Modal Metaphysics and the Priority of Causes in Hume's *Treatise*

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Introduction

In Book 1, Part 3 of his *Treatise*,[1] David Hume argues that our idea of the causal relation can be fully analyzed into three component relations. These are the relations of *spatio-temporal contiguity*, *temporal priority*, and *necessary connection*. Hume goes on to spend nearly all of T 1.3 analyzing the relation of necessary connection.[2] Yet he spends little time on his discussion of the relations of contiguity and priority. In particular, his argument that causes must be temporally prior to their effects (T 1.3.2.7) is exceedingly brief and quite confusing. To reject alternate theories, Hume appeals to what he calls an "establish'd maxim" of metaphysics in a *reductio* against the view that a cause might be simultaneous with its effect. He then proceeds to draw inferences that a variety of interpreters have thought are invalid or even self-contradictory: he argues that the very possibility of simultaneous causation would entail that all objects exist contemporaneously, and that time does not pass.[3] Immediately after presenting this argument, Hume tells the reader that if they are not convinced, they should not worry since "the affairs is of no great importance."

I argue that considering Hume's modal metaphysics can reveal two important and previously unaddressed features of this argument. First, his modal metaphysics resolves one of the most pressing extant interpretive issues: how Hume is able to infer from the claim that it is possible for some object to be simultaneously caused to the claim that it is possible for all objects to be simultaneously caused. This inference, I argue, is justified by Hume's combinatorial modal theory for relations. Second, his distinction between absolute and natural modality raises a problem that has not yet been identified in the literature.

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[1] Hereafter cited as 'T' followed by Book, section, part, paragraph numbers as found in (Norton and Norton 2000).

[2] Hume justifies this by claiming that "'tis chiefly this quality [i.e., necessary connection], that constitutes the relation [of cause and effect]" (T 1.3.15.5).

[3] A tradition of interpreters has thought Hume appeals to premises that contradict his conclusion (see Russell 1912; Stroud 1977).

Hume is trying to conclude that something is metaphysically impossible, but one of his premises relies on a mere natural impossibility - that no object can begin to exist uncaused. This, I argue, is an intractable problem: Hume cannot get the conclusion he wants because it depends on an equivocation between two strengths of modality.

Section 1: The Priority Argument

In this section I present the Priority Argument as well as some of the scholarly controversy surrounding it, to get a clear starting point for my own interpretation. Hume's priority argument, in its entirety, goes as follows:

> Some pretend that 'tis not absolutely necessary a cause shou'd precede its effect; but that any object or action, in the very first moment of its existence, may exert its productive quality, and give rise to another object or action, perfectly co-temporary with itself. But beside that experience in most instances seems to contradict this opinion, we may establish the relation of priority by a kind of inference or reasoning. [**i**] 'Tis an establish'd maxim both in the natural and moral philosophy, that an object, which exists for any time in its full perfection without producing another, is not its sole cause; but is assisted by some other principle, which pushes it from its state of inactivity, and makes it exert that energy, of which it was secretly possest. Now if any cause may be perfectly co-temporary with its effect, 'tis certain, according to this maxim, that they must all of them be so; since any one of them, which retards its operation for a single moment, exerts not itself at that very individual time, in which it might have operated; and therefore is no proper cause. [**ii**] The consequence of this wou'd be no less than the destruction of that succession of causes, which we observe in the world; and indeed, the utter annihilation of time. For if one cause were co-temporary with its effect, and this effect with its effect, and so on, 'tis plain there wou'd be no such thing as succession, and all objects must be co-existent.

> If this argument appear satisfactory, 'tis well. If not, I beg the reader to allow me the same liberty, which I have us'd in the preceding case [regarding the spatial contiguity of cause and effect], of supposing it such. For he shall find, that the affair is of no great importance.[4]

There are a few points of general agreement among interpreters of this passage. The first is its conclusion: Hume aims to show that it is *absolutely impossible* for a cause to begin to exist at the same moment that its effect begins to exist.[5] The second is the formal structure of the argument: it is a *reductio ad absurdum* showing a contradiction arises if we assume the possibility of simultaneous causation (together with some other plausible premises). The third is that it is a two-stage argument, as I indicated in the text above. Hume first aims to show that the possibility of one simultaneous cause entails **Causal Simultaneity**: that all causes are simultaneous with their effects. He argues for this through what he calls an "establish'd maxim". Once this intermediate conclusion is reached, Hume then aims to show that if all causes are simultaneous, then time could not pass, which is absurd. He argues for this by arguing that **Causal Simultaneity** entails **Universal Simultaneity:** that all objects exist contemporaneously in the same instant.

Though there is no consensus in the literature as to how to understand the argument,[6] Ryan (2003) provides the latest and most promising reconstruction of this argument. He does so by extracting from Hume's established maxim the claim that every cause acts *as soon as possible*, as well as noting that the Hobbesian background of Hume's text should indicate that 'cause' refers to sufficient causes. From this he is able to conclude that if it is possible for a cause to act simultaneously, then that cause *actually* acts

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[4] T 1.3.2.7. Note that this argument does not reappear in Hume's account of causation in the *Enquiry concerning Human Understanding* (EHU), though Hume still maintains that causes are temporally prior to effects (EHU 7).

