

*promoting access to White Rose research papers*



**Universities of Leeds, Sheffield and York**  
**<http://eprints.whiterose.ac.uk/>**

---

This is an author produced version of a paper published in **Ratio**.

White Rose Research Online URL for this paper:

<http://eprints.whiterose.ac.uk/3216/>

---

**Published paper**

Cameron, R.P. (2008) *Recombination and intrinsicity*, Ratio, Volume XXI (I), pp. 1-12.  
<http://dx.doi.org/10.1111/j.1467-9329.2007.00380.x>

---

# RECOMBINATION AND INTRINSICALITY

*Ross P Cameron*

Forthcoming in *Ratio* XXI(1), (2008)

## *Abstract*

In this paper I argue that warrant for Lewis' principle of recombination presupposes warrant for a combinatorial analysis of intrinsicity, which in turn presupposes warrant for the principle of recombination. This, I claim, leads to a vicious circularity: warrant for neither doctrine can get off the ground.

'If any kind of combinatorial analysis of intrinsicness can work, we have to assume something like Hume's dictum that there are no necessary connections between distinct existences. . . This might be thought problematic, since the best way to formally spell out Hume's dictum itself appeals to the concept of intrinsicness.' – Brian Weatherson.<sup>1</sup>

In this paper I attempt to make trouble for combinatorial analyses of intrinsicity where Weatherson senses it may lurk. My focus will be on Lewis, but my argument, if sound, will generalise. For Lewis, the Humean denial of necessary connections between wholly distinct contingent existents is the principle that 'gives us our best handle on the question [of] what possibilities there are.'<sup>2</sup> So modal knowledge is obtained, by and large, by (perhaps tacit) application of the Humean doctrine. In spelling out the principle, Lewis says: 'the principle is that anything can coexist with anything else . . . Likewise, anything can fail to exist with anything else.'<sup>3</sup> It is the latter demand that is our concern here: that anything can fail to exist with anything else. But this demand is ambiguous; it could be a demand that for any thing A, A can fail to exist with any other *particular* thing (that is, that there is no thing B such that B is wholly distinct from

---

<sup>1</sup> Brian Weatherson, 'Intrinsic vs. Extrinsic Properties', Stanford Encyclopedia of Philosophy, <http://plato.stanford.edu/entries/intrinsic-extrinsic>.

<sup>2</sup> David Lewis, 'Truthmaking and difference-making', *Nous*, 35(4) (2001), p. 611.

<sup>3</sup> David Lewis, *On the Plurality of Worlds*, (Oxford: Blackwell, 1986), p. 87-88.

A and a contingent existent and such that, necessarily, if A exists then B exists), or it could be a demand that for any thing A, A could fail to coexist with anything else *per se* (that is, that there is a world in which only A and its parts exist). Lewis read the demand in the latter, stronger, way. The immediate question is how to make sense of this. The counterpart theorist and the essentialist alike will be wary of the thought that for all objects it is possible that the object exist unaccompanied, for both will recognise as truths claims such as ‘necessarily, if I exist, then my parents exist’. For the essentialist the problem is that there are essential connections between wholly distinct contingent objects, for the counterpart theorist the problem is that counterpart relations often weigh extrinsic similarity heavily.<sup>4</sup> For this reason, Lewis attempts to make sense of the Humean doctrine using talk of duplicates rather than counterparts. His view is that for all objects, there could exist an unaccompanied duplicate of that object. So for any thing x, there is a world in which everything that exists is a part of a duplicate of x. Call this principle *Lonely Duplicate*:

*Lonely Duplicate*:  $\forall x \exists w \exists y (I_{yw} \ \& \ D_{yx} \ \& \ \forall z (I_{zw} \rightarrow z > y))$

Where ‘ $I_{xw}$ ’ is to be read as ‘x belongs to world w’, ‘ $D_{yx}$ ’ is to be read as ‘y is a duplicate of x’ and ‘ $x > y$ ’ is to be read as ‘x is a part of y’, understood such that everything is a part of itself.

This is meant to avoid the above problem, for both the essentialist and the counterpart theorist, for while it is necessary that if I exist then my parents exist, it is not necessary, seemingly, that if a *duplicate* of me exists then my parents (or duplicates of my parents) must exist. Having my actual parents may be an essential property of me, but no-one is inclined to think that it is an *intrinsic* property of me.

