

Cambridge Change and Sortal Essentialism

I.

In his recent attempt to deal with a putative conflict between Cambridge change and sortal essentialism put into focus by Chrysippus's puzzle Jim Stone has the following claims¹. First, the “brittle” form of essentialism which Burke deployed previously in his approach is implausible since it entails that trivial changes in the relational properties of objects can lead to the destruction of these objects. In the puzzle, for example, Theon, the proper part of man Dion consisting of all of Dion except Dion's left foot is destroyed according to Burke by being separated from that foot by amputation.² Burke's reason for Theon's destruction is that if it continued to exist it would become indiscernible from man Dion and so it would begin to satisfy the substance sortal “an” undergoing thus a “sortal change”. However, no survival under another sortal is permitted by sortal essentialist insights. As Stone sees it, accepting that such merely relational changes, i.e. Cambridge changes have lethal effects for the objects would reduce essentialism to absurdity. Second, he claims that one can avoid such unwelcome consequences by making appeal to the constitution relation granting thereby the survival of Theon as a constitutor of Dion. This suggestion, though it is irrelevant as a solution of Chrysippus's puzzle, as Stone admits, still, its main advantage is that the constitution relation mitigates the effect of Cambridge changes for sortal essentialism.

Stone writes:

Once we shift to the view that post-amputation Theon merely constitutes Dion, however, the brittle form of essentialism that Burke deploys becomes less implausible. As it is false that Theon becomes a man if it survives the separation from Dion's foot, Theon is not destroyed by a mere relational change after all. Now we can insist, without reducing essentialism to absurdity, that no proper part of a man can survive by becoming a

¹ Stone, J. (2002: 216., 222)

² see Burke (1994:134)

whole man. In effect, the constitution relation provides a protective buffer between sortal essentialism and Cambridge change. [later] Burke's alternative ... without the constitution relation as a buffer, is rendered untenable by Cambridge change. (Stone 2002: 222)

In what follows I shall point out that the constitution relation cannot serve as a protective buffer between sortal essentialism and Cambridge change for the following reason: Theon's putative survival in whatever form, say, what is made possible by constitution, presupposes that an *essential property of Theon is lost by Cambridge change*. For, as I will argue, being a proper part of a man is essential to Theon. It loses that feature by the amputation, although that feature does not make a substance sortal. And the loss of an essential property while the thing continues its existence is denied by any form of essentialism.³

If sound, what this shows is that it is time to revise the standard picture according to which Cambridge changes are too insubstantial to play a role in essentialist considerations. My argument does not presuppose the disapproval of appealing to the constitution relation: I do not take a stand on this issue between Burke and Stone or the rest of the philosophical community. All I am presupposing is this: pre-amputation Theon *was* a proper part of a man, *hence* it was a *non-man essentially* which is clearly accepted by both Burke and Stone. Theon loses by the amputation its property of being the proper part of a man, as no one denies.

Before coming to my claims, the locution “being the proper part of a man” needs to be addressed briefly. Burke (1994: 129) states his argument in terms of persons, not men; Stone (2002:217) reformulates the argument in terms of men admitting that “nothing of philosophical importance hangs on the simplification”. Again, Burke (2004: forthcoming) spells out his premises in terms of “proper parts of men” while characterising Dion as “a whole-bodied, human person” whose “part is Theon”. In view of these formulations I take it that the suggestion is the following: Theon as a proper part is to be identified by reference to the person Dion in virtue of the latter’s having a human body. Since unity is traditionally ascribed to persons, presumably it is more appropriate to talk about proper parts of men than to talk about proper parts of persons.

Here I shall show, first, that being the proper part of a man is an essential property of Theon, second, I will explore the consequences of the

³ I am grateful for valuable comments and criticism of an earlier draft of this paper to Robert Kirk, Stephen Barker and Robert Black.

loss of an essential property for the connection between Cambridge change and essentialism.

II.

While agreeing on the pre-amputation phase, Burke and Stone diverge on the post-amputation phase, along the lines that I have already briefly indicated. My point will be that no survival is possible for Theon but not for the reasons given by Burke. Let us see first more closely how Burke and Stone conceive the problem. According to Burke if Theon survived the operation, it would survive it as a person since by becoming qualitatively and compositionally identical to the person Dion, personhood could not be denied of it. But Theon's survival is overridden by sortal essentialism according to which the general sort of a thing is essential to its identity and, as a consequence, if a thing ceases to fall under a general sort marking out its essence, it ceases to exist.