[5] There is some controversy about whether the relevant simultaneity regards *beginnings* of existence, or whether the point is about objects that overlap in their temporal extension. (Brand 1980) and (Beauchamp 1974) read it as the latter; I follow (Ryan 2003)'s argument that it is better read as regarding beginnings of existence.

[6] For dissenting accounts, see (Beauchamp and Rosenberg 1981; Kline 1982; Kline 1985; Lennon 1985; Wilkie 1950). I think Ryan's account is superior to each of these (though he only discusses Lennon's and Beauchamp and Rosenberg's explicitly). None of these authors considers the argument in the light of Hume's modal theory as I do here.

simultaneously. Otherwise it would be acting at a later time than the soonest possible, violating the established maxim. Here is Ryan's reconstruction:

1. At least one sufficient cause is possibly simultaneous with its effect (assumption for conditional proof).
2. All sufficient causes act as soon as possible [the "establish'd maxim"].
3. If a sufficient cause is possibly simultaneous with its effect, then it is in fact simultaneous with its effect (from 2).
4. At least one sufficient cause is simultaneous with its effect (from 1 and 3).

This is not yet the intermediate conclusion Hume wants out of the first stage of the argument: it only gives us the conclusion that given some cause which is possibly simultaneous, *that* cause is in fact simultaneous. We are not yet warranted to generalize to the intermediate conclusion that all causes are simultaneous. Since Hume is arguing for an impossibility claim, defending it requires arguing against the possibility of a *single* case of simultaneous causation, and so this is where the reductio must begin.[7] This is why Ryan adds an enthymematic premise which will make the argument work by allowing us to generalize from the existential possibility claim:

5. If at least one sufficient cause is possibly simultaneous with its effect, then all sufficient causes are possibly simultaneous with their effect [*enthymematic premise*].
6. All sufficient causes are possibly simultaneous with their effect (from 1 and 5).
7. **Causal Simultaneity:** All sufficient causes are in fact simultaneous with their effect (from 3 and 6).

[7] Some interpreters (Munsat 1971; Costa 1986) have read the argument as starting from the universal claim that any cause whatsoever may be simultaneous. As Ryan shows, this cannot be Hume's argument, since that would not constitute a proper defense of his view, which is that *no* case of causation can be simultaneous. For that, we must generate a reductio against the possibility of the existential claim, not the universal one.

We thus get the conclusion that if there are any sufficient causes, they are all simultaneous with their effects. But what justifies attributing this enthymeme to Hume? I think this is the largest extant interpretive question about the Priority Argument. Ryan argues that Hume bases this assumption on the principle that all causes are on equal ontological footing (Ryan 2003: 37-38). Whatever is true for one cause should be true for them all unless we have reason to think otherwise. Ryan claims Hume had some assumption like this in the background, so he wasn't concerned about his move from the possibility of the existential case to the universal case. The burden is on the opponent to draw a distinction in kinds of causes, not on Hume to defend his assumption that they are the same.

I don't think this can be the complete answer, however. Many philosophers have believed that some causes have certain features that others lack. As a relevant example, many medieval philosophers, inspired by Arisotle's discussion of causal simultaneity in the *Posterior Analytics,* held the view that whether a cause was *simultaneously efficient* depends on what kind of cause it is. According to Bonaventure, for example, light acts simultaneously, but machines do not. [8] If Ryan is right about Hume's justification for this premise, it would beg the question against some widely respected views that also deny his conclusion that simultaneity is impossible. A good justification for this should come from a broader principle, and I offer such a justification on the basis of Hume's modal theory of relations in Section 2.

The second step of the argument also requires some additional argumentative resources that Hume doesn't make explicit. The absurd conclusion – that time does not pass – requires at least two more premises. The first is Hume's theory of time, presented in T 1.2.3.7-11: that time is nothing over-and-above the ordered succession of objects. Under a more robust conception of time, one could claim that the passage of time itself is a partial cause of some effects. One could then accept that all sufficient causes are simultaneous with their effects, but deny that all objects exist simultaneously. The second additional premise is what we can call the causal maxim: the view that every beginning of existence requires a cause. One could avoid the inference

[8] Bonaventure is only one example of a common scholastic view that causes sometimes act simultaneously and sometimes diachronically; see (Fox 2006, Ch. 2).

from **Causal Simultaneity** to **Universal Simultaneity** by claiming that some objects come into existence uncaused. On this assumption, there could be a chain of simultaneous causes at each moment, and a chain at the next moment with no causal connection to its temporal predecessor. In section 3, I investigate this assumption in connection with Hume's view that it is not absolutely impossible for an object to begin to exist without a cause. I argue that the Priority Argument's reliance on the causal maxim means that it can never show what it purports to show: that simultaneous causation is *absolutely* impossible.

Section 2: Hume's Combinatorial Modal Theory

In this section, I address the enthymeme identified in Ryan's reconstruction of the first half of the Priority Argument: that if one cause is possibly simultaneous with its effect, then all causes are possibly simultaneous with their effects. I believe Hume is entitled to this inference by views on modality and relations which he has defended earlier in the *Treatise*.