If *Lonely Duplicate* is right then the Humean can have their cake and eat it. We secure the denial of necessary connections as an *ontological* claim, while holding on to the truth of essentialist claims that appear to entail necessary connections between distinct existences, such as the essentiality of origin. And the reason we can do this without inconsistency, of course, is that the truth of claims expressing a necessary connection between the existence of A and the existence of B do not entail that there is any necessary connection between there being a duplicate of A and

---

<sup>4</sup> See Lewis, *Plurality*, p. 88.

there being a duplicate of B. The reason being that it is not in general true that it is a sufficient condition for an object to be the very object A that it be a duplicate of A.

*Lonely Duplicate* is entailed by Lewis' principle of recombination, below

*Recombination*: For any wholly distinct things  $x_1, x_2, \dots, x_n$  there is a world containing any positive number of duplicates of each, and no thing which does not overlap any of those duplicates, size and space permitting.<sup>5</sup>

I will argue that *Recombination*, and by implication *Lonely Duplicate*, can only be justified by appeal to some combinatorial analysis of intrinsicity, which can in turn only be justified by appeal to *Recombination*, which creates a vicious circularity. A combinatorial analysis of intrinsicity is any one which attempts to analyse the intrinsic properties as those which an object has independently of accompaniment, where the notion of independence here is modal. For example, consider the combinatorial analysis of intrinsicity proposed by Langton and Lewis.<sup>6</sup> Langton and Lewis firstly define what it is for a property to be independent of accompaniment. P is independent of accompaniment iff

- 1) It is possible for a lonely object to have P
- 2) It is possible for an accompanied object to have P
- 3) It is possible for a lonely object to lack P
- 4) It is possible for an accompanied object to lack P

---

<sup>5</sup> The formulation is close to that given in John Divers and Joseph Melia, 'The Analytic Limit of Genuine Modal Realism', *Mind*, 111(441) (2002), p. 16. One difference is that they do not add the 'and no thing which does not overlap any of those duplicates' qualification, but this is necessary if *Recombination* is to have the consequence, that Lewis takes it to have, that for any object there is a world containing a lonely duplicate of that object. The other difference I have made is to insist that the individuals  $x_1, x_2, \dots, x_n$  are wholly distinct. The point here is to ensure that *Recombination* does not entail the existence of the impossible world where there are some positive number of duplicates of me and no duplicates of some proper part of me. This seems to have been Lewis' thought when he said 'anything can coexist with anything else, at least provided they occupy distinct spatiotemporal positions.' (Lewis, *Plurality*, p. 88.) I presume he means by distinct spatiotemporal positions non-overlapping spatiotemporal positions, in which case his qualification amounts to the demand for whole distinctness: if the spatiotemporal location of x does not overlap with the spatiotemporal location of y then there is no part of x that shares its location with any part of y; in which case x and y share no parts in common, in which case they are wholly distinct. For Lewis' original comments on recombination see Lewis, *Plurality*, p. 86-92.

<sup>6</sup> Rae Langton and David Lewis, 'Defining "Intrinsic"', reprinted in David Lewis, *Papers in Metaphysics and Epistemology*, (Cambridge: Cambridge University Press, 1999), p. 116-132.

Where an object is accompanied iff there exists something that is not a part of that object, and an object is lonely iff it is unaccompanied.

Langton and Lewis then define a basic intrinsic property as one which is (i) non-disjunctive (ii) not the negation of a disjunctive property and (iii) independent of accompaniment, where a property is disjunctive iff it can be expressed as a disjunction of (a conjunction of) natural properties but is not itself natural. The next notion to be defined is that of a duplicate: x and y are duplicates iff they share all and only the same basic intrinsic properties. The analysis of intrinsicity that Langton and Lewis then propose is that P is intrinsic iff duplicates never differ with respect to P.

