Setting out the argument for variant essences by considering divided sequences of properties allows for a fairly precise statement of just what assumption about the (essential) nature of essences would block the argument from divided sequences to the typically unrecognized variant essences.

We need a principle which would imply that any attempt to arrive at a variant essence by moving the bright line ‘right’, i.e. into the territory of what was previously accidental, is not in general a way of specifying another *essence*. In this way, a plurality of ‘qua’-essences would be blocked, as would a plurality of ‘qua’-entities. We also need a principle which would imply that any attempt to arrive at a variant essence by moving the bright line ‘left’, i.e. into the territory of what was previously essential, is not in general a way of specifying another essence. Indeed, we need our principle to entail that mere deletion of essential properties from the ‘left’ side can, in general, serve to specify another essence. In these ways a plurality of ‘ex-essences’ would be blocked, as would a plurality of ‘ex’-entities. Then we could remain content with the intuitive conviction of a limited variety of essences.

Here is the principle that would do the work:

A. It is essential or metaphysically necessary that every essence be organized around an ‘ur-essence’, i.e. a single intrinsic essential property whose instantiation metaphysically necessitates the instantiation of all the intrinsic essential properties associated with the essence, and this ur-essence is either:

(i) itself uncompounded out of simpler intrinsic properties, or

(ii) such that each one of its compound intrinsics is such that its instantiation metaphysically necessitates the instantiation of all of the others.

B. It is essential or metaphysically necessary that there is a limited variety of ur-essences.

Without B. the argument from the moving bright line will be blocked, but the conclusion of the argument will hold nonetheless. How then does the principle turn the trick against the moving line argument?

Consider first the movement of the bright line to the ‘right’ and the supposed resultant specification of (more demanding) ‘qua’-essences. Our principle tells us that having an essence requires having an *ur-essence*, an essential feature that necessitates all the other essential features of the entity. So musical-Corsicus and pale-Socrates cannot have essences because the supposed ‘extra’ essential properties are just tacked on. For they do not flow from the essential properties of the substances that are Corsicus and Socrates; otherwise they would be essential to the respective substances, which they are not. So they do not flow from, i.e. are not necessitated by, the respective ur-essences (or common ur-essence) of Corsicus and Socrates. But clearly the new intrinsics that have been tacked on are not themselves such that they necessitate the essential features of Corsicus or Socrates. And we have no reason to believe that by grace of metaphysical fortune either of the new putative combinations of essentials are united by new ur-essences, i.e. one which necessitates the essential properties of Corsicus and the property of being musical and one which necessitates the essential properties of Socrates and the



property of being pale. It follows then that we have no reason to believe that these are essences for musical-Corsicus and pale-Socrates to have. More generally, we have no reason to believe that there are mere ‘qua’-essences. Given that having an ur-essence is a condition on being an essence, you can beef an essence up and yet have no reason to believe that you have arrived at another, more demanding, essence.

Consider next the moving of the bright line to the ‘left’ and the supposed resultant specification of (less demanding) ‘ex’-essences. When we imagined moving the bright line to the ‘left’ we imaged a series of essential properties waiting for us there, and considered the result we would get if one of these essential properties was shifted to the accidental side of the bright line. Recall the God-like being, God ex-good, who is essentially omnipotent but not essentially good. (He is as good as God is, but only accidentally so. Would there then be less of a reason to pray to *Him*?) The argument has us arriving at God ex-good by imagining a divided sequence that includes being good as an accidental feature, even though it is an essential feature of God. But now given that every essence requires an ur-essence, the argument that there is an essence for God ex-good is blocked. Even given the assumption that God has an ur-essence there is no reason to believe that we have described an essence for the God-like being. In general, we have no reason to believe that there is an ur-essence that entails or necessitates any subset of the properties that make up a given essence. Given that having an ur-essence is a condition on being an essence, you can pare an essence down and yet have no reason to believe that you have arrived at another and less demanding essence.

Why must we also require that an ur-essence is an essential property that is not compounded out of other, ultimately simple essential properties which are not mutually necessitating? Suppose otherwise; then we could pare off the independently instantiable simple properties one by one. They would each function trivially as their own ur-essence, and so we would have considerable, if not massive, overlap. Suppose God’s ur-essence was to be good and omnipotent; suppose further that neither of these properties necessitated the other. Then we would have still have God ex-good and God ex-powerful, both eternally and essentially co-instantiated with God.

