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Source: *Mind*, New Series, Vol. 96, No. 382 (Apr., 1987), pp. 173-201
Published by: Oxford University Press on behalf of the Mind Association
Stable URL: http://www.jstor.org/stable/2255146
Accessed: 26/09/2009 10:33

*Essence, Origin and Bare Identity**

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It is natural to think of the identities of objects of various sorts, including some familiar kinds of persisting thing, as in a certain sense supervenient on other facts. In the first part of this paper (§§ 1–3) I show how such supervenience theses tend to generate a demand for individual essences; in the remainder of the paper I consider what our response to this should be. My conclusion is that we should reject at least one of the principles that lie behind the supervenience theses. In particular, I advocate that we abandon a certain otherwise attractive principle, to the effect that the difference between two possibilities cannot consist solely in the fact that they concern two different individuals. Couched in the terminology of possible worlds, the moral I draw is that there can be a 'bare' difference between identities across possible worlds. The rejection of the supervenience theses has, among its consequences, the effect of undermining a certain line of thought that, I suspect, explains the popularity of various forms of necessity of origin thesis.

1. As I use the term, an individual essence would be an essential property, or set of essential properties, that distinguishes a thing from all other actual and possible things: ϕ is an individual essence of A if and only if A has ϕ essentially and no other actual or possible object actually or possibly has ϕ. Having ϕ is, in a very strong sense, a necessary and sufficient condition for being A. I shall be arguing that the commitment to individual essences imposed by the supervenience theses is intolerable. But I need to make clear, at the outset, that my hostility to the attribution of these essences is not indiscriminate. First, my argument in no way depends on any general dissatisfaction with essentialist notions. Further, under one interpretation, the attribution of individual essences seems to me innocuous. As long as *being identical with Aristotle* counts as an essential property of Aristotle, it follows trivially that Aristotle—and, by a generalization of the argument, everything else—has an individual essence. However, suppose that we restrict the notion, as I shall from now on, so as to exclude such trivial cases. Does a particular thing have an individual essence in this less banal sense: some set of essential properties that is, in a non-trivial way, constitutive of its being the particular thing that it is?

There are certain sorts of item for which the attribution of such essences

* Versions of this paper were read in 1985 and 1986 to groups at Oxford, Liverpool, and Bradford Universities; I thank all the participants in those discussions. I am especially grateful to John Campbell for comments on an early draft.

seems very plausible: for example, it is natural to think of the membership of a set as both essential to, and constitutive of, that set's identity. But things seem very different when we consider the ordinary substantial particulars, the persisting individuals, including persons, non-human animals, and artefacts, that are the subjects of many, if not most, of our everyday counterfactual speculations. There seem to be good reasons for approaching with scepticism the suggestion that we should attribute non-trivial individual essences to such items as these. Two considerations reinforce one another: on the one hand it is hard to see what plausible candidates for such essences could be found; on the other hand there seems to be no obvious reason why we should suppose ourselves obliged to provide them.

On certain Leibnizian assumptions the attribution of such essences is, indeed, inescapable: every property of an individual is essential to it, and the Identity of Indiscernibles guarantees a non-trivial distinction between the properties of any two individuals. But the consequence of this view, as stated—that of rendering false all claims to the effect that anyone or anything could have had a history in any way different from its actual history—is, unsurprisingly, one that has not commanded widespread support. (On the other hand, if we try to preserve the spirit of the view, while saving the truth of the modal claims by reinterpreting them in the style of something like David Lewis's counterpart theory, it is doubtful that what results will deserve to be called a doctrine of individual essences. Inasmuch as the new style of interpretation saves the truth of the proposition that Aristotle could have been different in some respects, it must now, if applied to the original thesis that all his properties are essential to him, render that thesis false.)

However, there is a general argument for individual essences that is quite independent of these Leibnizian assumptions. In his recent book, *The Metaphysics of Modality*,[1] Graeme Forbes argues that if we are to interpret *de re* modal claims about objects of some kind in terms of identity across possible worlds, we shall be drawn towards a doctrine of non-trivial individual essences for items of the kind in question.

If Forbes's conclusion were accepted, the consequences would be serious. Many philosophers have supposed that they could speak legitimately of the same objects' occurring in different possible worlds or situations without any commitment to individual essences. Some remarks of Kripke's in *Naming and Necessity*, disparaging the demand for 'criteria of transworld identification' and maintaining that the identities of objects in possible worlds can be secured by stipulation, have been influential in this connection.[2] Many people may have supposed that Kripke there exposed as

[1] Graeme Forbes, *The Metaphysics of Modality*, Oxford University Press, 1985, chs. 5 and 6, especially pp. 100, 126–34, 138–48. All references in this paper will be to this work, unless otherwise indicated.

[2] *Naming and Necessity*, Basil Blackwell, 1980, pp. 42–53; also pp. 15–20. (This is a revised and enlarged edition of the paper originally published in Davidson and Harman, eds., *Semantics of Natural Language*, D. Reidel, 1972, pp. 253–355.)

baseless the idea that identities across possible worlds have to be underwritten by individual essences. As we shall see, however, Forbes's principles yield an argument that does not appear vulnerable to Kripke's criticisms.

Moreover, although Forbes's conclusion is expressed in terms of the commitments involved in employing the notion of identity across possible worlds, it will become evident that the argument need not be formulated in this way. Despite initial appearances, one cannot sidestep the commitment to individual essences simply by avoiding 'possible-worlds' talk together. It will, however, be clearer and simpler to begin by following Forbes in using this terminology.

2. It is a commonplace that there are advantages in allowing oneself the use of possible-worlds language to express and to explain modal statements, whether or not one is a realist about these 'worlds'. Once this is accepted, it becomes attractive to express *de re* modal judgements in terms of identities between objects in different possible worlds. For it will then be natural to rephrase 'Jane Austen might not have become a novelist' as 'There is some possible world in which Jane Austen exists and does not become a novelist', from which we can surely move to 'There is some possible world in which there is an object identical with Jane Austen that does not become a novelist'. Thus we take on board an idiom that appeals to an identity between an object in one possible world (in this case the actual world) and an object in some different world: what is known as an identity 'across possible worlds' or 'transworld' identity. So much is extremely familiar. Equally familiar is the fact that David Lewis has provided an alternative 'transworld' relation for the expression of *de re* modal statements: namely a 'counterpart' relation that lacks some of the logical properties of identity.[3]

In the work that I have mentioned, Forbes argues that to adopt the 'transworld identity' relation rather than the 'counterpart' relation is to put certain severe constraints on the range of possibilities that one is allowed to countenance. Indeed, the constraints are so severe that it would seem that nothing short of the ascription of individual essences could satisfy them. Forbes employs two principles about identity across possible worlds. The first principle receives various formulations, but may be summed up as follows: the identity (or distinctness) of A and B must be grounded in facts other than the identity (or distinctness) of A and B itself. Alternative expressions of this are that identity and distinctness cannot be 'bare', but must hold in virtue of other facts.[4] For convenience I shall label this 'the No Bare Identities principle'.

The second principle involves a restriction on the kinds of fact that can legitimately be taken to ground an identity (or distinctness): these facts must

[3] See his 'Counterpart Theory and Quantified Modal Logic', *The Journal of Philosophy*, 1968, pp. 113–26.

[4] See, for example, pp. 127–8.

be what Forbes calls 'intrinsic' rather than 'extrinsic'.[5] All that need concern us at present about this principle, which will shortly be exhibited in operation, is that it is intended to have the effect of disallowing the suggestion that A may be identical with B in virtue of the absence from the scene of any object that would compete with A for identity with B. (Versions of this idea will be familiar from discussions of identity over time.) I shall refer to this as 'the No Extrinsic Determination principle'.

It seems reasonable to interpret Forbes's first principle as subject to a further restriction on the sorts of fact that may legitimately ground the identity of A in one possible world with B in another: namely, that we are limited to a comparison between the properties that A has in one world and the properties that B has in the other, rather than being able to appeal to any irreducible relations between A as it is in the first world and B as it is in the second. (There is perhaps a contrast here with the case of identity over time.) In the following discussion I shall therefore assume that this restriction is in force.

Obviously we need to see whether there is good reason to accept these principles about identity across possible worlds (and, in particular, whether a non-realist about worlds—as Forbes himself is[6]—need respect them). But I prefer to begin by showing why these principles, if accepted, do indeed support a doctrine of individual essences.