Now the particular details of the Langton/Lewis account are not my concern here; my concern is with any such proposal that relies on the ability of some properties to be had independently of accompaniment. The idea behind this is that the intrinsic properties are such that whether or not a thing has them does not depend on what goes on in the world outside of that thing. As Yablo says, an intrinsic property is ‘a property a thing has (or lacks) regardless of what may be going on outside of itself.’<sup>7</sup> A fortiori, then, whether or not a thing has or lacks an intrinsic property does not depend on what else exists in the world around it, and this leads to the thought behind the combinatorial analyses that the possibility of something having an intrinsic property should not depend on whether or not the thing is lonely or accompanied. This thought presupposes the truth of the Humean denial of necessary connections, since obviously properties can only be had independently of accompaniment if it is possible that *things* can exist independently of accompaniment to have those properties; and as we saw, the Humean principle relies on the notion of intrinsicity since it makes use of the concept of a duplicate.

That is where I think circularity lies; but let me be very clear at the outset what the objection is *not*: I am not objecting to the fact that we need to use the notion of intrinsicness in stating *Recombination* and that we need to use *Recombination* in our analysis of intrinsicity; *that* circularity is, I think, unobjectionable (I will say more about this below). The circularity I am objecting to is not the kind of circularity we get when two notions are defined or explicated in terms of one another. The circularity I am objecting to is epistemological; it is when two doctrines

---

<sup>7</sup> Stephen Yablo, ‘Intrinsicness’, *Philosophical Topics*, 26 (1998), p. 479.

are such that warrant for either of them presupposes warrant for the other. In such a situation, it seems to me that warrant for either doctrine is unobtainable; justification for either doctrine can never get off the ground. It is this that I will argue is the case concerning *Recombination* and combinatorial analyses of intrinsicity. Justification for *Recombination* presupposes justification for a combinatorial analysis of intrinsicity, which in turn presupposes justification for *Recombination*; hence, neither can be justified.

What is obvious is that *Recombination* is only true if certain propositions concerning intrinsicity are true. Suppose, for example, that a thing A is intrinsically such that it bears a relation R to some thing B which is wholly distinct from A, or what is weaker, that it bears a relation to some thing or other which is wholly distinct from it. If there are such intrinsic properties then *Recombination*, and *Lonely Duplicate*, are false; there will be no world in which there exists a lonely duplicate of A, since any duplicate of A must coexist with the thing it is R-related to. If *Recombination* is true, then there must be no such intrinsic properties. So the truth of *Recombination* presupposes the falsity of any analysis of intrinsicity which allows for such intrinsic properties. The conclusion I think we are led to is that we must have justification for an analysis of intrinsicity which rules out such properties as being intrinsic if we are to have justification for *Recombination*. Likewise, *Recombination* presupposes that every intrinsic property can be had by an unaccompanied object; this suggests that in order to be justified in believing *Recombination* we must have justification for accepting an analysis of intrinsicity which does not count as intrinsic properties which can only be had by things which are accompanied (e.g. properties which can only be had by universals, such as being composed of simpler universals, or properties which can only be had by tropes). This is why I claim that justification for *Recombination* presupposes justification for some combinatorial analysis of intrinsicity.

I claim that justification for a combinatorial analysis of intrinsicity is necessary for justification for *Recombination*. One might be worried that this is too strong. Perhaps justification for certain *applications* of the concept of intrinsicity is enough; and I can apply a concept I understand reliably without having justification for the analysis of the concept. Well it is true that I can be justified in making *some* applications of a concept without having justification for the analysis of the concept. I grant that one can justifiably hold that being square is intrinsic and that being the tallest tree in North Carolina which is not currently being observed by a man who is married to a woman older than 40 is not. A pre-theoretic grasp of the concept of intrinsicity is all

that is necessary to justifiably make these claims. But not *all* applications of the concept of intrinsicity can be justified solely on the basis of one's pre-theoretic grasp of the concept. There are some claims about intrinsicity which are not settled either way by pre-theoretic competence with the concept: claims which we expect to be settled by a successful analysis. And it is precisely these claims that the truth of *Recombination* depends on.

Our pre-theoretic usage of the concept of intrinsicity does not settle whether or not all intrinsic properties could be had by a lonely object, for the simple and obvious reason that our pre-theoretic intuitions concerning intrinsicity do not determine that there can be unaccompanied objects and yet they do determine that there are intrinsic properties. So a pre-theoretic grasp of the concept of intrinsicity cannot justify the claim that intrinsic properties can be had unaccompanied: we would only be warranted in making such a claim if we were warranted in holding some analysis of intrinsicity which entailed this claim. So the applications of the concept of intrinsicity that I need to be justified in making in order to be justified in holding *Recombination* are among those cases which I don't have a pre-theoretic justification for, those cases which I expect to be settled by an analysis of the concept. I stick to my claim, then: justification for the analysis of intrinsicity is necessary for justification for *Recombination*.

