In recent years largely due to the seminal work of Kit Fine (1994, 1995a, 1995b, 2000) and that of Jonathan Lowe (2007, 2008, 2011, 2012) there has been a resurgence of interest in the concept of essence and the project of explaining de re necessity in terms of it. Of course, Quine rejected what he called Aristotelian essentialism in his battle against quantified modal logic and unfortunately for him lived looking enough to see it thrive in the aftermath of the Kripkean revolution. But what he and Kripke (1972) debated was a notion of essence defined in terms of de re necessity. The new Aristotelian essentialists regard essence as entailing but prior in the order of explanation to de re necessity.

In what follows I argue that the concept of essence so understood has not been adequately explained and that any attempt to explain it, at least along the lines most familiar from the literature, must be flagrantly circular or make use of de re modal notions.

The basic thought of the new Aristotelian essentialists is that the essence of x is the sum of the essential properties of x and an essential property of x is any correct answer to the question 'what is x?' understood in the Aristotelian fashion. It is because this is so that it is not an essential property of Socrates that he is a member of singleton Socrates but it is an essential property of singleton Socrates that Socrates is a member of it; to know what Socrates is you do not have to know that he is a member of singleton Socrates, but to know what singleton Socrates is you need to know that Socrates is a member of it.

The crucial issue, if the question why essential properties are necessary ones is to be a substantive one, is then how to identify the relevant Aristotelian sense of the question without appeal to de re modal notions, and not in a flagrantly circular fashion, merely as the sense of the question in which its only relevant answers give essential properties. The point here is

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<sup>&</sup>lt;sup>1</sup> Of course, some defenders of essence may deny that the question why essential properties are necessary is a substantive one. They may say that essential properties are by definition a subset of necessary ones. For them the only explicatory task is to identify the feature F satisfying the schema 'P is an essential property of X iff and only if P is a necessary property of X and P possesses feature F' (or some more complicated variant) (see Wildman 2013 and Cowling 2013). This is not Fine's stance: 'far from viewing essence as a special case of metaphysical necessity, we should view metaphysical necessity as a special case of essence' (Fine 1994: 9). Nor is it Lowe's: 'it is preferable to try to explicate the notions of metaphysical necessity and possibility in terms of

that the question 'what is x?' can be understood in non-philosophical contexts in a way that allows relevant answers that do not correspond to those the new essentialists recognise. (There is also the question form 'what is it to be x?' But the meaning of this is exactly as obscure as the notion of essence, so the new essentialists can hardly hope to allay scepticism by appealing to it.)

The answer to the question 'what is Barack Obama?' can, in different contexts, be: a man, a human being, a politician, a Democrat, an orator, Rhesus negative, happy. The question does not, as ordinarily understood, define the philosophical notion of essence. The best that can be said is that starting from the everyday question we can reach the philosophically important sense by excluding as possible answers those which give irrelevant features and that we can do this by specifying the classes of irrelevant features in general, not flagrantly circular, ways.

Thus 'is happy' can be excluded as an answer to the question about Obama, even though there are contexts in which it would be a perfectly appropriate answer to a 'what is x?' question, because it specifies a merely temporary property of Obama (I assume). Merely temporary properties of things are not to be counted as parts of their essence. Nor are properties of things which are permanent properties of them but not permanent properties of everything possessing them. Thus even if Obama is permanently happy being happy is not part of his essence because not everyone is.

But the requirement that we limit our answers to properties which are permanent properties of the things possessing them does not limit them to those which the new essentialists would regard as essential ones. For example, being German, i.e., originating in Germany, is a permanent property of anything that possesses it, but the new essentialists would not say that it was an essential property of anything.

the notion of essence, rather than vice versa' (Lowe 2012: 934), since the modal account 'puts the cart before the horse' in attempting to 'characterize essence in terms of antecedently assumed notions of possibility and necessity' (Lowe 2008: 34). Anyway, what follows suggests that a reasonable sense of 'essential property' can be explained without reference to de re necessity by identifying an appropriately restricted sense of the 'what is x?' question.

Essential properties can thus not be identified by the formula 'once an F, always an F', nor even by the formula 'necessarily, once an F always an F' in which de dicto modality is employed (this is a further restriction, it is not merely true that once German always German, it is necessarily true, but it may be true that once unhappy always unhappy, although it is surely not necessarily true).

