Hume's Razor

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§1. Introduction

Near the outset of *On the Plurality of Worlds,* David Lewis remarks: "Why believe in a plurality of worlds? – Because the hypothesis is serviceable, and that is a reason to think it is true."[1] For Lewis, talk of a hypothesis being more or less serviceable is shorthand for talk about *theoretical virtues*. Theories fare well to the extent they accrue these virtues: properties of theories that include simplicity, unification, conservativeness, fertility and the like. They fare poorly to the extent they manifest vices: properties of theories like gratuitous complexity, unintelligibility, ad hoccery, and so on.

Although Lewis' modal realism has found few adherents, his underlying methodological orientation has exerted a profound influence. It is now commonplace to encounter metaphysical theories defended primarily by assessing their comparative virtues and vices. In the introduction to their metaphysics textbook, Sider, Hawthorne, and Zimmerman characterize the practice of metaphysics along these virtue-driven lines: "[J]ust like scientists, metaphysicians go on to construct general theories based on these observations, even though the observations do not logically settle which theory is correct. In doing so, metaphysicians use standards for choosing theories that are like the standards used by scientists (simplicity, comprehensiveness, elegance, and so on)."[2]

Despite its widespread prevalence, metaphysicians have done surprisingly little to defend this methodological stance. This likely has something to do with the superficial modesty of the approach. Virtue-driven metaphysicians protest that nothing extravagant or epistemically exotic is afoot. After all, the conditions under which virtues provide compelling epistemic reasons are highly circumscribed ones. Quite often, theoretical virtues are claimed to license belief only *ceteris paribus* or to serve as a means of tie-breaking between competing and otherwise adequate theoretical options. But somehow this apparently innocuous piece of methodology has often served as the basis for striking views about concrete possible worlds, immaterial minds, fictional characters, or abstract mathematical entities. As a result, the practice of virtue-driven metaphysics has flourished despite a genuine methodological burden and conspicuously little effort by metaphysicians to discharge it. But what *exactly* do virtue-driven metaphysicians owe us? And what would it take to vindicate this way of doing metaphysics?

Since those engaged in virtue-driven metaphysics hold that certain properties of theories generate epistemic rather than merely pragmatic reasons, an account of the divide between the epistemic and the pragmatic is among the things required. Why, for example, would properties like simplicity justify beliefs in a way that other properties like, say, ease of pronunciation do not? Moreover, what exactly is the distinction between epistemic and pragmatic reasons? Note, however, that, these issues are not unique to metaphysics. They are common to any who profess theoretical conservatism, endorse simplicity-based arguments, or deploy Ockhamist maneuvers

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[1] Lewis (1986: 3).

[2] Sider, Hawthorne, and Zimmerman (2008: 6). Also quoted in Bueno and Shalkowski (2019).

anywhere in philosophy. This suggests that it would be a mistake to view deference to theoretical virtues as a *distinctive* burden of virtue-driven metaphysics.

My project here is not to defend a specific strategy for shoring up the epistemology of virtue-driven metaphysics. That is a crucial but enormous project. (Hopefully, *someone* is writing that book.) Instead, my aim is to provide a case study concerning a putative theoretical virtue that has played an important yet largely unexamined role in virtue-driven metaphysics. This theoretical virtue results from respecting what Forrest (2001) calls *Hume's razor*, the injunction not to multiply necessities beyond necessity. Put more formally:

> **Hume's Razor**: Given competing and otherwise equally adequate metaphysical theories, T and T^*, belief in T is better justified than belief in T^* if T admits relevant metaphysical possibilities that T^* rules out.