## The Problem with Ur-essentialism

For a true essentialist, a putative thing without an essence is not a real thing. Since there is no *what it is to be* that putative thing, or -- even more strongly -- since there is no real characterization of what it would take for the thing to be, there is nothing to make of the idea that the thing exists. The ur-essentialist imposes very strong conditions on essences, with potentially striking consequences for her account of what exists.

David Charles, whose book *Aristotle on Meaning and Essence* (2000) finds something like ur-essentialism in Aristotle's account of real definition in *Posterior Analytics*, discusses the example of fish. Following Charles, let us suppose that fish are essentially capable of swimming and essentially ravenous. The latter 'essential' feature arises from the fact that the digestive systems of fish are very inefficient, so they are bound to be disposed to eat and eat. (Pretend for the moment that this particular inefficiency lies in their essential nature. We will get to real cases below.) But what is it that explains fish having both essential properties? We might say that it is the structure of fish DNA, but the problem with carrying through the ur-essentialist program given this empirical knowledge is that this structure is to a large extent 'concatenative': you have this protein *here* and that protein *there*, and so you can swim and you are ravenous. The protein structure determining the one essential feature could be present in a sport, or in another species, without the protein structure determining the other essential feature. Biochemistry tells us that this is the general case; when there is more than one feature of an individual animal that is essential to it, this likely derives from the concatenative structure of the animal's DNA, so that there is no necessary connection between the features. There is no underlying ur-essence that unites the elements in the concatenative structure.

The ur-essentialist will then have to say that there is no fish essence to be had, and hence that there are no fish. And it will not end there.

The same point arises within inorganic chemistry and goes all the way down to the elements. Many elements admit of different allotropes, as with the two allotropes of tin discussed above. But the distinct essential properties of metallic and non-metallic tin show that the common essential properties of the two tins do not imply, and are not

implied by, the distinctive essential properties of either metallic tin or of non-metallic tin. There are no ur-essences here. The consistent ur-essentialist would then be led to the awkward conclusion that elements do not have essences. But if there are no elemental essences to be had then, an essentialist should say there are no elements.

The point obviously generalizes further. Consider simple particles with two putatively essential properties. Need these exhibit an explanatory asymmetry such that having the one entails having the other? Need there be a third essential property had by the particles that entails the first two? These look like much too strong demands on the particles having two distinct essential properties.

What then stops there from being a host of co-existers along with the electrons, quarks, and so on? Whenever we have an electron with its mass and charge essentially we also have a co-incident electron ex-mass and a co-incident electron ex-charge. (Of course, these variant entities do not lack the relevant mass and charge; they simply fail to have both essentially.)<sup>8</sup>

Will 'Existentialism' Help?

Suppose we take seriously the view that essences are not combinations of properties, even though they somehow *determine* combinations of properties as the relevant essential properties of the things with the relevant essence. There is then room for the following view: while combinations or /sequences of properties exist whenever and wherever their constituent properties exist, the essences that determine certain combinations of properties as essential have much more restrictive conditions of

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<sup>8</sup> Could haecceities be the ur-essences of things? A moderate haecceitist might claim that haecceities are precisely the ur-essences that we were looking for. After all, if the point *a* is essentially a point, then the property of being *a* does necessarily imply the quiddity of *a*, and so implies the full range of qualitative essential intrinsics associated with being a point. But that was the definition of the ur-essence of an entity!

Quite so; but there is still a glitch. If ur-essences are to enforce a limited variety of essences then (as B. above requires) there must be a limited variety of ur-essences, and hence, on this proposal, a limited variety of haecceities. But why should there be only a limited variety of haecceities or identity properties to go around? Why, after all, don't the 'qua' and 'ex' entities have their own haecceities?

A similar worry attends the Aristotelian idea that each individual essentially has its own individualized form and that this is the essential feature of the individual that implies all the other essential features. Individualized forms would then be ur-essences; but we would be crucially left without any argument for a limited variety of ur-essences, and hence of essences, for individuals to have. Why, after all, don't the 'qua' and 'ex' entities each have their own 'individualized forms'?

existence. And perhaps these restrictive conditions will give us something like the essences of ordinary entities, without giving us the variant essences which lead to the overpopulation of reality.