One might object that *Recombination* is more basic than any claim concerning intrinsicity; that I simply do not need justification for *Recombination* and the fact that *Recombination* presupposes certain truths concerning intrinsicity simply limits what can count as an acceptable analysis of intrinsicity. That was perhaps Lewis' thought, since he didn't seem to think that *Recombination* was something that needed argument. But I think that response is misguided. No matter how entrenched or basic or fundamental you think the Humean denial of necessary connections is, that does not give you any right to claim that *Recombination* is so entrenched/basic/fundamental. The question that is at issue is precisely whether *Recombination* does indeed successfully capture the Humean doctrine. It only does so if certain propositions concerning intrinsicity are true, so we only have reason to accept *Recombination* if we have reason to accept these propositions. It is no good to claim that *Recombination* should be taken for granted since it is the Humean doctrine and that is not in need of further justification; that will convince no one since whether or not it captures the Humean doctrine is partly what we are currently trying to answer. To put what I think is ultimately the same point somewhat differently: duplication is a technical term, and we do not seem to have any reason to suppose that a duplicate

of me is any more capable of existing unaccompanied than I am until we have been given an analysis of intrinsicity (or of duplication) which implies this result; so we have no reason to suppose it is true that there can exist a lonely duplicate of any thing unless we have reason to accept the analysis of intrinsicity that tells us that is so.

I have argued that justification for the truth of *Recombination* requires justification for some combinatorial analysis of intrinsicity. What principle has explanatory priority: the principle which says what intrinsicity is or *Recombination*? Lewis is under strong pressure, I think, to say the latter. It is *Recombination* that, according to him, we rely on for most of our modal knowledge. But modal knowledge is required to check whether a combinatorial analysis of intrinsicity is correct, because the analysis is only acceptable if, by and large, the properties it tells us are intrinsic are the properties we pre-theoretically thought were intrinsic. There is some room for divergence of course; an analysis can inform us by settling cases and so on. But if there is too much divergence then we have no justification for thinking that the concept we have analysed is the concept we use the English term 'intrinsic' to signify. So in order to know that an analysis of intrinsicity is right, we need to know that it gives pre-theoretically sound results in most cases; which involves us knowing what properties could be had and lacked by lonely and accompanied objects. So knowledge that the analysis of intrinsicity is correct requires modal knowledge, which, according to Lewis, we by and large obtain by (tacit) application of *Recombination*. But doesn't that suggest that our warrant for *Recombination* should be independent of, or prior to, the truth of the analysis of intrinsicity? Now of course, Lewis does not say that *Recombination* is our *only* route to modal knowledge, only that it gives us our 'best handle' on what is possible. It would be perfectly consistent for him to claim that it is some other principle, one that does not make use of the concept of intrinsicity, that we use in order to justify the analysis of intrinsicity, which we in turn use to justify *Recombination* which in turn lets us get a lot more modal knowledge. But the modal knowledge that is needed to justify the analysis of intrinsicity includes the knowledge that things can exist unaccompanied: and isn't that precisely the knowledge that we are meant to obtain through application of *Recombination*?

The problem can be stated as follows: either Lewis relied (tacitly or explicitly) on *Recombination* to make the modal claims necessary to justify his analysis of intrinsicity or he didn't. Assume he did: in that case we have no more reason to accept the analysis of intrinsicity than we do to accept *Recombination*; in which case we should doubt both since the truth of

*Recombination* is what is up for debate. If I don't currently believe either of two claims, and if acquiring justification for one requires justification for the other, then I will not be moved to accept either. Assume then that Lewis didn't rely on *Recombination*, either tacitly or explicitly: then how did he get the knowledge necessary to justify the analysis that things could exist unaccompanied? Isn't the only reason we have to suppose that things could exist unaccompanied that *Recombination* is true? So the worry is that if Lewis did not rely on *Recombination* then he will be a counter-example to his own claim that *Recombination* underpins this sort of modal knowledge.