3. Initially, one might wonder how they could possibly have this effect. Suppose that we take for consideration a claim that some individual, C, in a possible world, w1, is Bishop Berkeley, and also a claim that some individual, D, in a different possible world, w2, is also Berkeley. Since we must take Berkeley's *actual* properties as given, Forbes's principles about transworld identity require that if C is Berkeley, this is in virtue of the properties that C has in w1 (not, of course, including identity with Berkeley itself) and similarly that if D is Berkeley, this is in virtue of the properties that D has in w2. But how can Forbes's principles possibly lead to the conclusion that the properties in virtue of which C is Berkeley have to be the *same* ones as the properties in virtue of which D is identical with that philosopher, which is the result that the doctrine of individual essences would give us? Why can we not secure accord with Forbes's principles by, as Ayer puts it (in *The Central Questions of Philosophy*[7]), 'anchoring' C's career in w1 to certain items in Berkeley's actual biography, and anchoring D's career to certain quite different items in that same biography? This procedure might, indeed, commit us to the assignment to Berkeley of an 'individual essence' in an utterly *trivial* sense: the disjunction (possibly

[5] Ch. 6, § 4. The details of the formulation of the no extrinsic determination principle are discussed in my § 7 below.

[6] See n. 30 below.

[7] Penguin Books, Harmondsworth, 1976, pp. 197–8. (Originally published by Weidenfeld and Nicolson, 1973.)

open-ended) of all distinct sufficient conditions for being Berkeley. But this trivial notion of an individual essence is not what Forbes has in mind. So the question is: how can we get from the claim that every identity with Berkeley must be grounded in some set of properties, to the conclusion that there is some set of properties that must ground every identity with Berkeley?

Forbes does not actually try to prove that his principles about transworld identity lead ineluctably to a doctrine of individual essences. But I shall show that he is right to think that, once these principles are in force, the restrictions that are imposed on 'transworld identifications' are so severe that it will be difficult, if not impossible, to satisfy them without recourse to something very close to individual essences. However, Forbes is not to be held responsible for the arguments of this section, which are my own. (My first argument derives its basic structure from an argument that Forbes employs, but I have exploited these materials for my own purposes.)[8]

Suppose, to continue with our example, that C in w1 is Berkeley; Forbes's first principle requires that there be features that C has in w1 (not including identity with Berkeley itself) in virtue of which C is Berkeley. Call the relevant set of features 'F1'. But—and this is crucial—if it really is just in virtue of having F1 that C is Berkeley, then *any* object with F1 must also be Berkeley: that is, F1 must represent a strictly sufficient condition for being Berkeley. Suppose now that there is another sufficient condition for being Berkeley, namely F2; let us assume that D in w2 is Berkeley in virtue of having F2. But if F1 and F2 are to be genuinely sufficient, there must be something about them that serves to guarantee that there is no possible world in which there are two objects, one of which has F1 and the other of which has F2. What must F1 and F2 be like if there is to be such a guarantee? One way of achieving it would be to write into each of F1 and F2 the absence of a competitor for identity with Berkeley. But this would offend against Forbes's second principle, that identity must be determined only by 'intrinsic' features. Yet if this stratagem is ruled out, how can we guarantee that there will be no possibility of reduplication? The only remaining way of guaranteeing this would seem to be to assign to Berkeley, as essential to his identity, some property that is such that it cannot be shared by two objects in any one possible world. If Berkeley has some such *unshareable essential property* U, then U must be a component of any sufficient condition for being Berkeley—so it must be a component of F1 and a component of F2. Thus we secure the desired result that there can be no offending 'reduplication' world in which F1 and F2 are instantiated by different objects.[9]

[8] Forbes's own main arguments for individual essences in *The Metaphysics of Modality* are contained in ch. 5, § 5 (on sets) and ch. 6, §§ 1–5 (biological things). I discuss Forbes's own version of what I call 'the reduplication argument' in § 5 below.

[9] Of course the strategy of writing into the Fs the absence of competition is itself a way of generating what is, in a sense, a UEP for Berkeley. But it would be a UEP in a degenerate form: a (possibly open-ended) disjunctive property made unshareable by mere fiat. In general, when I speak of UEPs,

Unshareable essential properties in this sense (UEPs) do not amount to individual essences, although every individual essence is, of course, a UEP. Suppose that Berkeley's only UEP is *being the fattest Bishop of Cloyne*, and Hume's only UEP is *being the fattest British Empiricist*. Nothing that we have so far said precludes the existence of a world in which the fattest Bishop of Cloyne is not Berkeley but Hume.[10]

However, a second argument from Forbes's two principles about identity will tend to close this gap. If F1, F2, ... Fn, ... is the suggested list (possibly open-ended) of non-trivial sufficient conditions for being Berkeley, and G1, G2, ... Gn, ... is the corresponding list that belongs to Hume, something about the Fs and the Gs must serve to guarantee that there can be no single object in a possible world that has both one of the Fs and one of the Gs. We could achieve this in an *ad hoc* way if we were allowed to include, in the Fs or the Gs, or both, a clause explicitly ruling out competition. (For example, we might simply make it an explicit component of each of the 'Berkeley-making' properties (the Fs) that its possessor lacks every one of the 'Hume-making' properties (the Gs).) But if this device is not permitted (as conflicting with Forbes's second principle), the obvious move must be to take some property X1 that Berkeley has and some (different) property X2 that Hume has, such that X1 and X2 cannot be instantiated by a single object in any possible world, and make these essential to being Berkeley and being Hume respectively.

We now have an argument for assigning to Berkeley and Hume what we can call (mutually) *exclusive essential properties* (EEPs). I call the argument for unshareable essential properties '*the reduplication argument*' (since the danger to be avoided is the reduplication of Berkeley); the argument for exclusive essential properties I call '*the multiple-occupancy argument*', since the danger is that Hume and Berkeley will attempt to lodge themselves in the same object.

If we had only Berkeley and Hume to consider, finding properties to serve as EEPs would present no difficulty of a *technical* kind. We could simply use the year of their deaths or of their births, or the date of their first reading Locke's *Essay*. But since the argument generalizes, we shall have to find a range of properties such that: (a) each actual individual has one from the range, (b) no two individuals actually have the same one, and (c) the properties are necessarily mutually exclusive. In practice, any actually unshared properties that conform to this specification will tend to be also unshareable. But EEPs would not *have* to be UEPs. If we make the simplifying assumption that it just happens to be the case (in the actual world) that each individual is born on a different day from every other individual, then an individual's (actual) date of birth would have the right characteristics to

I shall be intending to exclude such degenerate cases. The same remarks apply, *mutatis mutandis*, to the EEPs and DEPs discussed below.

[10] I am not unaware that these UEPs might be held to fail the 'no extrinsic determination' requirement.

be an EEP, although it would not be a UEP. Suppose, to continue with this assumption, that every actual individual has an EEP consisting in its date of birth, and also some UEP (the combination of the two being, of course, both a UEP and an EEP. Does it follow that each of them has an individual essence? Could there be an individual in some possible world that was the fattest Bishop of Cloyne *and* born on March 12th, 1685, and yet was not Berkeley? Clearly this hypothetical bishop could at best be a merely possible being. His date of birth disqualifies him from being Hume, and (given our simplifying assumption) from being any actual individual except Berkeley.

Yet even if he were a merely possible individual, he would be a counter-example to the claim that Berkeley's combined UEP and EEP is Berkeley's individual essence, as that notion was defined at the start of section 1. To have a label, let us call the assignment to all actual individuals of combined UEPs and EEPs the assignment to them of *distinctive essential properties* (DEPs).[11] The worry is that although no other *actual* individual could possibly have Berkeley's distinctive essential property, his distinctive essential property may not be an individual essence in the strict sense of a (necessarily) necessary *and sufficient* condition for his identity. But about this worry we can make two comments.

The first is that we have not yet examined the results of a completely general application of Forbes's two principles. If we suppose those principles extended, so as to apply to the transworld identities of merely possible individuals, there must be at least a suspicion that there will be no way of achieving a result that both coheres with the logic of identity and does not result in the assignment of individual essences in the strict sense.

The second, and more important, point is that even if the two principles were to lead to nothing more than the demand for non-trivial *distinctive essential properties*, this would be a sufficiently alarming result. If it is hard to accept that we really have an obligation to credit things with non-trivial individual essences there is little comfort to be gained by supposing that we have, instead, the obligation to supply non-trivial essential properties that distinguish each actual individual from every other actual individual.

[11] In fact, we may characterize the notion of a DEP as follows:

ϕ is a DEP of an (actual) object A iff A has ϕ essentially and no other *actual* object actually or possibly has ϕ.

The other relevant notions can be summarized thus:

ϕ is a UEP of A iff A has ϕ essentially and there is no possible world in which there are two objects both of which have ϕ.

ϕ and ψ are EEPs of A and B respectively iff A has ϕ essentially and B has ψ essentially and there is no possible world in which a single object has both ϕ and ψ.

Finally, as indicated at the start of section 1,

ϕ is an *individual essence* of A iff A has ϕ essentially and no other *actual or possible* object actually or possibly has ϕ.

4. Faced with the reduplication and multiple-occupancy arguments, we seem to have just four options to choose from, in the case of any category of individuals:

(1) abandon talk of transworld identity in favour of some less stringent counterpart relation;

(2) commit ourselves to finding non-trivial distinctive essential properties (and perhaps also individual essences);

(3) reject the principle that there can be no bare transworld identities or non-identities;

(4) reject the principle that transworld identity cannot be 'extrinsically determined'.