Being German does not impose any constraint on how something is at a time, so it does not require the things that possess this property to be of any particular sort. So we can further restrict the class of relevant answers to our question.

But this still does not get us to the required special sense. Being permanently happy or permanently red does impose such a constraint, since whatever is permanently happy or red is at any time at which it exists happy or red, but no new essentialist would regard being permanently happy or permanently red as an essential property of anything.

Substance sortals satisfy the formula 'necessarily, once an F always an F' and also constrain how things satisfying them are at any time they exist. But they satisfy three further conditions. Substance sortals are typically characterized as imposing *persistence conditions* on the things satisfying them. They are also thought to be governed by general, not temporally specific, *criteria of identity* or principles of individuation. In addition, substance sortal concepts are thought to be ones use of which is necessary for *identifying reference* to and thought about things falling under them.

One might think that limiting answers to the 'what is x?' question to concepts satisfying these conditions would be enough to get us to the appropriately narrow sense of the question and certainly concepts like person and ship are typically cited by neo-essentialists as examples of essential properties.

But, as I shall now argue, appealing to these components in the idea of a substance sortal does not help to explain why essential properties must be de re necessary ones.

I shall begin with the idea that substance sortals (and, of course, the phase sortals which are their restrictions) must be governed by criteria of identity.

The thought is that substance sortals satisfy principles of the forms: 'Necessarily, things of sort S are the same just in case they are R-related', where R is some relation which does not by itself entail identity.<sup>2</sup> For example, sets are the same iff they have the same members, events are the same iff they have the same causes and effects, and perhaps material objects are the same iff they have the same beginning of existence. This is equivalent to saying that necessarily anything x of sort S is such that x is the unique thing of sort S R-related to x. But it is mysterious how we can infer from such a de dicto necessary truth about the necessary conditions of being a thing of sort S that anything of sort S is necessarily a thing of sort S, so appealing to this component of the notion of a substance sortal does not help to explain why essential properties must be necessary.

The second component in the idea of a substance sortal I will discuss is the thought that appeal to substance sortals is necessary for identifying reference to and thought about things falling under the concepts. However, this is controversial. I can pick out that prominent object in the sky without knowing whether it is bird or a plane or a (Super)man. My favourite thing is a yellow, plastic toy duck I keep in my bathroom. You can refer to that as my favourite thing, or as the yellow plastic object in the bathroom which is duck-shaped, about six inches long, four inches high, and three inches wide at its widest point and not a part of any other such duck-shaped object. It may be said that this is not enough to identify it, since there is also the piece of plastic, which is distinct from the duck. But this gets us into larger issues. However this may be, even if objects cannot be identified and spoken about without appeal to the substance sortal concepts they fall under, it remains mysterious how it follows that the substance sortal concept a thing in fact falls under must be one it falls under in any counterfactual situation in which it exists. Why couldn't Kal-El have been (laws of copyright aside) a super-powered android or a hammer-wielding Norse god? Why couldn't my toy duck have been a toy dinosaur (as it would have been but for a last minute change of production line in the factory)? In which case these things would still have been identifiable, but under other sortal concepts. Again, then, appeal to this second component in the idea of a sortal concept in explication of the notion of essence does not help to explain why essential properties must be de re necessary ones.

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<sup>&</sup>lt;sup>2</sup> If R does entail identity it is true of things of any sort that they are the same *if* R-related, so the only information a statement of this form gives about things of sort S, in particular, is that they are the same *only if* they are R-related, which is to say just that every S is R-related to itself.

I turn now to the thought that substance sortal concepts impose persistence conditions on the things satisfying them. There are two components to this thought.

The first is that any such substance sortal concept constrains the history of anything satisfying it, not merely by requiring that anything satisfying it is a certain way whenever it exists, as a permanently red thing must be, but also by requiring that anything falling under the sortal concept has a history that displays a certain diachronic pattern which can be captured in a statement of the form 'if x is an S then for any two times t and t\* at which x exists Rxtt\*', where the truth of 'Rxtt\*' for particular specifications of t and t\* is not guaranteed by the non-historical properties, like being red, of x throughout its history. For example, it may be thought that a person (assuming that this is a substance sortal concept) must be conscious at any later time at which he exists of what he did previously or at least that he must then be related by psychologically continuity – in the sense explained in the personal identity literature – to himself at the earlier time. Similarly, there are constraints on what counts as the history of a ship or other artefact which can be captured in a statement of this logical form. These constraints determine what changes things falling under the sortal concept cannot survive. They determine the 'passing away' conditions of the things.