Since Ockham's razor prizes *ontological* parsimony, it is tempting to describe Hume's razor as prizing *modal* parsimony. This is potentially misleading, however. Talk of parsimony invites thoughts of admitting fewer of something, but, given the duality of modal operators, *fewer* necessities also means *more* possibilities. In what follows, I avoid the terminology of "modal parsimony" and follow Forrest's use of "Hume's razor." And, while apt terminology is a helpful thing, it is important to note that not all theoretical virtues need not be concerned with minimizing commitments. For instance, elegance, fertility, and comprehensiveness are regularly deployed in virtue-driven metaphysics and are not (or at least not obviously) concerned with minimizing commitments. Moreover, despite this structural difference, I will regularly take Ockham's razor and Hume's razor as instructive analogues of each other in what follows.[3]

Our investigation into Hume's razor aims to shed light on two methodological questions regarding virtue-driven metaphysics. Here's the first: should virtue-driven metaphysicians hold that there are *distinctively metaphysical* virtues—i.e., virtues that figure into the evaluation of metaphysical theories but no other kinds of theories? Put differently: are theoretical virtues (and vices) *perfectly general* such that the same properties of theories generate epistemic reasons across all domains including metaphysics, science, mathematics, and so on? As I'll argue, Hume's razor is plausibly viewed as a distinctively metaphysical consideration and so not perfectly general.[4]

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[3] The debate over how to properly formulate Ockham's razor (or relevant principles of parsimony) is enormous. Recent work on how to formulate and deploy Ockham's razor within metaphysics is representative of some of the many relevant complexities. See, for example, Schaffer (2015), Baron & Tallant (2018), and Fiddaman & Rodriguez-Pereyra (2018). I leave open how best to articulate the principle and simply assume it to be a source of epistemic reasons in what follows.

[4] In what follows, I set aside discussion of the prospects for the evil twin of Hume's razor: *Leibniz's razor*, which cautions us to minimize contingencies. (The name seems apt, given Leibniz's denial that certain spatial "shifts" yield genuinely distinct possibilities. Note, however, that Leibniz's case against Newton involved rejecting *ontological* commitment to substantival space as well as an appeal to the Principle of Sufficient Reason.) Efforts to minimize the sphere of metaphysical possibilities are more usually undertaken in an effort to block skeptical worries—see, e.g., Shoemaker (1980) on causal essentialist views of properties—but these efforts often errantly hold that metaphysical impossibility induces *epistemic* impossibility. See Schaffer (2005) for discussion.

The second question concerns an unresolved tension in Lewis' philosophical methodology: how, if at all, can we make sense of Lewis' commitment to both virtue-driven metaphysics and his absolutist, Humean conception of modality? As we'll see in what follows, a tension emerges between Lewis' deference to theoretical virtues and his unqualified prohibition against necessary connections between entities. As a way to address this tension, I'll recommend Hume's razor as an alternative to Lewis' hybridization of Humeanism and virtue-driven metaphysics. I begin, however, by digging into the details of Hume's razor.[5]

§2. What is Hume's Razor?

According to Forrest (2001), Hume's razor "tells us not to multiply necessities without good reason." (93) And, as Forrest argues, this principle plays a critical role in assessing Lewis' virtue-driven argument for modal realism which is premised upon the methodological assumption that "[w]e should decide between theories on the basis of their comparative cost."(94) As Forrest argues, the case for Hume's razor hangs on its indispensable role in the epistemology of modality: "My account of how we know modal truths is that we rely on [Hume's razor]. That is, we start with a presumption in favor of possibility and then require reasons for overcoming that presumption. But for what is there this presumption?"(94) Forrest's answer is relatively straightforward: Hume's razor is the epistemic principle that establishes the presumption in favor of accepting possibilities for "[i[f you restrict the possibilia you multiply necessities and so offend against Hume's Razor."(93)

If paired with Lewisian modal realism, which holds that maximal possibilities are represented by concrete possible worlds, we find ourselves with a complex tradeoff between Hume's and Ockham's razors. For, while Ockham's razor entreats us to minimize ontology and disavow a plurality of infinitely many concrete possible worlds, Hume's razor points in the opposite direction. If we were to minimize our ontology and reject possible worlds, it would lead to the multiplication of necessities and "the more missing possibilities there are the more expensive modal realism is."(93)

While Forrest's discussion is focused on how virtues and vices bear upon the tenability of modal realism, his account of modal knowledge provides a general case for Hume's razor. In order to account for our modal knowledge, we require a defeasible presumption in favor of possibilities and against necessities. So, if we are to avoid modal skepticism, we require a principle like Hume's razor. Hume's razor earns its keep by occupying an essential role in the justification of our beliefs about non-actual possibilities.[6]

We'll consider a different route for defending Hume's razor in Section Three, but prior to doing so, our first task is investigating Hume's razor and some of the issues that arise in formulating and applying it.