I shall be arguing for the third option. First, however, I want to counter a possible objection. I suspect that there are people to whom the No Bare Identities principle, as stated earlier, will have had little appeal; such people may feel that a detailed argument for its rejection is redundant. They should read on. For I shall show that *in a form in which it causes the trouble*, this principle can be a good deal more attractive than one might have supposed from its original description.

What I am calling 'the No Bare Identities principle' has two strands: the principle that every identity must hold in virtue of other facts, and the principle that the facts in virtue of which an identity holds must be genuinely sufficient for that identity. The requirement of genuine sufficiency was essential for the construction of the reduplication and multiple-occupancy problems. Moreover, what has emerged from our discussion (and this will become even plainer in § 5) is that the only feature of the No Bare Identities principle that is required for the generation of these problems is its demand that any given transworld identity must be in a certain sense *supervenient* on other facts. The relevant supervenience principle may be stated as follows: if y in w2 is identical with x in w1, then there is some set S of properties that y has in w2 such that any object z, in any possible world w3, that has (in w3) all the properties in S, must also be identical with x. (To avoid triviality such properties as *identity with x* must, of course, be excluded from S.) The idea behind the No Bare Identities principle is that if this were not so, there would be a bare, or ungrounded, distinctness between y and z (and thus between x and z). But if there were such a bare *non-identity*, then there would be a sense in which the supposed *identity* between x and y could also be seen as 'bare' or ungrounded. For it would not be grounded in facts *sufficient* to make y identical with x. (For this reason it is not inappropriate to label the supervenience principle the 'No Bare Identities' principle, although the title 'No Bare Distinctnesses' would be in some ways preferable.)

This supervenience principle makes no claim to epistemological priority

for the facts on which the identity supervenes: hence it does not appear immediately vulnerable to Kripke's gibes about the 'telescope' conception of our access to possible worlds. Nor does the thesis involve a restriction, on the 'subvening' class of facts, to facts that do not themselves involve identities, and we should remember that it was the 'purely qualitative' conception of possible worlds that was Kripke's target in the passages from *Naming and Necessity* that I have mentioned.[12] The holder of the supervenience or No Bare Identities principle may, apparently, even concur with Kripke's insistence that we can *stipulate* the identities of objects in possible worlds. What the principle demands is only that any stipulations that we make conform to the supervenience requirement.

Secondly, we need to distinguish various versions in which a No Bare Transworld Identities principle might be held. It might be presented as a quite general thesis, or it might be specific, applied to items of some particular category. And we can make a second distinction, which cuts across the first. In one version, the principle requires that every transworld identity supervene, either immediately or ultimately, on facts that do not themselves include identity facts. In the other version, the principle requires only that for every transworld identity $A = B$ there are some facts, other than that very identity, on which it supervenes, but these facts may always include facts about the identities of other items (which might be of the same category as A and B or of a different category). This version allows for an infinite regress in which identities supervene on other identities;[13] the other version does not. We can give labels to these classifications: 'General', 'Specific', 'Eliminative' (of identity) and 'Non-eliminative'; they may be combined in various ways.

There are *some* Specific versions of the principle that would probably be acceptable to almost anyone, if we permit them to take a Non-eliminative form. Indeed, this must be so, if we are allowed to bring into existence new categories of individual to which the principle, by definition, applies. However, does the No Bare Identities principle have any initial plausibility as a (completely) General thesis about transworld identities, which is the form in which Forbes advocates it?[14] I am not sure. And we could construe the examples to which Forbes appeals, in arguing for the General thesis (pp. 128–9), as supporting, at most, various Specific versions. What is more, in one case, that of personal identity, the principle is bound to be contentious. But Forbes does appear to be right in thinking that there is plausibility in applying the principle to ordinary persisting things of other kinds—artefacts, non-human animals, plants, and so on—as long as we are allowed to count, among the facts on which their identities supervene, the identities of other things. There does seem to be something odd about the

[12] See n. 2 above.

[13] I am grateful to John Campbell for drawing my attention to this possibility.

[14] See, for example, pp. 127–8 and 148–52.

idea that there could be two possible worlds such that one world contains, say, one particular rat, whereas the other contains, in its place, a distinct but indiscernible rat, where there is absolutely no difference, in respect of properties, or the identity of matter, or the identities of other individuals, that one could appeal to to back up the claim that these possibilities are genuinely distinct.[15] (And if we change the example so that it concerns a plant or an artefact the resulting supposition seems perhaps even more bizarre.) What is more, it is only by adopting an Eliminative version of the principle that we commit ourselves to the more controversial claim that the identities of these persisting things supervene on 'purely qualitative' facts.

Yet—and here is the crux—even a Specific, Non-eliminative version of the No Bare Identities principle, applying to things of these kinds, would have serious consequences. We find it natural to gloss *de re* modalities concerning animals, plants, artefacts, and so on, in terms of possible worlds or situations that contain those very same individuals. But, given the No Bare Identities principle, together with the plausible thesis that the identities of these things cannot be 'extrinsically determined', the reduplication and multiple-occupancy arguments suggest that either this way of speaking is incoherent, or we must suppose these individuals to have distinctive essential properties that mark them off from all other actual individuals, and perhaps also individual essences that distinguish them from all merely possible individuals as well.

Might one respond by saying: so much the worse for talk of possible worlds? This may look tempting, but I think that to react in this way would be to fail to appreciate the full significance of the problem. For, as we shall see, both the No Bare Identities principle and the No Extrinsic Determination principle can be regarded as expressions of intuitions about possibility that can be stated without explicit appeal to possible worlds. For the present it is enough to point out that the effect of an unqualified rejection of the No Bare Identities principle is a commitment to such consequences as the following: that (assuming the characters in Beatrix Potter's story to be real rather than fictional rats) it is coherent to suppose that for every combination of properties that Samuel Whiskers actually has, it is a possibility that some quite different rat (Anna Maria, perhaps) should have had that very same combination of properties—save, of course, for such characteristics as identity with Whiskers and non-identity with Anna Maria.

If it is conceded, at least provisionally, that we cannot solve the problem simply by ceasing to talk of possible worlds, how should we react? I have

[15] One will no doubt be able to produce some further difference between any two possible worlds that appear at first to differ only in that one contains rat A and the other rat B. For presumably one can concoct such individuals as *the sum of rat A and the Eiffel Tower* that will be present in one world and not in the other. However, these rather tiresome counterexamples to the suggestion that two possible worlds could differ *only* in the identities of two rats are beside the point. For the presence of the Eiffel-Tower-plus-rat-A individual could not be a difference that *grounds* the difference between rats A and B; rather, it must itself depend on that difference.

already shown my hand: I believe that we should reject the supervenience requirement involved in the No Bare Identities principle, in spite of its initial plausibility, thus avoiding the commitment to non-trivial DEPs or individual essences. But Forbes's view is very different. For some objects (artefacts, in particular) he does not think that suitable individual essences (or DEPs) can be found; here he advocates the use of a counterpart relation in place of the relation of transworld identity.[16] However, Forbes argues that biological things such as plants and animals can, in general, be assigned individual essences in a plausible way, principally in terms of features of their origins. I shall argue (in § 10) that of the options mentioned at the start of this section, the first—jettisoning transworld identity in favour of some counterpart relation with less demanding logical properties—is very unappealing as a general solution to the reduplication and multiple-occupancy problems. So if Forbes were correct in his claim that option (2) is viable, at least for such things as plants and animals, his proposal would evidently be an attractive one. However, I shall argue that we cannot find the resolution of our problems here. Forbes's own proposal for assigning individual essences (and DEPs) to biological things is, I shall maintain, unworkable, and no plausible modification of it is likely to succeed.

5. Both as an introduction to Forbes's proposal, and as a preliminary to further discussion of the implications of the reduplication and multiple-occupancy problems, it will be useful to have before us an outline of Forbes's own version of the reduplication argument, which can be summarized as follows. (I have changed a few details, and added others, but the crucial points are unaffected.)[17] We begin with the supposition that there was, in the actual world, an acorn A1, planted in a particular spot, p1, at some time (let us say, in 1900), and that A1 grew into an oak tree, O1, which is still growing there in 1985. (We are to assume that the oak is not identical with the acorn from which it grew.) Suppose now that someone thinks that in addition to the actual world (w1) there are two possible worlds, in the first

[16] Ch. 7. Forbes's proposal is not put forward as a direct response to reduplication and multiple occupancy problems of the form that I have considered. Rather, it is presented as a response to the problems that arise from the plausible principle that an artefact could have been composed of slightly different parts: given certain transitivity assumptions, there is a danger of bare identities whether or not we add the principle that an artefact could *not* have been constructed of entirely different parts. (See the arguments on pp. 162–3 of Forbes's book. If we do add this principle we have something of the form of a Sorites paradox.) However, Forbes's proposal—which involves combining a principle to the general effect that an artefact had to have most of its actual parts (p. 186) with a theory of degrees of possibility and counterparthood (pp. 175 ff.)—would seem to provide a technical solution to reduplication and multiple occupancy problems involving artefacts that is a version of option (1).