That might work as follows. Existence ‘precedes essence’, in that an essence exists only if something with that essence exists, has existed or will exist. Let’s now be dogmatic about (four-year-old) common sense. Socrates exists (or existed) but pale-Socrates does (did) not! So there is just no variant essence for pale-Socrates to have. The problem of variant essence does not get going in the first place. Finally we seem to have a prophylactic form of essentialism, one that combines primitive essences with a radical existentialism about essence, and so prevents over-population.

One problem is with the dogmatism about (four-year-old) common sense. Of course, dialectically speaking it is always better to be on the side of common sense. It is true that, presidents and passengers and the like aside, commonsense does not recognize the variant entities. But as Fine and others have pointed out, it misreports commonsense to say that it *repudiates* them. Commonsense does not even consider the variant entities. Who has so much as heard of pale-Socrates outside of the philosophy classroom?

Moreover, essentialism is a substantive philosophical doctrine, and what is initially commonsensical is not what is commonsensical given essentialism, particularly an essentialism that insists that essences are irreducible to essential properties and that essences only exist if they are instantiated.

Given this sort of essentialism we can ask *just which* essences are instantiated. It is an enormously indulgent compliment to (four-year-old) commonsense to say ‘Roughly the essences that correspond to the entities commonsense actually recognizes.’ Why not instead say ‘Roughly the essences that correspond to the entities that commonsense does not repudiate’? Or why not say, ‘Who can tell?’ since our practice of individuation could proceed as it does whatever the inner details of the essences that are actually instantiated?

Even granting the radical existentialism of this prophylactic form of essentialism, we can ask what are the *possible* essences? -- what are the essences that *could* be instantiated? If we are to avoid possible ‘variant’ essences coming to be instantiated along with the ‘commonsense’ essences and so avoid massive overlap, we had better add

a third tenet to prophylactic essentialism, namely that the only *possible* essences are (roughly) the commonsense essences.

The size of the compliment to commonsense massively increases and seems quite gratuitous, but that is not all. An essentialist must make his essentialism consistent with science, and physical science implies that which kinds of physical things are exemplified is a chancy and apparently contingent matter. It depends on which things, including which relatively fundamental particles, get together, and under what conditions; all of which is a chancy and apparently contingent matter. Some of these kinds that seem not to be exemplified thanks to chance would be very good candidates to be what we were calling essential or ‘essence-registering’ kinds. They are kinds that, if they existed, would group their members in terms of a common distinctive essence. These would be possible essences that are not actually instantiated -- possible essences that have just missed out on being instantiated. If there are such cases then the crucial third tenet of prophylactic essentialism is false.

In a different argumentative context, Michael Tooley (1977) provides a compelling example that dramatizes the point. Suppose there are 26 fundamental particles, each of which happens to interact with every other, with an accidental exception. As it turns out, thanks to chance, A-type particles and Z-type particles never bump into each other. Yet for all the other pairs of particle types, we discover distinctive laws of interaction that relate one type of particle and another type of particle to a distinctive kind of interaction, a different kind of interaction for each pairing. Now these distinctive kinds of interactions are *kinds of events*, and they group those events together in terms of similarities in their fundamental physical features. An essentialist who looks at these laws (all (26 choose 2) – 1 of them!) will therefore naturally regard the event kinds which figure in the known laws as ‘essence revealing’ -- after all, they characterize physical events in terms of their fundamental physical features.

What then of the unknown law, the law governing the interaction of A-type particles and Z-type particles? It is very plausible that there is a distinctive kind of interaction that would take place, were A-type particles and Z-type particles to bump into one another. As noted, that distinctive kind of event would group together events in

terms of their essential features. But by hypothesis there are no such events with that essence.

On a natural essentialist view the *known* laws relate essence-registering types of particles to essence-registering types of interactions. Surely the *unknown* law does this too! Or, at the very least, surely the unknown law relates essence-registering kinds of particles to a possible essence-registering kind of interaction. It follows that there is an essence, or at least a possible essence, namely the (would be) common essence of the possible events that are the possible interactions of A-type and Z-type particles. This is a (possible) essence that is not actually instantiated.

Hence ‘prophylactic’ essentialism is false, and therefore not in fact prophylactic -- not a viable way of avoiding the over-population implied by a huge plurality of available essences.