In Part 1 of Book 1 of the *Treatise,* Hume commits himself to what we can call the Conceivability Principle:

CP: if some state of affairs S is conceivable, then S is metaphysically possible.[9]

CP is not original to Hume: other early modern philosophers, notably Descartes, also held this view.[10] But Hume's views on cognitive psychology turn **CP** into a powerful premise in some of his most famous arguments. It is crucial to Hume's system in the *Treatise* that the mind possesses only one representational

[9] T 1.1.7.6; T 1.2.2.8. I borrow this terminology from (Garrett 1997), Ch. 1. See (Van Woudenberg 2006) for a defense of this principle against objections; see (Chalmers 2002) for a recent discussion of whether and in what sense conceivability may entail metaphysical possibility. Kail (2003) argues that it is only the capacity for *clearly* or *adequately* conceiving ideas that entails metaphysical possibility.

[10] (Norton and Norton 2007) identify Descartes' *Objections and Replies*, Arnauld and Nicole's *Logic*, and Gravesande's *Explanation of Newtonian Philosophy* as containing predecessors of the conceivability principle.

faculty: the imagination.[11] In Hume's view of the mind, to conceive some state of affairs simply is for ideas in the imagination to be arranged in such a way as to represent that state. So Hume is also committed to:

One Cognitive Faculty: A state of affairs is imaginable iff it is conceivable.

Any states of affairs that are imaginable are also conceivable, and they are therefore real metaphysical possibilities by **CP**. Given the view that there is only one cognitive faculty, **CP** justifies some of Hume's most significant metaphysical and epistemological commitments. For example: if we merely grant that we have the ability to (clearly) *imagine* an object beginning to exist without a cause, we are thereby committed to Hume's conclusion that it is not metaphysically necessary for every beginning of existence to be caused.[12]

In sections 2.1.1-4, I consider Hume's views on the powers of the imagination in order to draw conclusions about the range of metaphysical possibility in Hume's system. I begin with Hume's claim that the imagination has the capacity to separate, conjoin, and recombine any of its ideas (T 1.1.4.1; 1.3.7.7). In section 2.1 I argue that Hume is committed to the view that if some arrangement of external relations r is imaginable among *some* objects, then it is imaginable among *any* objects which can participate in relations of the same type as r. In section 2, I argue that the recombination principle licenses the Priority Argument's inference from the possibility of one simultaneous cause to the possibility that every cause is simultaneous. This can allow us to reconstruct Hume's arguments along Ryan (2002)'s lines without needing to appeal to an undefended enthymeme in the process.

[11] See (Garrett 1997) Ch.1. The rejection that a separate faculty – for example, the *intellect* – is involved in conception and representation is a pillar of Hume's philosophical system in the *Treatise*. Hume does distinguish between imagination, reason, and memory; but his view of conceivability always involves appeal to imagistic perceptions, which are characteristic of the imagination.

[12] Hume has some arguments at T 1.3.3 for why we should think we can imagine this, but the crucial point is that imaginability is all he needs to argue for to get this conclusion.

2.1 Relations and recombination

There are many ways of thinking about recombination principles. For example, Efrid and Stoneham (2008) exposit and defend a Lewisian conception of modal recombination based on the claim that *anything can coexist with anything else and anything can fail to coexist with anything else.*[13] It is not hard to make the case, based on his Separability Principle, that Hume has a similarly combinatorial view in the case of *objects*: any two distinct objects could coexist or fail to coexist.[14] Since any two distinct objects can be imagined to exist separately and no distinct objects entail each other's non-existence (T. 1.1.7.3), it follows from **CP** that objects can be recombined. In this paper, I am concerned with Hume's views on recombination in the case of *relations between objects*. This is because simultaneous causation is a relation; if there were a recombination principle for it, then we could infer from the possibility of some objects being in the relation to the possibility that any object be in the relation (the relation could *coexist or fail to coexist* with any objects). Recombination principles for relations are more complicated than for objects. In fact, it will *not* turn out to be the case for Hume that a relation could coexist with anything and fail to coexist with anything. Before we can tackle the metaphysical question of recombination, we must begin with our representational capacities, which are our guide to metaphysical possibility in Hume's system.

Some terminology to start. I will use the notion of an *arrangement* of relations. To understand what this means, imagine three objects (A, B, and C) lined up next to each other in a straight line, three metres apart from the nearest object. We can find many relations between them: A is to the left of B, and B to the left of C; A is closer to B than to C; etc. Each of these relations is a particular token of a broad *kind* of relation, the spatial kind. I'll refer to the structure of relations as the *arrangement* of relations in this state of affairs. If we replaced A, B, and C for three other objects (D, E, F) in our example, but maintained all the relations the same, we would have a new state of affairs consisting of the *same* arrangement of spatial relations, but distinct objects. The relations in this new state would be isomorphic to those in the previous, and the only difference would be which objects are being related by them. These arrangements will always

[13] This is Lewisian in that it is a working out of Lewis' suggestions in (Lewis 1986).
[14] See (Garrett 1997), Ch. 3's argument that Hume endorses the Separability principle in the case of objects.

have a relation-type. In the example it is an arrangement of *spatial* relations, but it could also be an arrangement of spatio*temporal* relations if I added considerations about temporal priority, or even an arrangement of spatiotemporal-*causal* relations if it also included details about what causes what.