[17] See pp. 138–45. (See also Forbes's 'Origin and Identity', *Philosophical Studies*, 1980, pp. 353–62.) The correspondence between my labelling of these worlds and Forbes's own labelling in *The Metaphysics of Modality* is as follows:

w1: Forbes's w* w2: Forbes's w

w3: Forbes's v w4: Forbes's u.

of which, w2, that same oak tree, O1, grows from a different acorn, A2, but in the same place, p1, and in the second of which, w3, that same oak O1 grows from the same acorn A1 but in a different place, p2. (See Fig. 1.) Suppose, further, that nothing about the characteristics that O1 has in w2 and w3 prevents the construction of a possible world w4 in which there are two oak trees, O2 and O3, where the first tree, O2, has a history that is in an intuitive sense just like the history that O1 has in w2, and the second tree, O3, has a history that is in the same sense a replica of the history that O1 has in w3. By an appropriate choice of w2 and w3 the 'replica' trees in w4 may simulate their originals to the extent of growing from numerically the same acorns (A2 and A1) as their originals in w2 and w3, and being composed of the very same matter as those originals.

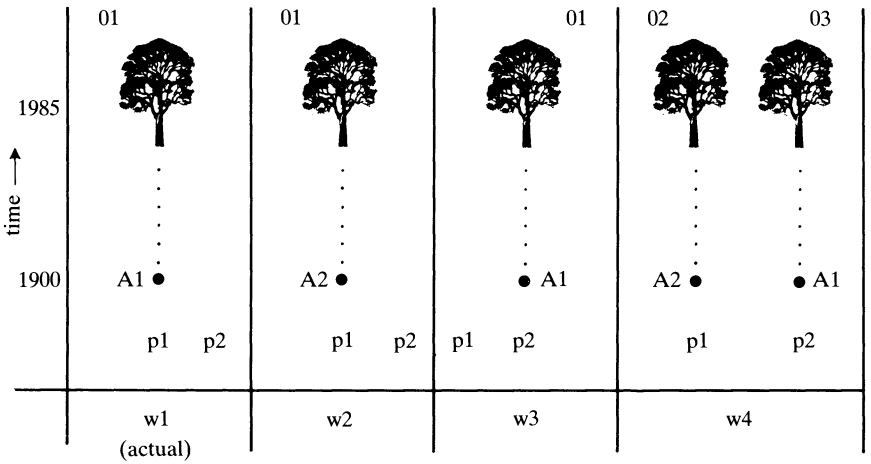


Fig. 1.

The problem posed by the construction of this further possible world is this. It is impossible to say that both O2 and O3 are identical with the actual tree O1. It follows that we must suppose that there are, after all, some features relevant to identity that have not been transferred from w2 and w3 to the 'reduplication world', w4. But, given the way in which w4 has been constructed, we can suppose this only if we deny one or other of Forbes's two principles about transworld identity and distinctness. If we think that they can be 'bare', we can say that the feature relevant to identity that has not been reduplicated in w4 is simply identity itself. We could say that O2 is a different tree from O1 in w2, although similar to it in every other respect that could be counted as relevant to identity. Similarly, we could say that O3 is a different tree from O1 in w3, although there is no other difference

between their characteristics in which their distinctness could be supposed to consist. (In fact, it would be natural for a 'bare identity' theorist to suggest that there are three sorts of possible world that have the features attributed to the reduplication world w4, which differ in that in some O1 occupies p1, in others O1 occupies p2, and in yet others O1 does not occupy either place.)

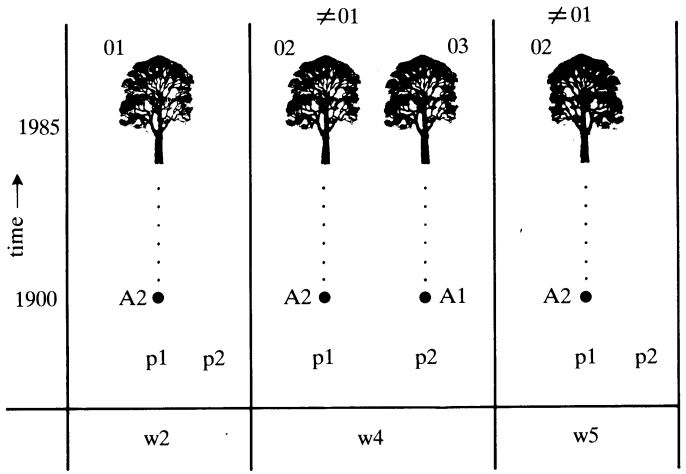


Fig. 2.

Alternatively, we could retain Forbes's first principle, but argue that there is a further relevant difference between each of O2 and O3 and its counterpart in w2 or w3 on which a difference of identity could supervene: O2 has a property that its counterpart (O1) in w2 lacks, namely *being in the presence of another oak tree growing some distance away at p2*; similarly the history of O3 differs from the history that O1 has in w3, in virtue of the presence of an extra oak tree in w4. But this strategy involves a violation of Forbes's second principle about transworld identity. The properties that are being appealed to do not, he says, count as among the intrinsic features of these trees; hence they cannot legitimately be invoked as relevant to the identity question.[18] And we can also note that the appeal to these properties would seem to be motivated solely by the thought that in w4 there is *competition* for identity with O1. (Although Forbes does not say this, we may, I think, distinguish the 'bare identity' view from the 'extrinsically determined' identity view in the following way. Suppose that holders of the two views both say that O2 is not the actual tree, O1. They can be distinguished by their attitude to the question whether there is a further possible world, w5 (as depicted in Fig. 2), which is as exactly like w2 as it can be except for the fact that the tree it

[18] p. 141. See also § 7 below.

contains is O2, which *ex hypothesi* is not O1. (The idea is that we get w5 by removing from w4 the tree that was O2's rival for identity with O1.) The holder of the 'extrinsic' view seems committed to saying that there is no such world as w5: if it really is only the presence of O3 that prevents the tree growing at p1 in w4 from being O1, then the removal of the rival ought to leave us with O1, not with O2. The holder of the 'bare identity' view, on the other hand, has no such reason for denying that w5 is possible. And this accords neatly with one's expectation that someone who thinks that the identity of trees across possible worlds can be bare identity should believe that there can be two possible worlds that differ only in that they contain different trees.)

To return to the argument: what happens if we make neither of these responses to the reduplication problem? The upshot is, evidently, that anyone who accepts Forbes's two principles, but claims that there are possible worlds w2 and w3 of the kind that we have described, is guilty of outright contradiction: he has to concede that the characteristics that the trees have in w2 and w3 are sufficient to make them the actual tree, and yet also not sufficient, because of the possibility of reduplication.

The moral that Forbes draws from the argument is that we must count certain properties of the oak tree's actual origin as essential to its identity, and his preferred candidate for this origin property is that of *originating from the acorn A1 and no other*.[19] On this view there is no such world as w2, and its elimination disposes of this particular example of the reduplication problem. But it should be obvious that no conclusion specifically about origin can possibly be the *immediate* implication of the argument that Forbes gives. All that one needs to do, to avoid the possibility of reduplication, while accepting Forbes's principles about identity, is to assign *some* unshareable essential property to the tree. Nothing in the logic of the argument requires that this property have anything whatsoever to do with the beginning of the tree's existence. Such a property might, for example, concern the exact location of the tree at some precise moment in 1950, long after its original planting. Evidently any such proposal would conflict with the intuition that it is not an essential property of any individual such as a tree that it *continue* in existence for any significant length of time. So it is quite true that, once we are in the business of assigning unshareable essential properties to trees, we shall, *given other assumptions about possibility and identity*, be driven to make use of features of the way those things originated. However, obvious though this may be, it is a crucial step in this argument for the necessity of origin, and it is desirable that it be made explicit.

The reduplication argument is, then, at most an indirect argument for the necessity of origin. What is more, it only serves, even indirectly, to support that thesis if origin can be made to play a non-redundant role in the assignment to a thing of an unshareable essential property. Suppose, for the sake of

[19] See especially pp. 138–40 and p. 144.

argument, that it is possible for twin oak trees to grow from the single acorn A1. Then we cannot get a guarantee against the possibility of a reduplication world simply by legislating that every sufficient condition for being the oak tree O1 must include the property of originating from the acorn A1. If we are to pursue Forbes's strategy we shall (given the assumption of the possibility of twins) have to find some intrinsic property of the actual oak tree's origin that distinguishes it from one or other—or, perhaps more plausibly, from both—of the possible twins that its acorn might have produced.