### Should We Relax About Massive Overlap?

It is easy to see that a plenitude of essences yields massive overlap of entities in the actual world; that is, the coincidence of a host of distinct entities wherever there is an entity. Suppose we have before us an entity *O* with a range of intrinsic properties *P*<sub>1</sub>, ..., *P*<sub>*n*</sub>. Suppose further that these *n* property are ordered such that the first *m* of them are essential to *O*, while the remaining *n-m* of them are merely accidental to *O*. Now consider *O*<sup>+</sup>: *O*<sup>+</sup> actually has the same properties *P*<sub>1</sub>, ..., *P*<sub>*n*</sub> as *O*, but *O*<sup>+</sup> differs from *O* in that *P*<sub>*m*+1</sub> is essential to *O*<sup>+</sup>, but by hypothesis is merely accidental to *O*. Consider also *O*<sup>-</sup>: *O*<sup>-</sup> actually has the same intrinsic properties as *O* and *O*<sup>+</sup>, but *P*<sub>*m*</sub> and *P*<sub>*m*+1</sub> are both accidental to *O*<sup>-</sup>. These are all distinct entities, by Leibniz’s law. For they have distinct conditions of continuing to exist and of possibly existing.

As a group, philosophers have had quite different reactions to massive overlap. Bennet (2004) is with the mainstream in supposing that it suggests that something has gone deeply wrong. Essentialists like Yablo and Johnston seem to calmly embrace it. Fine seems more ambivalent. Then there are the anti-essentialists in sheep’s clothing, that is, the multiple counterpart theorists like Lewis, along with other Abelardians like Gibbard (1975) and Sidelle (1998), who avoid massive overlap by insisting that *de re*

modal claims only hold of their subjects under a description or a conception, so that a difference in de re modal features does not make for a difference in entities. On such views, nothing in itself and *sans phrase* has a property essentially or accidentally.

Once we get as far as Abelardianism, there is a good argument for ceasing to talk of essence and accident. The talk itself encourages the idea that there is an ontological privilege for a restricted range of entities, namely those of (four-year-old) common sense. For these are the entities we habitually refer to, and it is all too easy not to notice, or to forget, the variants with their equal claims.

Some humanoid species could have had the following feature. When members of this species form a fist, it is very hard to ‘kill’ the fist. The muscles in the hand and fingers freeze in position. Almost all attempts to open one’s hand produce a corresponding spasm which keeps the hand clenched. These fists are self-maintaining. We can imagine the folk metaphysicians of this species being naturally drawn to these thoughts: There really are fists, but not semi-fists (half-closed-fists). It is only the fists that could possibly have essences, for it lies of the essence of essence that there are no essences for half-closed-fists to have.

Here the words of Edmund Burke come to mind: “When we define we seem in danger of circumscribing nature within the bounds of our own notions, which we often form out of a limited and partial consideration of the object before us, instead of extending our ideas to take in all that nature comprehends, according to her manner of combining.” Amend ‘object’ to ‘objects’ and you have the worry exactly. Are we just essentializing salient combinations, and simply forgetting that other combinations there in nature have as much, or as little, right to be essentialized?

As noted, many philosophers (witness the Abelardians) have become comfortable with this anti-essentialist resting place. Speaking for myself, I only feel discomfort and so I, at least, seem to be left with a genuine paradox.

The discomfort arises pretty close to home. I have not always existed; I came into being, and it appears that one day I will cease to be. There seem to be certain conditions that have to be satisfied for my continuing to exist; say the non-obliteration of my brain and body, or say the non-obliteration of my soul, if there is one. Whatever these conditions of my continued existence are, I find it unbelievable (in the psychological

sense) that they are only conditions *relative to a salient, though optional, way of conceiving of me*. If I am to cease to be thanks to the flouting of such and such conditions on my continued existence, then, since my ceasing to be is *not* a matter relative to this or that salient, though optional, way of thinking, it follows that these conditions on my continued existence are *not* relative in this way. To be sure this conviction only demands a certain absoluteness in the conditions of my *future* possible existence rather than in the more general conditions of my *merely possible* existence. Yet even if it thereby falls short of essentialism, the conviction is still something that the essentialist can make better sense of than the anti-essentialist.

On the other hand, if essentialism naturally developed leads to massive overlap, it seems that I am lost as well. As I go through my day, a host of me-like entities come into being, and another host passes away. Many of these me-like entities are long-lived. They are extremely person-like, and they would seem to deserve the respect owed to very, very person-like things. Their interests seem worthy of respect, even where they systematically diverge from mine. But I, inevitably, must ignore them in order to get on with my life...if it is only *my* life.

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