Now the change suffered by Theon qualifies as a sortal one in Burke's view, but the reason he gives does not focus on what is actually lost by the change; but rather, it is explained counterfactually as to what *would be* gained by a "sortal change". Evidently, the change cannot be a sortal one according to what is actually lost since Theon, the "torso" not falling under the form Man, belongs to the *complement* of the essential substance sortal Man. Clearly, complements of substance sortals are not themselves substance sortals; therefore things in that range have no substance sortal, though they have the property of falling under the complement of a substance sortal essentially, due to the essentiality of the general sort. So "sortal change" with Theon can only be explained counterfactually: he would acquire substance sortal Man if he continued to exist.⁴ Since no substance sortal can be acquired, then, true to sortal essentialist insights, Theon is done in by a Cambridge change.

Stone rejects the supposition that Theon is a man after the surgery if he survives, and considers as an option Theon's survival by appealing to the constitution relation: thus Theon survives as a mere constitutor of man

⁴ Burke explains 'sortal change' in the given case as follows: 'I say that Theon undergoes a "sortal change" (a change in sort) because the change it undergoes is one that would result in its beginning to satisfy, if it continued to exist, the substance sortal "person"; (3) in saying that the relational change results in a sortal change, I am relying on my third assumption that Theon is a person after the surgery, if it exists after the surgery, as well as on my first assumption, the maximality of person, which provides the basis for denying that Theon is a person before the surgery.' (Burke 1994: 138 footnote 20)

Dion. (This option is not available to Burke for he rejects coincident objects.) By invoking the constitution relation Stone purports to mitigate both the extreme brittleness of sortal essentialism and the *force* of Cambridge change; so, in his solution Theon is not done in by a Cambridge change after all. In Stone's version of essentialism which he calls "relaxed essentialism" "men are essentially men" expresses the thesis that nothing in the set S of things having the feature of being explained by the form Man can become a member of the complement of that set and survive. For example, if a man suffers brain damage and loses thereby his mental abilities he will be a man "in name alone" since he is no longer explained by the form Man. Its proper place will be in the complement of the set Man as a "non-man". By the same token, members of the complement of the set determined by the form Man cannot survive under the form Man. For, "non-men are essentially non-men" "expresses the thought that nothing in the complement of S can become a member of S and survive".⁵ So, a "torso" cannot become a whole man by amputation and survive.

Stone's version of sortal essentialism "requires no exception for proper parts of men", as he says; so, proper parts of men are members of the complements of sets determined by substance sortal Man and presumably the same applies to proper parts of other things falling under a substance sortal.⁶

So, Stone seems basically to accept, with the above qualifications, premises 1) and 2) of Burke's reconstructed argument, that are:

"(1) The concept of a man is maximal; proper parts of men are not men."

"(2) Men are essentially men (thus non-men are essentially non-men)".⁷

Stone rejects only premise (3): "If Theon survives the separation from Dion's foot, then Theon will be a man".

Before coming to my reading, I suggest a restriction as to what counts as "essentially non-men" since negative properties have always been found suspect. Philosophers from Duns Scotus through McTaggart up to D.M. Armstrong refused them for various reasons. One worry may be particularly acute with *essential negative properties*: how do they contribute to the characterisation of things which is part of the duty of essential properties? Fortunately, Stone provides us with a clue as to what counts as

⁵ See (Stone 2002: 220)

⁶ See (Stone 2002: 221)

⁷ See (Stone 2002: 217) and Burke's repeated suggestion of these premises: Burke(2004:2)

“essentially non-man”; we just have to spell it out explicitly in the form of a restriction.

The restriction is plausible and has a bearing on my argument. It is that *only proper parts* of men are to be taken as members of the complements of sets determined by the form Man *plus* cases of whole men being man “in name alone” for some reason or another. Without this restriction the notion of an essential negative property would become trivialised. For example, every animal except men in the domain of animals have the property of being non-man and, by the essentiality of the sort, have this negative property essentially. Also, every animal of a given sort lacks essentially the property of belonging to any other sort of the domain: so, for example, a dog is essentially non-cat, essentially non-horse, etc. Moreover, if we take a wider domain with medium-size macroscopic concrete objects both animate and inanimate then, clearly, objects of that domain will have a host of essential negative properties that are supposed to play role in their characterisation, as essential properties typically do. To avoid such counter-intuitive consequence and also to be in line with the use of “complement of general sort” in the given context by both Burke and Stone, I take it that only proper parts of things falling under a general sort plus the whole thing which is literally “whole” but fails to satisfy the general sort for some reason qualify as members of the complement.

III.

My reading of how Cambridge change affects essentialism focuses not on the post-amputation phase; rather, it focuses on what property of Theon is *lost* by the change. If Theon survives the amputation in whatever form it does, this very fact casts a new light on its property of being the proper part of a man, hence its property of being essentially non-man. For now, after the amputation it is the case that it *was* a proper part of a man but it lost this property. Clearly, no one denies this step.