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[5] Some philosophers have taken Hume's razor to caution against the multiplication of posited causes. I set aside any concerns about Hume interpretation here and follow Forrest's terminology.

[6] This does not require that we must take Hume's razor to be the unique source of justification for belief in the possibility of propositions. Most obviously, since actuality entails possibility, evidence for possibility also flows from our perceptual experience. See Rosen (2002: 287-295) for a relevant overview of approaches to modal epistemology. We can also leave open how best to connect conceivability evidence and Humeanism. Cf. Lewis (1986: 90).

Modality: Varieties of modality abound, but the necessities with which Hume's razor is concerned are metaphysical in character. Hume's razor therefore presupposes a view of metaphysical necessity as distinct from a "stronger" *logical* necessity as well as a "weaker" *nomic* necessity. Accordingly, there is nothing in Hume's razor that requires us to minimize physical necessities or logical laws in our theories.[7] Notice, too, that, since it is almost exclusively in the context of *actually doing metaphysics* that *metaphysical* modality proves contextually salient, Hume's razor is exceptionally unlikely to emerge as a consideration when we find ourselves evaluating scientific, mathematical, moral, or other sorts of theories. And, if it is only metaphysical theories (e.g., trope and universal theories, constitution theories, theories of mereological composition) that invoke metaphysical modality, it will turn out that Hume's razor is only brought to bear when evaluating metaphysical theories. For this reason, Hume's razor is most naturally viewed as a principle that is doubly metaphysical: it is a principle regarding the multiplication of *metaphysical* necessities within competing *metaphysical* theories.

Some will, of course, find fault with Hume's razor precisely because it presupposes that there is a distinctive kind of metaphysical modality. Surveying challenges to the good standing of metaphysical modality would take us too far afield here, but these objections must eventually be met. I take recent challenges to the determinacy, generality, or distinctiveness of metaphysical modality from Clarke-Doane (2019) and Rosen (2006) to show that metaphysical modality cannot be sustained without either a substantive ontological commitment—e.g., in the form of possible worlds—or a substantive ideological commitment—e.g., in the form of primitive modal operators or some other modal notion.[8]

Without some kind of metaphysical structure to distinguish the distinctive modality of interest to metaphysicians, it is unclear how to resist the case for conventionalist views of modality (e.g., the kind defended by Cameron (2009) and Sider (2011)). So, although we can leave open whether metaphysical modality ought to be paired with an ontology of possible worlds or primitive modal ideology, I will assume here the standard conception of metaphysical modality summarized in Nolan (2011: 313):

> It is clear that metaphysical necessity is meant to be some sort of non-epistemic, non-deontic, alethic necessity. It is at least factive: when something is metaphysically necessary, it is the case. It is supposed to be a grade of necessity that characterizes some interesting philosophical claims (particularly claims in metaphysics, one would suppose, but presumably only some of them). It is also supposed to be relatively absolute — it is not like the necessity that ensures I must spend more than five minutes to write 1000 words of useful philosophical prose, for example.

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[7] Logical necessities will, of course, prove to be metaphysically necessary, but, given the distinctness of the relevant modalities, I take talk of "metaphysical necessities" to single out those necessary truths that are metaphysically but not logically necessary.

[8] As Nolan (2011: 321) puts it, we "rely on objective difference between the metaphysically possible and the metaphysically impossible to determine what it is that is the same in all metaphysically possible worlds." For those of us who take metaphysical modality seriously, the key question is: is this objective difference ultimately an ontological or an ideological one?