An unrestricted recombination principle for a relation-type R, as I am defining it, is a principle which says that whenever it is possible for an arrangement r of type R to be imagined to hold among some n objects, it is also possible to imagine r holding among *any* n objects. I'll argue Hume does have a recombination principle for certain relations (which I call external), but it is not unrestricted. With this terminology in hand, let's look at Hume's views on relations and see in what sense there might be a recombination principle for them.

Hume claims in T 1.1.4.1, is that "all *simple* ideas may be separated by the imagination, and may be united again *in what form it pleases*" (emphasis added). The claim that the imagination may reunite ideas in "what form it pleases" suggests that there are no limitations on how the imagination can re-arrange an idea once it has access to this idea. Later, Hume gives similar formulations that are not restricted to *simple* ideas only. For example, at T 1.3.5.3 he claims the imagination "transposes and changes them [i.e., its ideas] as it pleases", in contrast with the memory which presents ideas in the same arrangement as the impressions they are derived from.

So far, these have all been statements about separating, combining, and mixing *ideas* in the imagination. For the purposes of understanding Hume's view of metaphysical possibility, however, we need a recombination principle that applies not merely to ideas in the mind, but to the *intentional objects* which those ideas represent.[15] Hume seems to think that he is entitled to appeal to such a recombination principle of objects:

[15] Note that my discussion of objects in this section is about intentional objects, i.e. what the mind represents as existing in the world; it is not about *external* objects in the sense of actual extra-mental causes of our representations.

> …the imagination has command over all its ideas, and can join, mix, and vary them in all the ways possible. *It may conceive objects with all the circumstances of place and time*. It may set them, in a manner, before our eyes in their true colours, just as they might have existed. (T 1.3.7.7, emphasis added)

We should take note of the quick shift from talk of recombining *ideas* in the imagination to the claim that we can conceive *objects* with any spatiotemporal relations. I have not made the case that Hume is entitled to this inference, but it is quite clear that Hume himself thought he was justified in assuming that the imagination could recombine objects into spatiotemporal relations as it pleases.[16]

A recombination principle follows from Hume's statement at T 1.3.7.7: If I can imagine some objects being 5 metres apart, then I could imagine any objects being 5 metres apart.[17] After all, 'being 5 metres apart' is a "[circumstance] of space and time", and I can imagine objects with any and all spatiotemporal circumstances.

Spatiotemporal relations are only one of 7 types of relation Hume identifies at T 1.3.1. The statement of the recombination principle I cited at T 1.3.7.7 does not state that *only* the spatiotemporal relations among objects can be recombined; but it doesn't mention the other kinds. I aim to show that space and time must only be an example of a broader principle, one which applies to any *external* relations.

[16] For interpretations of how we come to form ideas of objects, see (Ainslie 2015; Rocknak 2013).
[17] It might seem from Hume's phrasing of the principle that we don't need this statement to be in the form of a conditional. We might simply phrase it as the principle "a mind can imagine any objects being 5 metres apart". But Hume *does* need to conditionalize this principle. Someone might simply never have acquired ideas of spatiotemporal relations. Given Hume's empiricist assumptions, we cannot assume that this person is able to imagine objects being 5 metres apart. But given that one is able to imagine some objects as being 5 metres apart, which requires spatial ideas, it follows that one could imagine any objects in such a circumstance. This is why the imagination's powers need to be considered as being *combinatorial* rather than simply *spontaneous*: it can recombine relations it is acquainted with among objects it is acquainted with, but it does not follow that it can always generate new ones.

2.2 Restricted recombination for external relations

At the start of Part 3 of Book 1 of the *Treatise*, Hume distinguishes two kinds of relations. The first are relations which "depend entirely on the ideas they relate" (T 1.3.1.1). The relation of *resemblance* is a paradigm case. If I think of two blue dots, I have thereby thought of two things which are related by the 'same colour' relation. I cannot replace the two blue dots with any arbitrary object without thereby destroying the 'same colour' relation that held between them. Hume counts "resemblance, contrariety, degrees in quality, and proportions in quantity or number" as relations that depend entirely on what they relate (T 1.3.1.1). I will refer to these as relations that are *internal* to their relata. To think of two objects is to think of the internal relations between them, because these are relations that result from properties that are inseparable from their objects.

There are three other relations – spatiotemporal relations, causal relations, and relations of identity[18] – which Hume says "may be chang'd without any change in the ideas" of the objects they relate. Unlike the first class, these relations are entirely independent of their objects. I will refer to these as relations that are *external* to their relata. To think of two objects is not yet to think of their causal, spatiotemporal, or identity relations, and one can always think of the objects without any particular external relations holding between them.