What exactly does this show? Circularity in analysis is not always bad. Consider Quine's critique of analyticity.<sup>8</sup> Quine argued that the analysis of analyticity was circular because it relied on the concept of synonymy which, in turn, relied on the concept of necessity, which relied on the concept of analyticity. Now of course one can attempt to break this circle; most contemporary philosophers are disinclined to analyse necessity in terms of analyticity. But even if you accept each analysis, it does not seem like Quine has given good reason to give up on analyticity. For Quine has not shown yet that there is an *epistemic* circularity: that one cannot come to a proper understanding of what analyticity is. That would only follow if in order to grasp each of the concepts involved one would have to have prior grasp of the analysis. But we seemingly acquire a grasp of synonymy without grasping its definition. Competence as a language user requires the ability to tell, more or less, when words we know the meanings of mean the same as other words we know the meaning of. In that case grasp of synonymy allows us to grasp analyticity; it is no matter that the analysis of synonymy makes appeal to the concept of analyticity, because our understanding of synonymy does not rest on understanding of this analysis. The lesson we should take from the Quinean example is that circularity in the analyses of a cluster of concepts does not mean that we cannot acquire a grasp of the concepts in that cluster. If there is one of those concepts that can be grasped without understanding its analysis then that gives us means to thereby grasp all the concepts in that cluster.

But this does not help in the above case concerning recombination and intrinsicity. Grant for the sake of argument that one can grasp what it is to be intrinsic without understanding the analysis of intrinsicity. That means that I can come to have an *understanding* of the principle of recombination. But this is not the goal. The goal is to gain *justification* for *Recombination*. Understanding the principle is not sufficient to obtain that justification (it is not self-evident, after

---

<sup>8</sup> W.V. Quine, 'Two Dogmas of Empiricism', *The Philosophical Review*, 60 (1951), p. 20-43.

all). The circularity is vicious not because it results in our not being able to grasp the concept of intrinsicity or the principle of recombination, but because the truth of *Recombination* depends on the success of the combinatorial analysis of intrinsicity. This in turn depends on the space of possibilities being a certain way; which, according to Lewis, I check by tacit application of *Recombination*. But if it is tacit grasp of *Recombination* that I use to infer what is possible, then my claims about what is possible are only reliable if *Recombination* is in fact true. But that was what was up for question in the first instance.

So the worry is not about how we acquire a grasp of *Recombination* or intrinsicity. Circularity worries would only be a problem there if grasp of the analyses in question were necessary for grasp of the concepts. Rather, the worry grants our understanding of recombination and intrinsicity, but shows that the truth of *Recombination* presupposes certain claims about intrinsicity – namely, that intrinsic properties can be had by unaccompanied objects. And either those claims about intrinsicity are justified by presupposing *Recombination*, in which case the justification is circular and we have no reason to believe either *Recombination* or the claims about intrinsicity, or the claims about intrinsicity are justified without presupposing *Recombination*, in which case the need for *Recombination* is undermined, since the point of it was in part to secure the very claim in question – that there can be unaccompanied objects.

What conclusion should we draw? Lewis claims that the principle of recombination is the principle that informs us, by and large, as to what is possible; and his reasons for thinking this is that it captures the Humean denial of necessary connections, which he takes to give us our best handle on what is possible. To make good these two claims he needs to convince us of two things: (i) that there is a version of the principle of recombination that entails *Lonely Duplicate*, since *Lonely Duplicate* is what he takes to be the denial of necessary connections, and (ii) that such a version of the principle is true, since we should not believe that we rely tacitly on a *false* principle when making our modal inferences.<sup>9</sup> The problem arises because in order to convince us of (ii) Lewis needs to make certain modal claims, since that is necessary to justify the claims concerning intrinsicity that (ii) relies on. And if those modal claims relied on the version of recombination in question then they presuppose the truth of (ii) which they were supposed to establish. And if they

---

<sup>9</sup> That's not to say that we *don't* rely on a false principle, of course; nor to say that any principle we rely on cannot go wrong. The claim I am making concerns warrant and not truth.

did not rely on that principle then this goes against the hypothesis that *Recombination* is the principle that we use to infer the possibility of the situations in question.