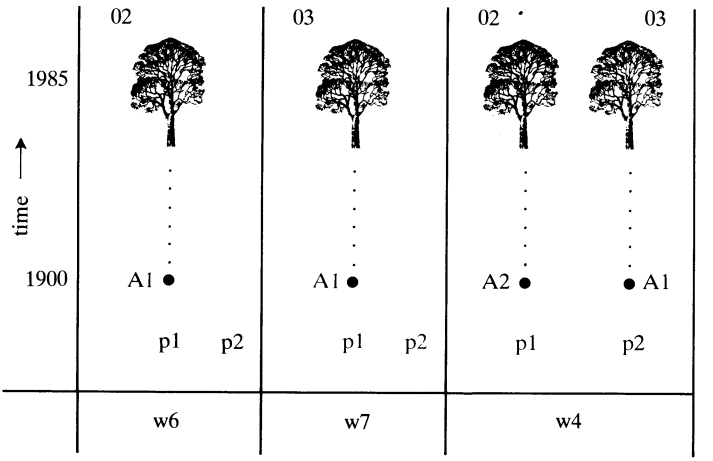


Fig. 3.

Finally, we can note that the materials used to generate Forbes's reduplication problem can be adapted for the construction of a multiple-occupancy problem involving oak trees, as depicted in Fig. 3. Suppose that w4 were actual; suppose also that someone were to suggest that there is a possible world (call it 'w6') in which O2 has a history that is just like the history of the tree in our original world w1. If this person were also to suggest that it would be possible for O3 to have had a history like this (as represented by w7) then we should have what purport to be two possible worlds that differ only in that they contain different trees.

One who believes that there can be bare identities need have no qualms about this. The holder of Forbes's view, on the other hand, will say that there is no such world as w6: the fact that O2 and O3 come from different acorns in w4 (which we are now supposing to be the actual world) provides them with what I have called 'exclusive essential properties'. Finally, one who wishes to employ an 'extrinsic determination' solution here will presumably say that if we consider any possible oak tree with the kind of history envisaged for the trees in w6 and w7, either O2 will be a better

candidate for identification with that tree than O3 is, or O3 will be a better candidate than O2 is, or they will be equally good candidates, in which case neither will 'win'. Hence the proponent of the 'extrinsic determination' solution will deny the possibility of at least one, if not both, of the alleged worlds w6 and w7.

6. We are now ready to consider Forbes's proposal for the assignment of individual essences to biological things. He argues that, in general, they can be assigned such essences (and hence DEPs) in terms of the identities of their biological antecedents, and the sort to which they belong. Forbes introduces the expression 'x is a propagule of y' to represent the relation that holds between one biological entity and another when the first is one of the entities that (immediately) generated, or developed into, the second (p. 133). (I say 'immediately', because Forbes treats the relation as intransitive. He gives, as examples, that the acorn is the propagule of the oak tree; the sperm and egg are the propagules of the zygote; the zygote is the propagule of the human being that develops from it.) Using this terminology, Forbes's view can now be more accurately stated as the thesis that every biological thing that has propagules has its own individual essence, consisting in (1) coming from exactly the propagules from which it actually came and (2) being of some particular sort (an oak tree, for example, or, perhaps, a tree).[20]

We could satisfy the demand for DEPs in the case of biological things by making absolutely every feature of the way that such an individual originated essential to its identity. If we take Jumbo's origin to include not only the coming into existence of an elephant at a certain particular time and place from certain antecedents but also the entire history of the world up to and including the moment that he came into existence, and we make his 'origin', in this sense, essential to his identity, then we avoid the possibility of reduplication worlds.[21] And it is easy to see how a generalization of the proposal—making the 'total origins' of all actual elephants, or perhaps of all actual animals, essential to them—could be used to rule out multiple-occupancy worlds as well. What Forbes is suggesting is that we can satisfy the demand for DEPs with something rather less extravagant, by making essential to Jumbo just two features of his origin: that it was the generation of a thing of a certain specific sort from a certain particular set of biological antecedents. And this proposal has, he suggests, the advantage of cohering with intuitions that we are likely to have in any case about the necessity of origin for biological things.

But if Forbes's proposal is to fill the bill, it had better be the case that each of the relevant biological entities really does have its very own set of

[20] pp. 145–8; see also n. 23 below.

[21] Or rather, in so far as a problem remains, it is simply the one, familiar from discussions of identity over time, that arises if it is possible for an elephant to *split* into two or more elephants. There will be no *further* problem peculiar to the transworld identity case. (See also § 7 below.)

'propagules' that distinguishes it from every other entity of the same sort. The question immediately arises as to what to say about identical (monovular) twins which are generated from the very same zygote, the cell formed by the fusion of the sperm and egg.[22] Each twin will have to have some propagule that the other does not share: presumably these will have to be the two daughter cells into which the zygote splits in the process of producing twins.

We may seem to have solved this particular problem. But in fact, the example involves a biological phenomenon that seems sufficient to undermine Forbes's proposal. We are considering the suggestion that the identities of animals, plants, and so on supervene on other facts, including, crucially, the identities of their propagules, the biological entities that produced them. But what of the identities of these propagules: can these be 'bare', or must they also supervene on other facts? Forbes thinks that they cannot be bare. And, certainly, there does not seem to be any particular merit in saying that while two possible worlds cannot differ only in the identities of two oak trees, or two rats, they may yet differ only in the identities of two acorns, or two rodent spermatozoa. So it seems that each propagule must also have its own distinctive essential property. Since these propagules themselves have propagules—are generated from other biological entities—Forbes takes them to fall within the scope of his account of individual essences for biological things.[23]

But there is an obvious problem with this suggestion: the fact that the *division* of one thing into two or more things is a characteristic biological phenomenon. When one cell divides into two cells, it is simply not true, in any natural sense, that there were two things *before* the division, and that one daughter cell came from one of these and one from the other. Spermatozoa are produced by cell division, and they are among Forbes's examples of propagules. But if a spermatocyte divides to produce two spermatozoa, there would seem to be no propagule that one of these has and the other lacks. And the same would seem to hold for the two cells that we earlier suggested might be counted as the propagules of two identical twins, given that they originated from the division of a single cell, the zygote.

If Forbes is to continue to say that each propagule has its own individual essence (or DEP) his account must become more complex; the most obvious move, I suppose, being to count the particular *matter* from which each of the daughter cells in our examples came as essential to that cell's identity. But there seems to be no guarantee that this or any other similar amendment to

[22] Curiously, Forbes does not mention this difficulty, although he speaks of identical twins elsewhere in the book (pp. 128 ff.).

[23] In the explicit formulation of his account of individual essences Forbes speaks only of 'organisms'. But the extension to the propagules themselves is clearly implied by the remarks on p. 133 together with those in the last paragraph on p. 150. (In any case, Forbes's version of the No Bare Identities principle requires that he give *some* account of what constitutes the identities of the propagules, and no alternative account is suggested.)

the account will result in the assignment of individual essences (or DEPs) that has any intuitive appeal. Rather, I think that the time has come to call a halt. We should look elsewhere for a solution.

7. Given the biological facts, the prospects for finding DEPs in Forbes's way for all the relevant entities look bleak. (What is more, even if the biological facts had turned out to be more favourable to Forbes's suggestion, there is something very curious in the idea that our right to speak of the identities of animals and plants across possible worlds could depend on a contingency of that kind.) Does this mean that we should look for something else to fill the role of individual essences or distinctive essential properties for biological things—perhaps taking up the earlier suggestion that one might make absolutely all the details of origin essential? I doubt it, for what plausible candidates could there possibly be? Does it mean that we must concede that our talk of transworld identity in the case of plants and animals is, strictly speaking, incoherent? We should be reluctant to accept this conclusion. I have already indicated that the basic problem is independent of the possible-worlds interpretation of *de re* modality. And in § 10 I shall argue that to try to solve the reduplication and multiple-occupancy problems by resort to counterpart theory is only to exacerbate the conflict with intuition. In short, I doubt that one can admit that these problems show the incoherence of talk of transworld identity in these cases without conceding that there is something inherently unsatisfactory in our thinking about *de re* modality here, under any interpretation. But it would be premature to resign ourselves to this rather dismal conclusion. Instead, we should re-examine the principles about transworld identity that are the source of the trouble.

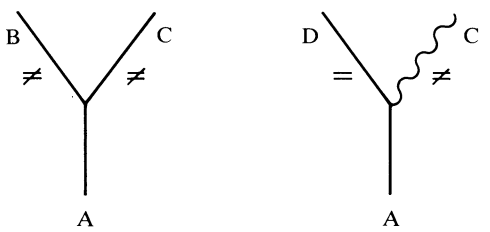
One suggestion would be that we keep the No Bare Identities principle but reject the No Extrinsic Determination principle. Now, I do not want to claim that it is never correct to say that an identity can depend on the absence of competing candidates. However, as a proposal for the solution of reduplication and multiple-occupancy problems of the kind that we are considering, this suggestion seems to me very unsatisfactory. My reason is that if one tries to employ the denial of this principle to solve the problems, one can do so only at the price of accepting some very unpalatable modal consequences. To return to the reduplication problem illustrated in Fig. 1: the suggested solution would have to be that the existence of competition in the reduplication world w4 either prevents the w4 tree at p1 from being O1, or prevents the w4 tree at p2 from being O1, or prevents both of these from being O1. When we translate this back into the ordinary modal idiom, it involves a commitment to such judgements as this: that although the oak tree O1 could have grown from the acorn A2 at p1 and have had the material composition, appearance, and so on exemplified in w2, and although there could have been *an oak tree* that had all those characteristics and *also* had a

companion growing some distance away at p2, none the less *O1* could not have been like that and also have had such a companion.