There can be no non-trivial recombination principle for internal relations. Recombination is simply the ability of the mind to exchange some objects for others while maintaining their circumstances the same. This cannot be done with relations that depend entirely on their relata. If I think of two blue dots and thereby think of the 'same colour' relation holding between them, there is no meaningful sense in which I could 'replace' one of the objects while maintaining the relation unchanged. Internal relations, in virtue of being internal, are not the kind of relation whose objects can be recombined.

[18] Hume does not think of identity as a reflexive, symmetric, and transitive relation holding between all objects and themselves, as contemporary philosophers might. He instead uses identity to denote something closer to the 'identity-over-time' relation holding between the temporal parts of an object represented as enduring. See T 1.4.2.30.

The same does not apply for external relations, which we can see from their definition. Hume says external relations can always be changed – that is, some particular relation-token can be imagined to cease to hold and be replaced with a different token of the same type - without any change in their objects. If I can think of two objects as being 5 metres away from each other, I can also think of those objects *not* being 5 metres away from each other, or instead standing in any other token of the same type (spatial). It is clear from Hume's definition of external relations that some recombination principle must hold for them. Consider the case of causation. If we have a non-combinatorial view of causation, then there could be some objects A, B, and C such that A can be caused by B but never by C. This is impossible given Hume's statement that external relations can always be changed without requiring a corresponding change in their objects. When we stipulate that A and C can't be causally related, we are committing ourselves to the claim that some changes in the causal relation *do* necessitate changes in the objects themselves – for example, C couldn't stay the same while its causal relations change to include a causal relation to A.

We should not be too quick to think this recombination principle will be *unrestricted*, however. A recombination principle for a relation type R is unrestricted if it says that if some relation of type R is imaginable among some objects, then it is imaginable among any objects. But this is too strong for Hume. For example, he believes certain objects – like *passions* – are not spatially located and stand in no spatial relations whatsoever (1.4.5.10). If we had an unrestricted recombination principle, we could recombine the objects of the state *my chair is five metres away from my desk* into the state *my anger is five metres away from my desk*. This leads to contradiction: my anger is both non-spatial and standing in a spatial relation. Since Hume thinks contradictions are unimaginable and impossible (Lightner 1996), this is an unacceptable result.

We can formulate a principle which does not give rise to contradictions by adding the following clause: the recombined objects in the newly imagined state must each be *imaginable in at least one relation of the same type as that of the arrangement*. Since passions cannot be imagined in any spatial relations, they cannot be

recombined into states of affairs involving spatial relations.[19] I argue below that this clause follows from Hume's views on contradiction. A suitably restricted recombination principle for external relations would look like this:

> **Imagination Recombination (IR):** If it is imaginable that some arrangement of external relations r of type R holds among *some* objects, then it is imaginable that r holds among *any* objects which can be imagined in some arrangement of type R.

What types can take the place of R in the above principle? At the very least, R can stand for arrangements consisting of *temporal*, *spatial*, *identity-over-time*, or *causal* relations – that is, the types of relation Hume identifies as external in T 1.3.1. In addition, given the recombinability of these relations, it follows that R can also stand for an arrangement of relations of two or more of these types. For example, we can have an arrangement of two objects that are five metres apart and occur two minutes apart. Since each relation is recombinable with any other relation-token of the same type, it follows that the whole arrangement is recombinable with any other arrangement of a spatial and a temporal relation holding between two particulars – say, 10 light-years in distance and eight seconds in time. So the variable R can also take *compositions* of the four external relation-types: not just temporal relations, but also *spatio*temporal relations, or temporal-*causal* relations, etc. This will be relevant when we come to apply this to Hume's argument against simultaneous causation, which falls under a relation-type composed of both temporal and causal relations.

Hume's views on contradiction explain the inclusion of the final clause of **IR**, that the objects in the recombined state must be objects we can imagine in some relation of the same type as our arrangement. According to Hume, it is impossible to imagine a contradictory state of affairs, a state in which something both exists and does not exist (Lightner 1996). There are two ways such a contradiction could arise with respect to **IR**. First, a contradiction could arise if the external relations are incompatible: for example, a state in which an object A is thought to be earlier than B and B thought to be earlier than A. An incompatible

[19] Hume is clear that even the imagination cannot represent passions or other perceptions as having a location (T 1.4.5.10).

arrangement would render both the initial state and any recombination of it unimaginable. But a contradiction could arise only after the recombination, which means there is no inherent incompatibility in the arrangement of relations. This incompatibility must arise because of the *internal* properties which cannot be separated from the newly recombined objects.

We can put together this thought about internality and contradiction with the definition of external relations to get our restricted recombination principle. Since an object's internal properties are inseparable from it, this means that if an object cannot be imagined in *some* external relation r of type R, it cannot be imagined in *any* relation of type R. There are no objects that could be imagined to be 5 metres away from each other, but not 10 metres away from each other. This would require a certain token of an external relation to be special with respect to this object; but as Hume says in defining externality, the tokens of external relations can always be substituted for other tokens of the same type regardless of the objects.

This leaves us with the following disjunction in types of contradictions. If an object A cannot be imagined in an external relation r of type R, then either (i) r involves incompatible external relations, so *no* object can be imagined to participate in r; or (ii) A cannot be imagined to participate in any relation of type R, because it is internally incompatible with R-type relations. If we derive a contradiction from recombining objects of external relations, it either means the relations were incompatible to begin with, or the new objects are not of the right kind to participate in relations of this kind at all (as with passions and spatiality).