Now the crucial point of my argument is this: the property of being the proper part of a man *is an essential property*; and if it is lost by a change then an essential property is lost by a change. Further, if the object is supposed to continue its existence, this contravenes the basic essentialist insights. To support my contention we can proceed by observing that Theon's being a proper part of a man is the property *in virtue of which* it is essentially non-man. This seems to be uncontroversial again on the basis of Burke's premises 1) and 2). So, Theon's being a proper part of a man is its

essential property, though not a sortal one. This is its essential property lost by a Cambridge change while the object continues to exist under whatever form it does. But this is clearly unacceptable on essentialist grounds, because no thing can survive the loss of an essential property.

So Theon perishes in a Cambridge change; and this result of mine matches with Burke's result. However, the essentialist consideration I deploy to this conclusion is different from Burke's consideration; and it has, perhaps, the advantage that it cannot be challenged by invoking the constitution relation. For, as I have argued, once an essential property of a thing is lost, no survival is conceivable under any form.

My argument partly vindicates Burke's point to the effect that Cambridge change actually affects Theon's essential property; however, what it affects is not a new substance sortal putatively acquired after the change; and this point has to be conceded to Stone.

But this is not the end of the story: we have to be able to exclude other reasons for Theon's being essentially non-man; otherwise we cannot prove that its being the proper part of a man was *the* essential property. For example, since I claimed in section II. that only proper parts *and* defective wholes are in the complements of essential substance sortals, the question arises whether Theon could survive as a defective whole, preserving thus the property of being essentially non-man. This would be a possible way of avoiding my conclusion. However, Theon could not turn into a defective whole by the change, and thus qualifying again, after the amputation, as essentially non-man, since Dion with the same defect does not qualify as such either.

A further possibility to undermine my approach would be the following. Theon survives the operation as our commonsensical intuition would demand, so that we do not have to face the challenge of Cambridge change for sortal essentialism as I insist. The survival, however, is grounded in the fact that Theon is an aggregate of mere flesh and bones, blood, cells, etc. This aggregate can be individuated solely by reference to such parts and the intrinsic properties involved in having such parts. Since Theon remains the same after the surgery in terms of this individuation, nothing actually happens to it in a Cambridge change. Theon's principle of individuation is always different from Dion's principle of individuation: while Theon is individuated mereologically, Dion is individuated by sortal essentialism. So, having a head, two arms, a body, but only one leg, etc. are essential to Theon's identity; whereas the having of exactly these parts or any other ensemble is not essential to Dion, the man. So Theon's being a non-man,

and being essentially a non-man are explained by the fact that what are essential to its identity are not essential to a man's identity. This suggestion has been made to me by Stephen Barker.

Now I do not think that Theon's being essentially non-man can be explained in this way; i.e. its being an entity individuated mereologically without reference to such relational property as being the proper part of a man. My reasons for denying this option are the following.

1. If Theon could be individuated mereologically the implication of this would be that Theon's identity would become extremely fragile. Mereological individuation brings with it excessive rigidity: if, for example, Theon loses a drop of blood during the operation which is very much conceivable, Theon dies *qua* the entity mereologically individuated in terms of the parts it *actually* has and the intrinsic properties involved. Even if the surgery is carried out in ideal conditions, Theon with its biological functions is in constant flux as to its metabolism, breathing, etc. As a biological entity, it dies in every moment and it is born in every moment if its identity is viewed from a mereological perspective. Mereological individuation may work well with abstract entities, like sets and classes but it is not the best guide to the individuation of living organisms or functionally organised entities, artefacts, for example. Therefore, Theon cannot qualify as essentially non-man by being mereologically individuated. My point is supported also by Burke.⁸ On the mereological approach, then, Theon would die in every moment; on my approach, it would die only once.
2. There is also a positive reason as to why Theon should be identified by reference to its relational property of being the proper part of a man. The insight is this: although Theon performs many of the biological functions that humans do perform, its essential feature cannot be being a man, only a non-man. For, if exception were made for proper parts, then, clearly, instead of one man there would be a host of men: all-of-me-but-my-pinky-tip would be me as a man; all-of-me-but-one-hair-plucked-out would be me as a man, etc. Or, what Burke coins as the "many-thinkers problem", proper parts of human thinkers would themselves be human thinkers which is clearly far from the "commonsensi-

⁸ Burke in (2004) footnote 6. states explicitly that Theon is not mereologically rigid. Here he considers another part of Dion called Adam. What the latter actually is, is irrelevant for the present concern; what is relevant is that Burke says: "Adam (unlike Theon) is mereologically rigid"...

cal view". Therefore, to de-occamise the identity of such entities would be highly counterintuitive; mereological individuation is not a good option either, as we have seen. So the best available option is to individuate Theon as a proper part of a man and the main contentions are nicely captured in Burke's premises 1) and 2), underwritten also by Stone.