In order to get a better feel for Hume's razor in practice, let's now consider a potential application as well as an obvious objection to the principle. If we suppose that Hume's razor is tracking a genuine theoretical virtue, then its correct application shouldn't take us from a good theory to a worse one. Consider, however, two theories: standard trope theory and a parasitic theory exactly like standard trope theory but according to which blue tropes can be self-distinct rather than necessarily self-identical. Doesn't Hume's razor errantly suggest that the latter and obviously worse theory is preferable to the former? Nope. Not by a longshot. Not only are the relevant theories not "otherwise equal", the latter theory is logically inconsistent.[9] No entity can be self-distinct and, since logically consistency is a precondition for theoretical adequacy, virtue-driven considerations regarding the multiplication of metaphysical necessities prove irrelevant in deciding among these options. For reasons independent of Hume's razor, the parasitic theory is profoundly worse than standard trope theory, so Hume's razor has no part to play in this particular theory choice.

Let's consider a tougher case: Suppose that Spinoza is more or less correct about metaphysical modality and that all truths obtain necessarily. Now consider Almost-Spinoza, whose metaphysical theory holds that all but a handful of truths about some random subject matter like, say, sandwiches are necessary. Almost-Spinoza's view is surely the worse one, but it does permit contingencies that Spinoza's view does not. Does Hume's razor errantly require that we prefer Almost-Spinoza to Spinoza?

Even if we assume Almost-Spinoza's theory is logically consistent, there is no reason to believe that Hume's razor requires us to prefer it. In fact, unless there are some principled, non-arbitrary grounds for singling out truths about sandwiches as contingent, Spinoza's view will be preferable in light of the egregious degree of arbitrariness baked into Almost-Spinoza's view. Put differently: Almost-Spinoza's theory is sufficiently vicious in its arbitrary election of sandwich-propositions that this vice outweighs the virtue of any reduction in posited necessities. So, in such cases, Hume's razor provides no epistemic license to believe in theories like that of Almost-Spinoza. Notice, however, that it is not logical inconsistency that renders Hume's razor inert here, but, instead, substantial independent theoretical viciousness. (In this case, the relevant vice is arbitrariness, but similar cases can be constructed involving egregious violations of simplicity and so on.) Proponents of Hume's razor therefore have ample resources to resist contrived challenges of this sort.

Defeasibility: Like Ockham's razor, Hume's razor provides only defeasible epistemic reasons. As just noted, it can and frequently is outweighed by other considerations relevant to theory choice. There are various ways to spell out the content of this defeasibility clause as well as substantive concerns about how to understand its proper interpretation. Here, the most straightforward approach relies upon a *ceteris paribus* clause. This clause holds Hume's razor to justify belief in a theory (or class of theories) that minimizes necessities provided that our theory is otherwise equal with its competitors. So, just as a parallel clause in Ockham's razor explains why unvarnished

[9] It also succumbs to other virtues like gratuitous complexity and arbitrariness in addition to the mortal sin of logical inconsistency.

appeals to simplicity do nothing to motivate views like (existence) monism, the relevant clause in Hume's razor explains why it can do nothing to motivate, say, a radical view on which there are no necessary truths. Such radical views simply aren't close to being "otherwise equal."

Given its defeasibility, Hume's razor does not require a dogmatic pursuit of contingency at any theoretical cost.[10] Hume's razor is therefore usefully contrasted with certain more extreme modal commitments. Consider, for example, the fictional community, the Others, described in a thought experiment from Rosen (2002: 23-24). Unlike proponents of Hume's razor, the Others adopt a theoretical hostility to metaphysical necessities that is unqualified in character. They summarize this dogged promotion of contingency as follows:

> As we understand the notion, metaphysical possibility is, as it were, the default status for propositions. When the question arises, ''Is *P* metaphysically possible?'' the first question we ask is ''Why shouldn't it be possible?'' According to us, *P* is metaphysically possible unless there is some reason why it should not be — unless there is, as we say, some sort of obstacle to its possibility. Moreover, the only such obstacle we recognize is latent absurdity or contradiction. If the question arises, ''Why shouldn't there be a world at which *P* is true?'' the only cogent response is a demonstration that the supposition that there is such a world involves a contradiction or some other manifest absurdity. (This is tantamount to a principle of plenitude. It has the effect that the space of possible worlds is as large as it can coherently be said to be.)