Lewis is in a bind. He needs a modal analysis of intrinsicity since only a modal analysis will have a chance of justifying the claim that duplicates of objects can exist unaccompanied; but he needs the modal analysis to be justifiable without presupposing those very claims concerning duplicates. The latter seems impossible, however; for the modal analysis relies on the truth of the Humean principle which assumes that duplicates can exist unaccompanied. I see no way out of this circle, and hence no way to justify *Recombination* or *Lonely Duplicate*, or a combinatorial analysis of intrinsicity.

One might be worried that I am assuming a methodology that is not Lewis'. Lewis thinks he can justify the postulates of his modal realism, including *Recombination*, by appeal to their utility. The hypothesis that there are the worlds *Recombination* tells us there are is a fruitful one, and this is a reason to believe that *Recombination* is true, he says. But why is *Recombination* a fruitful hypothesis? There are many reasons Lewis thinks it is useful to have the worlds generated by *Recombination*, but one major one is that if we have such worlds, what is possible coincides with what is true according to some world, thus allowing us to analyse modal notions in terms of the non-modal 'true at a world'. I am not questioning this methodology but rather questioning Lewis' right to the claim that *Recombination* is a fruitful ontological hypothesis. In order to know that the truth of *Recombination* allows for an analysis of the modal we have to know that *Recombination* does not generate the existence of impossible worlds, for if it does then the proposed analysis of possibility as truth at a world will fail.

I am *not* making here the objection against Lewis that for his analysis to succeed 'world' must be understood as 'possible world', and thus is not an *analysis*.<sup>10</sup> That objection, I think, fails. I emphasise again that I am concerned with warrant for the analysis; I am charging Lewis with an *epistemic* circularity, not an analytic one. In order to be convinced that the truth of *Recombination* allows for an analysis of modality I must have warrant that its truth does not entail the existence of worlds that are, by my lights, impossible. Of course, I should be prepared to revise some of my pre-theoretic beliefs if the analysis is beneficial, but if there is too much revision then I have no

---

<sup>10</sup> For this, and related, objections to Lewis see, *inter alia*, John Divers, 'The analysis of possibility and the possibility of analysis', *Proceedings of the Aristotelian Society*, 97 (1997), p. 141-160; Divers and Melia, 'Analytic Limit'; William G. Lycan, 'Two – no, three – conceptions of possible worlds', *Proceedings of the Aristotelian Society*, 91 (1991), p. 215-227; Scott A. Shalkowski, 'The ontological ground of the alethic modality', *The Philosophical Review*, 103 (1994), p. 669-688.

right to think that the concept I have analysed as truth according to some world is the same concept I use the English word ‘possible’ to signify. Now normally I would rely on my pre-theoretic modal intuitions to judge whether the worlds generated by *Recombination* are possible worlds, but my pre-theoretic intuitions are silent about many of these worlds since my pre-theoretic intuitions do not determine whether there is a world containing a lonely duplicate of me, or a lonely duplicate of you, etc. (C.f. the discussion of the essentiality of origin above: what right do I have to think there could be a lonely duplicate of you when it is not in general true that things could exist unaccompanied?) So how can I gain warrant that these worlds are possible – that *Recombination* is not taking me astray? The only way to gain warrant for this, I have argued, is by relying on a combinatorial analysis of intrinsicity that entails that these worlds are possible. But warrant for such an analysis requires warrant for *Recombination*, and so we go round in a circle.

So I am not rejecting Lewis’ methodology. I accept that if *Recombination* has eminent utility this gives us a reason to accept it. But I remain unconvinced of the truth of *Recombination* because I remain unconvinced that it has eminent utility; to know that it permits of an analysis of the modal I need to know that it is not generating impossible worlds. To know this I need to know that there can be unaccompanied duplicates of things. For that I would need to know that a combinatorial account of intrinsicity is correct, and to know that I need to know that *Recombination* is true, which just brings me right back where I started.<sup>11</sup>

*University of Leeds*

*School of Philosophy*

*Woodhouse Lane*

*Leeds*

*LS2 9JT*

*UK*

*r.p.cameron@leeds.ac.uk*

---

<sup>11</sup> Thanks to Josh Parsons and Crispin Wright for helpful comments.