So I take it that Theon's being a proper part of a man was its essential property; and it was essentially non-man in virtue of this property.

Now to grant its survival with the loss of this property would amount to serious problems. Consider: if Theon can lose its property of being essentially non-man, this means, from the perspective of its diachronic identity, that having this property only in one phase of its career, the property qualifies only as a phase-property (though not a phase-sortal). But phase-properties are had contingently: so Theon *contingently* has the property of being *essentially* non-man (since it has it only in one phase but not through its whole career). Uncomfortable as it is, there are two options at this point. One can make concession to the time-relative reading of essential properties; but this is to make a drastic enough revision in essentialist commitments. Or, alternatively, one can argue that since Theon only contingently has the feature of being a non-man after the amputation it must have had it contingently in the pre-amputation phase as well. That is, Theon is contingently a non-man through its whole career; but this is to produce an even more scandalous damage to essentialism. For if members of the complement of the set Man are members there only contingently, then, members of the set Man itself will be members there only contingently; and this violates the essentiality of falling under a general sort. These are the complications if survival is supposed under any form.

So the upshot is this: if a proper part of a substance ceases to be its proper part, say, as a result of a Cambridge change, then, under whatever form it survives, it loses its essential property of falling into the complement of the set determined by the substance sortal. And this clearly conflicts with the basic essentialist conviction that no essential property can be either lost or acquired while the object continues to exist. The only possible option left for admitting the survival of Theon say, under the constitution relation, would be to embrace a time-relative notion of essential properties; but I am not sure whether this is the kind of relaxing essentialism that Stone has in mind.

Let me note here that the post-amputation phase with Theon's surviving as a constitutor of Dion is not problematic on essentialist grounds. Evidently, pre-amputation Theon was not a constitutor of Dion as a whole, for

the latter was more than Theon. The move of becoming the constitutor of Dion by amputation causes no problem for sortal essentialism, because any object is only contingently related to its actual constitutor and contingent properties, including relational ones, are permitted to be acquired or lost without the destruction of the object. *What is not permitted, however, is to lose, in a Cambridge change, the property of being essentially non-man, and acquire instead the property of being the constitutor of a man contingently.* Therefore the constitution relation is *not* “a protective buffer between sortal essentialism and Cambridge change”, contrary to Stone's claim.

Cambridge changes raise an interesting issue about essential properties being affected by change. It is widely held that such changes are relational changes that are not real alterations in the intrinsic properties of the subject.⁹ Such changes are typically located in the “other” relatum: for example, Sam's becoming envied by his neighbours consists in changes in the psychological attitudes of his neighbours towards him. Since it is difficult to ascribe such events to the substance, to Sam in this case, some authors try to dispense with Cambridge events. As Brand remarks, “one way to proceed in these cases is to distinguish between relational and non-relational changes, and restrict events to non-relational changes”. (Brand 1975: 147)

It seems to be a natural suggestion that Cambridge changes, since they do not involve the constituting properties of the substances, cannot be essential to the substances. If Cambridge-changes are located in the “other” relatum, they do not affect the constituting properties of the substance. But, then, how do they affect the substance at all? How is Sam as an individual substance affected by the growth of his neighbours' envy towards him? As we have seen Cambridge changes can still have important metaphysical consequences: they can incur sortal changes.

The main difficulty in the very notion of Cambridge changes is that while being essentially *relational* they are viewed from the perspective of a substance as the bearer of a set of monadic properties. Typically, predication with monadic properties ascribes a special role to the subject; while Cambridge changes are located in the other relatum. As relations, Cambridge changes supervene on one relatum, while being expressed from the perspective of the other relatum they do not supervene on. The envy supervenes on the neighbours' psychology but the event is expressed from the

⁹ About "real change" and "intrinsic property" see (Vallicella 2002)

perspective of the passive partner, Sam.¹⁰ Still, as we have seen, Cambridge changes can be evaluated modally from the point of view of the relatum they do not supervene on, as we have seen with the case of poor Theon.

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¹⁰ Perhaps, a finer distinction can be made within Cambridge events to cope with the cases when they supervene on both relata, although they do not equally concern both relata. For example, Xanthippe's widowing does not supervene only on Socrates death but also, as a presupposition, on Xanthippe's being a female married to Socrates as her last husband. This example is due to Geach.