The modal doctrine of the Others has an affinity with Hume's razor since each induces a presumption in favor of metaphysical possibility. But there is a crucial difference in the strength of this presumption. For the Others, nothing short of logical contradiction can override this presumption and thereby justify belief that a given proposition is metaphysically impossible. Hume's razor is much weaker. It holds that, in cases of substantial theoretical vice (e.g., gratuitous complexity brought on by theories that permit the relevant possibilities), we are within our epistemic rights to reject certain metaphysical possibilities. So, where the modal epistemology of the Others holds logical contradiction to be the exclusive reason for rejecting putative contingencies, Hume's razor only requires us to accept possibilities up until the point of theoretical viciousness. In this way, Hume's razor treats the minimization of necessities as just one theoretical virtue among many.

The downside of the defeasibility of Hume's razor is the complexity and controversy that arises in its application. Hume's razor proves no easier to wield than Ockham's razor, since they each invite wooly disputes about when necessities are *really* being multiplied *beyond* necessity. Those intolerant of murky theoretical principles might find this a reason to be suspicious of Hume's razor. But, in this respect, Hume's razor is simply no worse off than Ockham's. Consequently, fans of virtue-driven metaphysics cannot indict Hume's razor on these grounds without similarly calling Ockham's razor and other defeasible theoretical virtues into question.

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[10] Some might worry that Hume's razor is self-defeating, since it seems to be a necessary truth. Notice, first, that were Hume's razor a metaphysical necessity, it would provide only defeasible reason to reject itself, which could, of course, be outweighed by other considerations. But there's no reason to think Hume's razor is a metaphysical necessity in the first place. It is, instead, more plausibly taken to be an epistemic or normative necessity governing belief.

Complaints of this kind against Hume's razor are therefore merely instances of a broader issue that arises for proponents of virtue-driven metaphysics.

As already noted, Hume's razor does not require that we banish all necessities from our metaphysical theories any more than Ockham's razor requires we banish all entities. But, if we admit a single necessity, plausible assumptions (e.g., S4 modal logic, Plantinga's α-transforms) seem to require that we must admit infinitely many necessities.[11] Does this mean that Hume's razor is toothless, given that almost all theories will fare the same with respect to the *number* of necessities they entail? No. Notice that, even those who accept the infinitely rich ontologies entailed by set theory, continuous spacetime, or abundant properties, can nevertheless use Ockham's razor to make a case against gratuitous ontological posits elsewhere in their metaphysics. This is because the proper application of these principles is typically contrastive rather than brutely numerical in nature.

While this contrastive evaluation of theories is fairly intuitive in practice, it's clear that the absence of a simple, cumulative way to compare theories with respect to Hume's razor amplifies concerns that it is too wooly a principle to wield correctly. But, yet again, a contrast with Ockham's razor is instructive: we would rightly treat with skepticism any view that seeks to assign objective, numerical scores to theories in order to evaluate their overall ontological commitments. Comparing ontological or other commitments via some mechanical procedure fails to do justice to the complex explanatory demands to which theories must answer.

Autonomy: Some might be tempted to undercut the autonomy or significance of Hume's razor by arguing that it collapses into some more familiar principle of theory choice. For example, one might argue that, since necessities are propositions, the effort to minimize necessities is nothing more than an especially odd pursuit of Ockham's razor that targets only certain kinds of propositions—namely, the necessary ones.