Finally, it is important that spatiality is a special case for Hume: there are no objects that are non-temporal or non-causal the way passions are non-spatial.[20] Hume explicitly says that every object can be conceived to participate in some causal relation or another (T 1.3.2.5). And a non-temporal object is one that could never be followed or preceded by anything. Such an object would be a necessarily eternal existent, an unchanging being that could never begin to exist or stop existing. There is no place in Hume's system for an object like this. This means that as long as our initially imagined arrangement of external relations r involves

[20] For simplicity I leave out identity relations. Understanding these as external relations is complicated by the fact that Hume's analysis of them in T 1.4.2 involves both temporal relations and relations of resemblance. But these details are not necessary for the Priority Argument, which does not involve identity relations.

no spatial relations, any contradictions arising from recombining objects in r must be due to an incompatibility in r's external relations. If a spatial relation is part of the arrangement, then we must also check whether the contradiction arises from the inclusion of a non-spatial object in the recombined state of affairs.

2.3 Metaphysical Recombination and the Priority argument

We can now straightforwardly derive a *metaphysical* recombination principle for external relations. Given that Hume accepts **IR**, **One Cognitive Faculty**, and the **Conceivability Principle**, the following principle must also hold:

> **Metaphysical Recombination (MR)**: if it is imaginable that some arrangement of external relations r of type R holds among *some* objects, then it is metaphysically possible that r holds among *any* objects which can be imagined in some arrangement of type R.[21]

Metaphysical Recombination follows from views Hume accepts once we have the restricted recombination principle of the imagination, **IR**. And we can find some evidence that Hume noticed this connection by seeing that **MR** immediately justifies premise (5) in Hume's Priority Argument, the claim that if it is possible for some cause to act simultaneously, then its possible for any cause to do so as well.

Recall that what was missing from Ryan's reconstruction of the Priority Argument was a non-question-begging principle that could justify this assumption. Since both causal and temporal relations are external for Hume, we can apply **MR** to derive this premise as follows. Two objects being related by both simultaneity and causation is an arrangement of external relations. By **MR**, if an object could participate in

[21] We should make note of how I've translated the representational terminology in **IR** to the metaphysical terms in **MR**. First, we still start from an *imaginable* state of affairs, since **CP** only gives us a one-way entailment from conceivability to possibility. Once we have an imaginable state, we could always imagine a different state with the same arrangement of relations but any arbitrary set of imaginable objects (excepting contradictions). Once we have this second state, we can apply **CP** to conclude that the latter state is metaphysically possible.

some temporal-causal arrangement – for example, if it could be caused by something that precedes it – then it can participate in any causal-temporal arrangement that does not include incompatible external relations. As I argued at the end of 2.1, all objects can participate in at least one causal-temporal arrangement (nothing is non-temporal or non-causal). And if there could be one case of simultaneous causation, which is the antecedent of the conditional (5), then simultaneous causation is not an incompatible arrangement of relations. According to Hume's modal metaphysics, it follows from this that any two objects whatsoever could be related by both simultaneity and causation.

Hume's final aim in the Priority Argument is to show that simultaneous causation is impossible, meaning it could never hold among any objects. Here too my analysis of **MR** can help us. Since there are no non-temporal or non-causal objects for Hume, if any contradiction is derived from imagining a temporal-causal arrangement r, then the arrangement r must include incompatible relations, meaning *no* object could participate in r. This is precisely Hume's strategy in his reductio: assume conditionally that some objects can be simultaneously caused to show that this leads to a contradiction. Given Hume's modal metaphysics, he would then be warranted in concluding the arrangement involves incompatible relations, meaning no objects can be related both by causation and simultaneity. This means Hume is perfectly justified, by more foundational commitments in his metaphysics, in inferring from the possibility of one case of simultaneous causation to the possibility of all causes acting simultaneously. The enthymeme Ryan identified in the Priority Argument turns out to be a theorem of Hume's modal metaphysics.

Section 3: Hume's two-level modal theory and the causal maxim

3.1 Absolute and natural modality

Only a few paragraphs after presenting the Priority Argument, Hume asks whether it is absolutely necessary for every beginning of existence to be caused. He is questioning the causal maxim, which was a widely held view in Early Modern philosophy. His conclusion is that this is not absolutely necessary. His basis for this conclusion is the claim that we can conceive of an object not existing at one time, and existing at a later time,

without also thinking of any cause for this. Since what is conceivable is metaphysically possible by **CP**, spontaneous generation is possible and the causal maxim cannot not hold with absolute necessity.[22]

Yet later in the *Treatise* Hume commits himself to determinism: nothing can come about unless it is determined by a prior cause.[23] To make this consistent with his claims in 1.3.2, we must note that Hume thinks there are two senses modal terms can have. The first is an absolute sense, according to which all that is conceivable is possible. Let's call this modality_A for 'absolute'. In 1.3.2, Hume argues that it is not necessary_A for an object to begin to exist uncaused.