But this judgement seems extraordinary. And I think that the reason it is so repellent is that, as Forbes emphasizes, we are not supposing that the 'competitor' trees in w4 have there any causal connection with one another at all: they are spatially distinct throughout their histories; the antecedents of the one may be causally independent of those of the other; they may be causally insulated from one another to as great an extent as any two spatially distant but contemporaneous things can be. (Indeed, it seems an inessential feature of our example that they are even contemporaries.) In this respect there is a difference, which seems to me significant, between this case and certain puzzle cases about identity over time that might support the view that identity can depend on the absence of competing candidates.

Suppose that A is an item that splits into two halves, B and C; suppose also that all the relations that seem to be relevant, in the absence of branching, to A's transtemporal identity hold twice over, between B and A and between C and A (Situation 1 in Fig. 4). Then it will be very tempting to say that although neither B nor C is identical with A, still, if some nasty accident had befallen C, so that the relevant relations had failed to hold between it and A, then A would have continued in existence via the left-hand branch (Situation 2). However, to say this is to say that, had the actual 'competitor' C been out of the running, B would not have existed. For identities are necessary and identity is transitive, and $A = D$ and $A \neq B$; hence $D \neq B$ and B does not figure at all in Situation 2. If we accept this, we are claiming that whether a thing with the characteristics that the left hand halves (B and D) have after the division is identical with A depends on whether or not it has a competitor. And (since we can fill out Situations 1 and 2 to get two possible worlds) we should thus be saying that transworld identity can depend on the absence of competing candidates.

However, it is quite plain that any attraction that this move has depends entirely on the appeal of a principle about identity over time: to the effect that there are some things whose transtemporal identities are founded on



Situation 1 Situation 2

Fig. 4.

relations that are capable of holding in a branching form. It is a reflection of this that as long as the relevant relations include causal connections, the 'competitors' in Situation 1 will not really be causally isolated from one another: they will be connected, indirectly, via their individual connections with A. However, in our case of the oak tree, things are very different. There is no branching in the 'reduplication world' w4, and no principle about transtemporal identity that supports the judgement that the presence of competition in that world makes a difference to whether we can identify one or other of the trees there with the actual tree O1.

In fact, the contrast between these cases makes it necessary to consider how exactly a No Extrinsic Determination principle about the transworld identities of persisting individuals such as trees should be formulated. One version would be the principle that a transworld difference in identities between x and y cannot depend on the fact that x is accompanied by a competitor for identity with y, or on the fact that y is accompanied by a competitor for identity with x. (We could call this 'the irrelevance of competition principle'.) Another would be the principle that a transworld difference in identities between x and y cannot depend on the fact that x is accompanied by some individual or event that is causally isolated from x, or on the fact that y is accompanied by an individual or event causally isolated from y. (We could call this, slightly inaccurately, 'the irrelevance of causal isolation principle'.) And, of course, other variants could be proposed.[24] Forbes, in fact, seems to define 'No Extrinsic Determination' by reference to the second principle, the one about causal isolation (p. 141). And I think that he is right to say that *in this version* the principle is a very plausible constraint on modal judgements about such individuals as trees. What the branching case shows, however, is that one can accept the causal isolation version of the principle without accepting the irrelevance of competition principle; it also shows, I think, that the latter principle is rather less compelling than the former. So where Forbes appeals to a *similarity* between 'best candidate' theories of identity over time and the use of an 'extrinsic determination' solution to our reduplication problem (pp. 142–3), I should stress the *difference* between the cases. Even if one is inclined to accept that certain cases of division support a 'best candidate' theory of transtemporal identity, this does not give one any reason to think that 'extrinsic determination' will, in general, provide a legitimate solution to the reduplication problem.[25]

[24] Of course, there is a danger of triviality to be avoided. We might be tempted to count something as an extrinsic property of a tree just in virtue of the fact that we think that it could not legitimately be supposed relevant to transworld identity questions. But if we treat 'extrinsic determination' as *meaning* 'illegitimate determination', the principle that identity cannot be extrinsically determined becomes a tautology.

[25] Forbes discusses a division case, like the one I have described, in illustration of a No Extrinsic Determination thesis about identity over time, rather than transworld identity (pp. 142–3). His idea seems to be that whether the path traced by starting at the bottom of my diagrams and turning left at the

What is more, if we try to give a general solution to multiple-occupancy problems by appeal to 'extrinsic determination', the results are at least as unsatisfactory. Returning to the example described at the end of § 5 (Fig. 3), we see that the solution requires that we rule out either w6 or w7, or both, solely on the ground that O2 and O3 are companions in w4, although they may there have no causal connection with one another at all. There are perhaps various ways in which the suggestion might be developed but, however this is done, the basic idea seems thoroughly unsatisfactory. (The most natural development would involve such judgements as this: although there could have been *a* tree, such as O1 in w2, that differed from O2 as it is in w4 only in lacking a companion at p2, and although *this* tree (O1) could have had the characteristics of the tree represented in w6, none the less *O2* could not have been as depicted in w6.)

8. I conclude that we should hope for some answer to the reduplication and multiple occupancy problems that is more satisfactory than the 'extrinsic determination' solution can provide. Our attention must now be directed to our other principle about transworld identity: the principle that there can be no bare identities or non-identities. As I shall explain in § 9, I do not think that one can make a good case for this principle in its application to plants, animals, and so on by appeal to the general notion of identity, or by appeal to an analogy with a 'no bare identities' principle applied to the identities of these individuals over time. The principle will have to stand on its own feet. Our real difficulty is that it would seem that it *can* so stand. Indeed, there is an even more exacting supervenience principle that appears to have the support of intuition, concerning the origins of things, a form of which is the subject of a discussion by Prior.[26] (Prior discusses the

fork constitutes the history of a *single* individual cannot depend on events that happen in the right-hand branch after the fork. However, we have seen that any such principle about identity over time has consequences for questions about the grounding of transworld identity: for example, for the question whether B can be transworld identical with D. Admittedly, Forbes's view about the branching case has its attractions. (But see also, in this connection, his suggestion later in the book (pp. 188–9) that we may have to adopt an analogue of counterpart theory to deal with branching cases of identity over time.) I do not have to take a stand on this issue here. However, what I want to emphasize is that although what goes on in the right-hand branch may have no causal *influence* on what goes on in the left-hand branch, it does not follow that the two branches are therefore causally *isolated* from one another. So the principle that Forbes is appealing to here does not use quite the same notion of 'extrinsicness' as he employs when he introduces the term on p. 141. And I suggest, tentatively, that this difference between 'non-influential' companions and 'isolated' ones may make all the difference when it comes to the plausibility of certain views about 'competition' cases. (Since the main part of this paper was written, Brian Garrett has let me see a copy of his review of *The Metaphysics of Modality* (now published in *Philosophical Books*, 1986, pp. 65–72) in which he argues that a version of the 'extrinsic determination' thesis is more plausible than Forbes allows. The discussion in § 7 of my paper grew partly as a response to these arguments of Garrett's. It will be evident that although I am in partial agreement with Garrett's conclusions, I am less sanguine than he appears to be about the idea that one could use the denial of the No Extrinsic Determination principle to avoid the attribution of individual essences. Garrett is, however, also inclined to reject the No Bare Identities principle.)

[26] 'Identifiable Individuals', *Review of Metaphysics*, 1960, pp. 684–96; reprinted in Prior, *Papers on Time and Tense*, Oxford University Press, 1968.

principle in connection with persons, but I am deliberately ignoring that case.)

If we consider the entire course of events, including the identity of all objects and matter, up to just before the time, t, when a particular individual—say, the dog Rover—actually came into existence, then, I think, we are inclined to feel that there could be nothing more to *Rover's* coming into existence than the coming into existence, out of that course of events, of *a dog* at a certain place at t. That is, it seems perverse to suggest that the world could have been *exactly* as it was in every respect right up to the moment before t, and that a dog could have been produced at t at the appropriate place, and yet that dog have been not Rover, but some other dog. And this seems borne out by the way that even those who deny the necessity of origin are likely to talk. If I make the supposition that Rover might have had a different origin (different parents, for example), then what I am likely to be supposing is that things might have gone differently *before t*, the time at which Rover actually came into existence. Typically, one would not say, of a dog conceived at some moment in 1980: 'Suppose that, up to that moment, the world had been exactly the same, except that the dog then conceived by Rover's mother was not Rover, and that Rover himself was not conceived until 1982.'