The independence of these two razors is, however, easily demonstrated. First, Hume's razor does not depend upon any specific view about the ontology of "necessities" as propositions. It is a principle available to nominalists who reject the existence of propositions as much as platonists who posit them. Second, notice that we can coherently apply Hume's razor even in the face of perfect ontological agreement. Consider, for instance, two modalist-nominalist theories that share the same ontological commitments with each rejecting abstract entities as well as possible worlds. Hume's razor might nevertheless differ in how it assesses these two theories, since the modalist-nominalists can perfectly well disagree over first-order modal claims—e.g., one might be a necessitarian while the other might accept familiar sorts of contingencies.[14] Cases

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[11] I assume S5 as the logic of metaphysical modality throughout. It is, however, an open question how Hume's razor interacts with iterated modalities in weaker modal logics. Those who reject S5 face peculiar questions about whether possible necessities are more or less vicious than necessary possibilities. I am skeptical about the coherent use of Hume's razor in logical domains and take the avoidance of such questions to be a (very minor) virtue of S5. See Salmon (1989) for the case against S5. On α-transforms, see Plantinga (1978).

[14] A similar case: suppose two views that accept all the same worlds yet disagree over which of these worlds are possible rather than impossible. Such theories might agree in their ontological commitments, but Hume's razor will still favor the more expansive conception of possibility.

of this sort suffice to show that Hume's razor cannot be construed as the pursuit of ontological parsimony no matter how narrow its target.

One might still suspect that Hume's razor can be reduced to or somehow identified with a different methodological principle. One candidate is the familiar injunction that we ought to avoid positing brute facts. Such anti-brutality principles raise the difficult question of how to properly characterize the notion of a brute fact, but any plausible characterization should leave open the possibility that some brute facts are contingent. Hume's razor and anti-brutality principles will therefore fail to align since anti-brutality principles will weigh against contingent truths to which Hume's razor is indifferent. Additionally, brute facts are likely to be characterized in explanatory terms—e.g., as facts that admit of no explanation. But Hume's razor cautions against positing necessities *even if* those necessities admit of explanation via other propositions. Hume's razor and anti-brutality principles therefore fail to align in the opposite direction as well: Hume's razor counts against truths that anti-brutality principles disregard.

A final proposal holds that Hume's razor collapses into the familiar injunction against arbitrariness in our theories. As we'll see later, there are indeed cases where Hume's razor and anti-arbitrariness principles deliver similar verdicts, but Hume's razor and anti-arbitrariness principles are importantly different. Notice that there are apparently non-arbitrary necessities that Hume's razor might count against—e.g., essentialist theses like Socrates' being essentially human or the necessary co-instantiation of certain relations with their converses.[15] Additionally, there are arbitrary facts regarding the actual world to which Hume's razor is wholly indifferent—e.g., facts regarding laws of nature or fundamental physical quantities. These ways in which Hume's razor and anti-arbitrariness come apart suggest that they mark out importantly different ways in which theories might be vicious even if they occasionally overlap in their joint condemnations. We therefore have good evidence that, if Hume's razor tracks a theoretical virtue, it is not one already captured by some extant principle of theory choice. Nor can various familiar principles of theory choice be subsumed under Hume's razor.

Above, we considered some failed applications of Hume's razor. Let's now consider a plausible and important one that concerns the status of mereological composition. As Cameron (2007) argues, there is insufficient justification for taking the principles governing mereological composition to hold of necessity.[19] While some might uphold their status as necessities *qua* broadly logical principles, if we suppose (with Cameron) that arguments for such a view are unsuccessful, we are left in a difficult position: while metaphysicians have typically insisted upon the metaphysical necessity of compositional theses like universalism, nihilism, organicism, and so on, there seems to be no compelling reason to believe in the necessity of such principles apart from inert appeals to convention or tradition.

According to Cameron, we are best served to affirm the contingency of composition. And, while Cameron does not mention Hume's razor, he endorses a claim that might as well be an instance of it, saying "it seems to me strange to suppose that the true answer must be necessarily true, and so the burden of proof seems to me to lie with the necessitarian [regarding

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[15] Thanks to Justin Dealy, Joe Levine, and Gary Ostertag for helpful discussion here.

[19] Cf. Miller (2009) and Parsons (2013).

composition]."[20] If Cameron is correct in his assessment of arguments for the necessity of principles of composition, Hume's razor clearly comes into play, favoring metaphysical theories that take composition principles to be contingent in character. In this way, Hume's razor captures the operative principle behind Cameron's insight that we ought to prefer the contingency of metaphysical theories in the absence of compelling reasons to the contrary. It is in just this sort of case—one where metaphysical argument has stalled out—that Hume's razor does its work, cutting against theories that insist, without good reason, that metaphysical theses are, if true, necessarily so.