There is another sense of modal language which is captured by his account of "necessary connexion" later in T 1.3. On Hume's account of causation, an effect is necessarily connected to its cause just in case it meets certain criteria laid out in Hume's two definitions of cause (T 1.3.14.30).[24] This sense of modal language can be used to make a claim like: "The same cause always produces the same effect" (T 1.3.15.4). This claim is false if the modal terms are understood as modal_A terms. Instead I'll call this narrower modality *natural* modality, and indicate its use with the subscript modal_N. In the case of the causal maxim, it is necessary_N for every beginning of existence to be caused, but this is not necessary_A.

As Garret points out, these two "species" of modality have a fundamental commonality: they both have to do with "the inconceivability of any alternative or the inability to think otherwise" (Garrett 2014). The absolutely impossible is unthinkable because Hume believes we cannot think a contradiction. This is the strongest kind of unthinkability for Hume, corresponding to the strongest kind of necessity (absolute). Its source is the internal character of the ideas involved, which is why "contrariety" is among the *internal relations* for Hume. Natural necessity, the kind involved in causal reasoning, also has to do with an inability to think otherwise. But the source of this inability is not the internal character of the ideas, since the ideas of causes

[22] (Kail 2003) argues that there is space within Hume's system for absolutely necessary connections between objects, and that we may (contingently) be incapable of recognizing these connections because our representations of external objects are inadequate. This reading of Hume's modal views may be able to circumvent my objection to the Priority Argument, if it's ultimate upshot it to collapse natural and absolute necessity.
[23] T 3.1.3. In fact, he commits himself to the even stronger 'doctrine of necessity' (see Garret 1997, Ch.6.).
[24] See (Garrett 1997, Ch. 5) for a classic treatment of Hume's definitions of cause.

can always be separated from the ideas of effects. Instead it is the result of our customary tendency to infer from one idea to the other, a tendency derived from our experience of constant conjunction (T 1.3.14).[25] While it remains possible to think of a cause and effect separately, it becomes psychologically difficult to do so. And even if we can imagine the two as separate, we cannot come to *believe* that they are separate, since *belief* is determined by the vivacity of ideas (T 1.3.7.5) and a causal inference results in a lively idea of the effect (T .1.3.14; EHU 5).

The commonality between the two kinds of modality lies in this inability to believe: we can always believe what is possible, never what is impossible. Their difference lies in the ability to *conceive* or *imagine*: if we cannot believe something but we can still imagine it, then it is absolutely possible even if it is naturally impossible. This means that natural modality is strictly narrower than absolute modality, since we must be able to represent something in order to believe it, but we needn't believe everything we can represent. Anything that is absolutely impossible is also naturally impossible, and inversely many things are necessary$_N$ that are not necessary$_A$, so we cannot infer from a natural impossibility to an absolute one.

Hume himself says that it is "natural for men, in their careless and common way of thinking" to conflate these two kinds of necessity (T 1.4.3.9). We are apt to think when there is a necessary$_N$ connection between two things that it is impossible$_A$ that they should be separated. He is careful not to make the same mistake, for example when he rejects the absolute reading of the causal maxim in T 1.3.2. I argue in Section 3.2 that the Priority Argument can only work under such a conflation. Given Hume's sharp distinction between these two levels of modality, the Priority Argument cannot achieve its goal of showing that simultaneous causation is absolutely impossible.

3.*2 The Priority Argument's modal equivocation*

As we saw earlier, Hume can only infer from **Causal Simultaneity** (that all causes act simultaneously) to **Universal Simultaneity** (that all objects are contemporaneous) if he assumes every object has a cause.

[25] See also EHU 7.

Otherwise there is no way to draw the latter conclusion, since objects could always come into being at subsequent moments without any causes. Without the causal maxim Hume could never infer to the collapse of time, the absurd conclusion of the Priority Argument.

Givn Hume's modal theory, even adopting the causal maxim won't help Hume draw the conclusion he is aiming for in this passage. This is because he himself admits only a few paragraphs later that the causal maxim cannot hold with the strength of absolute necessity (1.3.3). Even if the causal maxim is true, it is merely necessary$_N$ for every beginning of existence to be caused, not necessary$_A$. This means any absurd conclusion Hume draws from **Causal Simultaneity** will only be necessary$_N$. Even if he could derive a contradiction (which I have not argued he can, since the collapse of time is not in itself contradictory), this would only be an impossibility in the natural sense in which everything is determined by causes, not an absolute impossibility.

One aspect of Hume's modal theory – the recombination of external relations - can help him get halfway with this argument, from the possibility of simultaneous causation to **Causal Simultaneity**. But given his two-level modal theory, he can never derive a contradiction from this. The absurd conclusion may be absurd in the colloquial sense, but not in the technical sense of being inconceivable. On Hume's theory of natural modality – which depends on his definitions of causation - it is indeed the case that simultaneous causation is naturally impossible. But the promise of the Priority Argument was to give a demonstration for this claim, and Hume cannot provide one by the lights of his own modal metaphysics.