So far, all that has been suggested is that the characteristics of the *actual* origins (in a very broad sense of 'origin') of individuals are sufficient for their identities. If this is all that we say, then we cannot be threatened with any reduplication problem, even if we claim that Rover could have had an entirely different origin from the one that actually engendered him. The problems arise if we extend this thesis of the supervenience of identity on (total) origin from the actual origins of objects to the merely possible origins of those objects. For then we really are committed to saying that if Rover could have originated from a certain course of events then, in any possible world containing *a* dog originating from just that course of events, that dog must be Rover. To avoid the reduplication problem, there must be a restriction on possible origins for Rover to ensure that no two of them can occur together in one possible world—which, as we have seen, generates the demand for an unshareable essential property for Rover. The problem becomes even more acute if we take the further step of saying that Rover's identity supervenes on something rather less than the totality of facts prior to his conception. (Suppose that Cleopatra's nose had been a centimetre longer, or Julius Caesar had had an extra hair on his head, could *that* divergence from the actual course of events be sufficient to allow a dog conceived by Rover's mother at t to be other than Rover?)

There is the additional problem that, once we make the extension to possible origins, then no possible origin for Rover is also a possible origin for Fido, if Fido is a different dog from Rover. But this 'multiple-occupancy' problem commits us to finding a restriction on the possible origins for Rover

(and Fido) that will tend to lead to a very strong form of necessity of origin thesis that involves specifying some distinctive features of Rover's actual origin that are both necessary and sufficient for his identity in every possible world in which he exists.

Once extended to merely possible origins, this supervenience thesis is sufficient to generate difficulties about transworld identities that lead to the search for distinctive essential properties and individual essences. But perhaps I was wrong to suggest that, even as applied to actual origins, this thesis has a universal appeal. I said that it seemed perverse to claim that it might have been Fido, rather than Rover, who was generated from precisely the course of events that actually produced Rover. However, someone might retort that this is not perverse at all, because it would be a very reasonable thing to say if the dog's subsequent career is much more like the actual career of the actual Fido than it is like the actual subsequent career of Rover. But in the context of our current discussion the interesting thing about this response is that if it is the *only* way in which the identification of the hypothetical dog with Fido can be defended, this vindicates the more general principle that the transworld identities and non-identities of dogs cannot be bare. For the implication would be that if the dog's subsequent career (as well as his origins) had been exactly like Rover's, then the dog would just *have* to be Rover, rather than Fido.

It cannot be denied that (in the case of such individuals as dogs) both the No Bare Transworld Identities thesis and the 'supervenience of identity on (actual or possible) total origin' thesis have a certain appeal.[27] But is either of them compulsory? In order to reject both of them, we should have to do one of two things: resist the extension from actual histories (and origins) to merely possible histories (and origins), or deny their application even to actual histories (and origins). It would be agreeable to think that we could resist the extension. For I, at least, find initially much more compelling the claim that Fido could not have had Rover's actual origin, or Rover's actual history, than the claim that if something is merely a possible origin or history for Rover then Fido could not have had that origin or history.

However, I am doubtful whether, in the end, this compromise can be made plausible. Suppose that we follow this suggestion, and say that if H represents the complete actual history of Rover (including, if we like, his origins), then there is no possible world in which Fido has H, although there is a possible world in which Rover has a different history, H*, and *also* a

[27] Of course, this 'sufficiency of total origin' thesis should be distinguished from the much stronger sufficiency of origin principles to which Forbes commits himself: such as a principle to the effect that it is a (necessarily) sufficient condition for Rover's coming into existence that a single dog be generated from the gametes that actually produced Rover. Strong sufficiency of origin theses, and their connection with the necessity of origin, have been discussed by a number of writers: in addition to Forbes's work, see, in particular, Nathan Salmon, 'How *Not* to Derive Essentialism from the Theory of Reference', *The Journal of Philosophy*, 1979, pp. 703–25; also Harold Noonan, 'The Necessity of Origin', *Mind*, 1983, pp. 1–20.

H: Fido	H*: Rover (nothing has H)	H*: Fido
w9	w10	w11
H: Rover (nothing has H*)		H*: Rover (H: Fido)
w8 (actual)		w12

Fig. 5.

possible world in which Fido has H*, as long as H* is not the same as the actual history of any actual individual. (See Fig. 5.) The trouble is that this line of reasoning cannot legitimately stop here. For we should surely want to say that, if Rover had actually had the history H*, then Fido's having H*—which, as things are, is possible—would *not* have been possible. And, by symmetrical reasoning, if Fido had actually had H*, then H* would not have been a possibility for Rover. Moreover, if Rover had had H* rather than H, there is no reason to suppose that it would *then* have been impossible for Fido to have had H, although this is not, as things actually are, a possibility. In other words, we should reach the conclusion that while both w10 and w11 are possibilities relative to the actual world (w8), they are not possibilities relative to one another, while w9, although not possible relative to w8, may be possible relative to w10 (and perhaps to w11 as well). In effect, we should be saying that the 'accessibility' relation between possible worlds is not transitive.

But the failure of transitivity here threatens to produce some unpalatable results, similar to those that we noticed in discussing the 'extrinsic determination' solution. Suppose that there is nothing about the characteristics of H and H* that precludes the existence of a possible world in which there are two dogs, one of which has H and the other of which has H*. Then we must consider the supposition of a possible world w12, in which Rover has H*, and some other dog—perhaps Fido—has H. Evidently, w12 is not possible relative to the actual world, w8. But since w10 is possible relative to w8, this means that we have arrived at a complex form of 'extrinsically determined identity' thesis. For, given that w8 is actual, whether or not a possible dog with H* can be identified with Rover depends on whether or not it is accompanied by some other dog that has H. And this is in spite of the fact that if *w10* had been actual, and Rover had had H* instead of H, it would have been perfectly possible for Rover to be accompanied by a Fido possessing the history H.

For this reason I think that we should probably do better to take the more

radical course: that of denying the No Bare Transworld Identities principle (and, *a fortiori*, the principle of the supervenience of identity on total origin) even in their application to the histories and origins that individuals actually have. I have admitted that to do so seems initially somewhat bizarre. But I think that it is becoming clear that there is going to be no way out of the reduplication and multiple-occupancy problems that does not involve some degree of conflict with our intuitions about possibility. My suggestion is that the resolution that produces the least discomfort is the denial of the No Bare Identities principle. What is more, we might draw some, albeit limited, support for the denial from the reflection that if we hold the popular conception of possible worlds as 'branching' out from the past to the future, then we are already committed to saying that there can be a possible world that is exactly like the actual world up to some point, after which the course of events goes differently from the way in which it actually goes. Yet if we can make sense of this, might we not also make sense of the idea of a possible world that is just like the actual world up until just before t, and then diverges from it in one respect, and one only, namely that it is Fido, rather than Rover, who comes into existence at t and has a career indiscernible from that of the actual Rover?

9. I conclude, then, that we should resolve to reject the No Bare Transworld Identities principle even in the Specific, Non-eliminative version that we are considering. However, someone might object—as perhaps Forbes might[28]—that I am ignoring the fact that a 'no bare identities' principle is already plausible when applied to the identities of these things in another context: their identities over time; and that it would be anomalous to resist its extension to their identities across possible worlds.[29] But *this* argument, it seems to me, need not disturb us, even if we agree with Forbes's view about the case of identities over time. Unless one is an extreme realist about possible worlds (and Forbes himself is not)[30] one can treat the interpretation of *de re* modality in terms of possible worlds as a mere manner of speaking: it does not reflect any deep metaphysical reality. Nor, then, do the identifications that we make of objects in those possible worlds with actual objects, or with other possible objects: in so far as Berkeley, Jumbo, Rover, and Forbes's oak tree are 'in' other possible worlds this is not a metaphysical fact on the same level as the fact that these individuals are actually in one place

[28] See pp. 128–31.

[29] As is shown in § 7, such a supervenience principle about transtemporal identity must have some implications for judgements about identity across possible worlds. However, we could agree with Forbes on his transtemporal principle—that is, about what conditions are sufficient for something to be, in any possible world, the history of a *single* individual rather than the history of a succession of individuals—while still holding that there can be two possible worlds that differ only in that what is, in one of them, the single-individual history of A is, in the other, the single-individual history of some different thing, B.

[30] '. . . we can . . . describe our theory as a theory of transworld identity conditions, but only as a *façon de parler*, since we are anti-realists about worlds' (p. 100).

at one time and in another place at another time. So even if (what is not uncontroversial) their identities over time must consist in, or supervene on, other facts (including other identity facts) this does not seem an adequate ground for suggesting that the principle be extended so as to require that their transworld identities be similarly supervenient on other facts. Nor can I see any reason to think that it is part of the very nature of *identity* that no identity, of any kind, can possibly be bare.[31] As far as this particular argument goes, if one is looking for something for the 'fact' that some elephant E in a possible world is Jumbo to consist in, there seems to be no reason not to say that it simply consists in the facts that (a) Jumbo might have been like E and (b) we are *stipulating* that among the (perhaps otherwise indiscernible) possible worlds in which there is an elephant like E, *this* is one wherein the elephant like E is Jumbo.