But even if, for example, it is a necessary truth that every person satisfies such a diachronic constraint this is merely a de dicto, not a de re, necessity. So it does not follow that every person is of necessity a person. Consequently, limiting the narrower sense of the 'what is x?' question to answers satisfying this constraint fails to ensure that essential properties are necessary.

One can further specify what it is to be a sortal concept and limit further the appropriate answers to the 'what is x?' question by going back to the second main component in the idea that substance sortal concepts impose persistence conditions. This is that any substance sortal concept S satisfies a condition expressible in the form 'necessarily, if x is an S and exists at t then if any S y exists at a time t\* and Rxtyt\* then x is identical with y'. This is important to distinguish temporal parts or stages of a thing which satisfies a substance sortal concept from the thing itself. For example, a person stage x of a person will not satisfy (a suitable refinement taking fission and fission into account) of the condition 'if x exists at t and person

y exists at t\* and y at t\* is psychologically continuous with x at t then x is y', but a person will.

This form of constraint determines the 'preservation conditions' of the things falling under the concepts; a constraint of this form tells us what is enough for a thing falling under the concept to survive over time.

But satisfaction of this form of constraint does not guarantee that a concept is a concept of a necessary property of anything possessing it. The same point applies as before, this is a requirement on how things that are of sort S behave in any single world; it does not entail anything about the de re necessities pertaining to things of sort S.

This may be allowed and it may be agreed that limiting the answers to the 'what is x?' question in this way does not ensure a limitation to essential properties if these are supposed to be necessary properties of the things possessing them. But it may be said, the reason why genuine substance sortal concepts do satisfy the constraints outlined above is that they do denote essential properties of the things falling under them. It is because any man is essentially a man that, for example, it is necessarily true that once a man always a man. In contrast it is not because any German thing is essentially a German thing that it is necessarily true that once a German thing always a German thing. The same point holds for the other features specified as marking off substance sortal concepts from others. So what marks off genuine substance sortal concepts is not the conditions specified but the explanation of why they satisfy the conditions. It is because a man is the answer to the question, 'what is Aristotle?' that Aristotle cannot cease to be a man, for example.

Thus Lowe (2007: 765) writes: '... why is it, if indeed it is the case, that Aristotle cannot cease to be a man without ceasing to be? Surely the obvious reply is that "A man" is the correct answer to the question "what is Aristotle?", when this is understood precisely as an enquiry into his nature or essence. Only this it seems, explains how we can be so confident that by ceasing to be a man Aristotle must cease to exist. He must cease to exist because on ceasing to be a man there would be nothing he could then be. But if that is the correct explanation then it also follows that he could not have failed to be a man altogether.'

But this last sentence simply begs the question why there should be a link between essence and de re necessity. It is not obvious that if anything possessing property P at some time necessarily possesses property P at some time then it is a necessary truth that: anything possessing property P at a time possesses it at all times it exists. Nor is it obviously the case that if anything possessing property P at all times it exists necessarily possesses property P at all times (or some time) it exists then it is a necessary truth that: anything possessing property P at a time possesses it at all times it exists. The transition from the de re modal proposition that (necessarily) everything possessing property P sometime/anytime is a necessary possessor of P sometime/anytime to the de dicto modal proposition that it is necessary that everything possessing P at any time possesses P at all times it exists is invalid. So the explanation of the de dicto modal truth that necessarily, whatever is a man at any time is a man at all times and hence will cease to exist when it ceases to be a man cannot be that (necessarily) any man is necessarily a man, a man in all possible worlds in which he exists. The explanation of the de dicto truth, for the new essentialist, has rather to be that being a man is what a man is, i.e., is the answer to the question 'what is he?' asked of a man, as Lowe in fact says. But this explanation already goes through if the 'what is x?' question is understood in the narrow sense provided above in explaining the notion of a substance sortal, by the process of exclusion of irrelevant answers without employment of the concept of de re necessity.

Hence we have not been given a reason by Lowe to think that essence, understood via this question, entails de re necessity. Nor, therefore, have we been given reason to think that a suitably narrow sense of the question can be identified, without explicit appeal to de re necessity or flagrant circularity, which limits its answers to essential properties which are de re necessity entailing. The link between essence and de re necessity still needs to be made out. I do not see how it can be unless it is explicitly built in and the question why essential properties are necessary rendered non-substantive.

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