3.3 Possible responses

The threat of modal equivocation is a serious one, which I believe is intractable. By his own lights, Hume cannot reject the view that it is possible$_A$ for all causation to be simultaneous without the collapse of the temporal series. How should we interpret the Priority Argument, and its place in Hume's theory, given the tension it stands in with Hume's modal metaphysics? I provide three brief suggestions for interpretive directions to address this problem.

One plausible response is that Hume is intending to use his opponents' assumptions, rather than his own. The Priority Argument is, after all, a reductio. Hume only needs to show that his opponents' views are in contradiction.[26] Hume claims that the causal maxim "is commonly taken for granted in all reasonings, without any proof given or demanded" (T 1.3.3.1), and no other philosophers had clearly distinguished between two levels of modality as he does in the *Treatise*. So far this interpretation seems helpful, although it faces a significant problem: in order for Hume to draw the conclusion that all objects exist simultaneously, he must also assume his own theory of time, which says that time is nothing over-and-above the succession of objects. If one does not have this assumption, it would be possible to claim that the passage of time itself could act as a partial cause, thereby undermining the inference from **Causal Simultaneity** to **Universal Simultaneity**. This would also undermine the inference from **Universal Simultaneity** to the "utter annihilation of time" (T 1.3.2.7), since on a less reductionist view, one could maintain that time still passes even if there is no succession of objects. While there had been reductionist theories of time before Hume,[27] it is not reasonable to assume his opponent would concede to Hume's metaphysics of time. It is difficult to maintain that the Priority Argument proceeds entirely with his opponents' assumptions, rather than his own.

A second approach, more promising in my view, is that scholars have been wrong to think that the Priority Argument's conclusion involves absolute impossibility. Perhaps Hume would be happy to show that simultaneous causation is impossible in the natural sense of the term. This would avoid the problem of modal equivocation I have raised. It may also help to explain why Hume does not provide an argument that **Universal Simultaneity** is a contradiction. The claim that all objects exist simultaneously is hard to reconcile with our experience, but it does not appear inconceivable and Hume never argues that it is. This would be less of a problem if Hume's aim is only to argue for the natural impossibility of simultaneous causation. This

[26] This raises the interesting question of the target of the Priority Argument. Norton and Norton (2007) suggest the target is Hobbes, from whom Hume borrows the 'establish'd maxim'. I doubt that the whole passage is directed at Hobbes' view; after all, Hobbes himself accepts that all causation is simultaneous (Ryan (2003): 33), which is the conclusion of the first half of the Priority Argument. But when it comes to the second step in the Priority Argument this is more reasonable, as Hobbes certainly did not accept that all objects exist simultaneously.

[27] Fox (2006).

reading is therefore promising, but faces direct textual problems. Hume begins the passage by announcing that his opponents "pretend that 'tis not absolutely necessary a cause shou'd precede its effect" (T 1.3.2.7). This suggests that he is setting out to reject the view that simultaneous causation is possible in an absolute sense. The reading on which Hume intended to conclude simultaneous causation is only naturally impossible does not appear to contradict the opponents' view.

Finally, we may suspect that Hume himself was aware of the failure of this argument, and indicated as much at the end of the passage. Hume ends the Priority Argument by telling unconvinced readers that they "shall find, that the affair is of no great importance" (T 1.3.2.8). Only a few paragraphs after the Priority Argument, Hume argues that it is not necessary$_A$ for every object to have a cause – the very premise that I've claimed undermines the Priority Argument. One possible interpretation is that Hume is subtly referring to his modal metaphysics in this final disclaimer at the end of the Priority Argument. There is no strong evidence that this was his intention, but if it were, he would be precisely right that the affair is of no great importance. On Hume's view, the Priority Argument – and any other argument aiming at a *demonstration* about the nature of causation – would ultimately depend on a fallacy of equivocation between different senses of modality. In the end, Hume reiterates his claim that causes must be prior to effects as one of his "Rules by which to judge of causes and effects" (T 1.3.15.4). There, it follows not from 'establish'd' metaphysical principles, but from Hume's account of the psychological process by which we come to make causal inferences.

Conclusion

Reading the Priority Argument in the context of Hume's modal metaphysics can improve our understanding of the first phase of this argument. His views on the imagination's abilities to recombine the objects in external relations licenses his inference from the possibility of one case of simultaneous causation to the possibility of all objects being simultaneously caused. This interpretation fills in the crucial missing step in Ryan (2003)'s reconstruction, thus providing a complete account of the first half of the argument. But Hume's modal theory also undermines the aim of the second half of the argument, as his two-level view of

modality prevents him from ever deriving a contradiction from the supposition of simultaneous causation. Scholars have mostly focused on the first step of the Priority Argument, but I believe it is this second step, from the simultaneity of cause and effect to the simultaneous existence of all objects, that poses the sharpest interpretive problems.[28]

Abbreviations of David Hume's works

T: *A Treatise of Human Nature: Volume 1: Texts*. Ed by Norton, David F., and M.J. Norton. Clarendon: Oxford, 2007.

EHU: *An Enquiry concerning Human Understanding*, ed. Tom L. Beauchamp. Clarendon: Oxford, 2000.

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[28] See Landy (2020) for a defense of simultaneous causation against the collapse of time, in the context of Mary Shepherd's causal theory.

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