In short, the *only* price that we seem to have to pay for the denial of the No Bare Transworld Identities principle is a commitment to certain consequences that are in some tension with our initial intuitions about possibility. However, as I have already indicated, what we are confronted with seems to be a case where we just *cannot* have everything that we want. Some people, refusing to compromise, will see an incoherence in our ideas about *de re* modality that forces us to abandon the whole enterprise. But if, as is surely reasonable, we prefer to avoid this extreme position, the question becomes one of deciding which of the available compromises involves the least sacrifice. I maintain that the best that we can do is to deny the thesis that there can be no bare difference between identities across possible worlds.

10. The main argument of this paper is finished. But, for the sake of completeness, I need to justify my rejection of an apparent alternative that has been set aside: the option of replacing transworld identity by some counterpart relation. (Readers who do not need to be convinced on this point may skip to the final paragraph.) For convenience I shall employ David Lewis's term 'counterpart theory' in an extended sense, as a general description for theories that give a possible-worlds account of *de re* modality that forsakes transworld identity in favour of some transworld relation that does not amount to identity.[32]

If counterpart theory is to solve the reduplication and multiple-occupancy problems, it would seem that this can only be for one of three reasons: that (in the case of a certain kind of individual) either

(a) the counterpart relation, unlike identity, can be 'bare',

[31] *Contra* Forbes, p. 128, first paragraph.

[32] For Lewis's counterpart theory see his paper cited in n. 3 above. Lewis's own theory was combined with realism about possible worlds. But there seems to be no reason why a non-realist who is prepared to go in for possible-worlds talk at all should be debarred from using some version of a counterpart relation in preference to transworld identity.

or (b) the counterpart relation, unlike identity, can be 'extrinsically determined',

or (c) the counterpart relation lacks some of the formal properties of identity.

I shall consider these possibilities in turn. To assist this, let us refer back to our reduplication problem involving the oak tree, and reconsider the worlds w1–w4 (or ones very like them which I shall call by the same names), relabelling the trees in them 'A', 'B', 'C', and so on, as in Fig. 6. (The fastidious may, if they wish, relabel the acorns and the places as well.) How does the counterpart theorist propose to solve (or dissolve) the problem of reduplication?

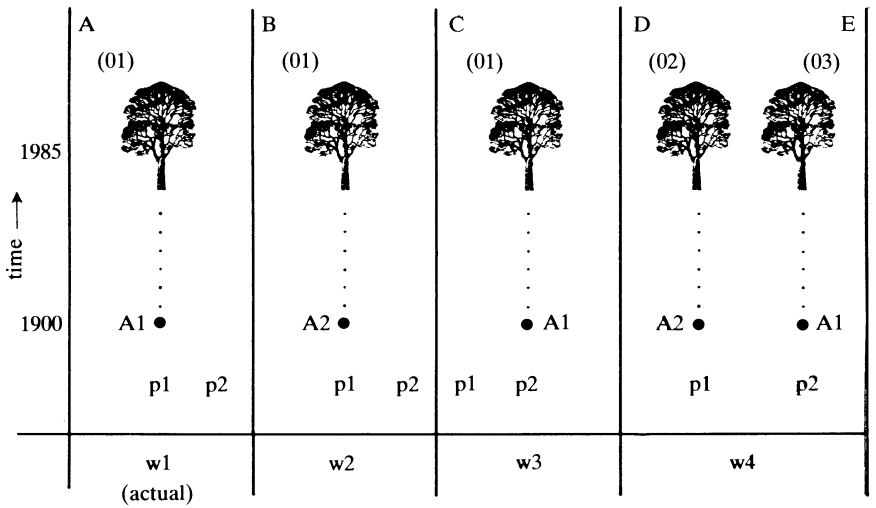


Fig. 6.

The first proposal, (a), does not seem to be a serious option. If, just by itself, it is supposed to solve the problem, it must rely on the postulation of a counterpart relation that preserves as many of the logical properties of identity as it can without collapsing into identity, yet can be bare where identity (allegedly) cannot be. But it is hard to see what anyone could suppose to be the advantage of this manœuvre.[33]

[33] This option would not be acceptable to Forbes (nor presumably to Lewis). For Forbes's attitude, see the first paragraph of p. 188. (The counterpart relation envisaged by proposal (a) could not mimic *all* the logical properties of identity. It might be an equivalence relation, and one that is, so to speak, 'one-one between worlds'. But it would not be strictly one-one, as long as an object in one world can have a counterpart in each of a number of *different* worlds, and there are no transworld identities.)

Proposal (b), on the other hand, may look more promising. If we consider a counterpart relation that is like David Lewis's in that it makes the question whether a tree in w4 is a counterpart of some other object O depend on whether or not that tree is more like O than is any other object in w4, then we can see how the presence of another tree in w4 could make a difference. But we must be careful: this account of the counterpart relation would give us no reason to think that D and E are not counterparts of B and C respectively. Hence if option (b), thus supported, helps with the reduplication problem, this can only be in virtue of the fact that, on this construal, the counterpart relation will not be *transitive*. But this brings us to the third and final proposal.

Given the structure of the reduplication problem, there seem to be only two ways in which proposal (c) could be employed to try to solve it: by appeal to a counterpart relation that is either not transitive, or such that one object can have two counterparts in a single possible world. If we deny transitivity, we can say that although B and C are both counterparts of A, and D and E are counterparts of B and C respectively, at least one of D and E is not a counterpart of A. Suppose that we do say this—and say, for example, that D is not a counterpart of A. When we translate back from counterpart theory to ordinary modal discourse we seem to get the result that although A could have been just as B is, and *if* A had been just like B, then A could have been just as D is, none the less, *as things are*, A could not have been just as D is. There may be cases where a denial of transitivity of this form is plausible, but this does not seem to be one of them. If we ask what *stops* it being possible for A to have had a history like D's, the only thing that the advocate of this proposal seems to have to appeal to is the presence in w4 of an extra tree. But, as we have already seen in § 7, this seems to be simply the wrong sort of ground for the denial of such a possibility.

The final suggestion produces an even more blatant clash with modal intuitions. The proposal is that the reduplication problem can be solved by the use of a counterpart relation that permits *both* D and E to be counterparts of A. Very well, but now suppose that A sometimes goes under the name of 'T'. Then the price of accepting the proposal is that although A is identical with T, A could have been in p1 while T was simultaneously in a different place, p2, since there is a possible world in which a counterpart of A is at the one place while a counterpart of T is at the other. Similarly, if we adapt this proposal to try to deal with a multiple-occupancy problem involving trees, we shall say that a single tree in one world is a counterpart of two trees in another, with the result that two trees are such that they could have been in the same place at the same time. In fact, it seems that the price we shall pay for these solutions is a commitment to a (barely intelligible) denial of both the necessity of identity and the necessity of distinctness.

I conclude that if our ambition is to find a *conservative* resolution of the

problems, counterpart theory is not going to provide it.[34] I have rejected the appeal to extrinsically determined identity; and, in the cases that we are considering, non-trivial distinctive essential properties and individual essences are chimerical. The rational conclusion appears to be that we should abandon, for these cases, the principle that there can be no bare difference in identities across possible worlds.[35] I doubt that we shall find the consequences intolerable. The discussion in § 5 above shows that one casualty would be a line of thought that makes it seem almost obligatory to subscribe to some strong form of necessity of origin thesis. But it would be perverse to regard the escape from this obligation as something to be regretted rather than welcomed.[36]

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[34] I have not here explicitly discussed Forbes's theory, mentioned in n. 16 above, of a vague counterpart relation, which would seem to amount to a version of proposal (c). However, even if the diagnosis of vagueness helps, in some cases, to make the consequences of proposal (c) more palatable, I cannot see that it will be plausible to suggest that vagueness is, in general, a feature of the reduplication and multiple occupancy problems.

[35] I should make clear that it is no part of the purpose of this paper to deny that one must be able to point to *some* ground for saying that an actual individual (for example, Berkeley) has certain different characteristics in another 'possible world'. Indeed, it would be consistent with the conclusion of this paper to hold the thesis that such a ground must appeal to an 'anchorage' in some characteristic of Berkeley that is, as a matter of contingent fact, unique to him, although I should not myself want to take this view. (For the idea of 'anchorage' see the discussion of Ayer at the start of § 3 above.) All that the denial of the No Bare Identities principle that I advocate commits us to is that judgements about possibilities for Berkeley need not invoke the existence of properties that are non-trivially sufficient for his identity in every possible world.

[36] Of course, this obligation would also be avoided by adopting an extrinsic-determination solution or a counterpart-theory solution.