Here's a second example. According to haecceitists, there are some possible worlds (or maximal possibilities) that differ solely non-qualitatively from one another. According to anti-haecceitists, possible worlds must differ from one another in some qualitative respect.[21] This debate comes to a head when we consider cases like the following. Suppose there is a qualitatively homogeneous cylinder in the center of a qualitatively homogeneous circular plane and, at some point, the cylinder falls over.[22] Given the qualitative symmetries in the world, there can be distinct directional possibilities for the cylinder only if there are some possible worlds that differ only non-qualitatively from each other. So, the haecceitist permits multiple directional possibilities and upholds the view that there are different ways the cylinder could fall. In contrast, the anti-haecceitist says that, contrary to our untutored modal intuitions, there is exactly one way in which the cylinder could topple over.

Although debates regarding the metaphysics of individuals and spacetime bear directly on modal issues regarding haecceitism, if we suppose that our background metaphysical considerations force us to choose from between haecceitism and anti-haecceitism, Hume's razor provides plausible grounds for preferring the former. Where the haecceitist upholds contingency regarding the direction of the falling cylinder, the anti-haecceitist objectionably multiplies necessities by insisting there is a unique directional possibility. In this case and others like it, Hume's razor serves as a diagnostic for a theoretical virtue that can justify belief in a metaphysical thesis like haecceitism, which promotes an expansive conception of metaphysical possibility. And, while various parties will disagree about whether we are in fact forced into a direct choice between haecceitism and anti-haecceitism—e.g., because some assert the superiority of certain views of spacetime that entail (anti-)haecceitism—this potential nevertheless illustrates how Hume's razor finds fault with groundlessly foreclosing contingencies.

Let's now turn to the central competitor to Hume's razor: the thesis of Humean recombination defended by David Lewis.

§3. Recombination or the Razor?

Hume's razor is only one of several ways to pursue a Humean stance towards modality. The more familiar species of Humeanism takes the form of Lewis' principle of Humean recombination, which is standardly glossed as the denial of necessary connections (or exclusions)

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[20] Cameron (2007: 101). Compare Clarke-Doane (2019: 272) on the contingency of mathematical truths: "[T]he assumption that alternative mathematical laws are "absolutely impossible" ought to be met with comparable suspicion as the suggestion that alternative physical laws are absolutely impossible."

[21] On haecceitism, see Lewis (1986: 220-247) and Skow (2008).

[22] See Melia (2003: 162) on this example.

between distinct existences. For Lewis, Humean recombination serves as a non-negotiable constraint on metaphysical adequacy, since theories which require necessary connections are, by his lights, unintelligible. And, when formulated as a thesis about how entities admit of recombination, Lewis' Humean recombination serves as a "principle of plenitude"—a recipe for characterizing the space of possible worlds.[23] Humean recombination is therefore often described as a "combinatorial principle" governing possibility. As Lewis (1986: 87) puts it:

> Roughly speaking, the principle is that anything can coexist with anything else, at least provided they occupy distinct spatiotemporal positions. Likewise, anything can fail to coexist with anything else. Thus, if there could be a dragon, and there could be a unicorn, but there couldn't be a dragon and a unicorn side by side, that would be an unacceptable gap in logical space, a failure of plenitude.

The status of Humean recombination is controversial. Fans of constitution, grounding, or full-strength nomological necessity posit a world rife with necessary connections and must therefore reject Humean recombination, holding that some portions of reality do not admit of free recombination. In contrast, avowed Humeans have relied upon recombination as a tool for arguing against metaphysical theories that require necessary connections—perhaps most notably, recombination has been held to undermine views on which natural laws hold of metaphysical necessity.[24] But, regardless of one's orientation toward Humeanism or its implementation via recombination, the following three features of Humean recombination are difficult to deny.

First, explicit principles of Humean recombination are exceptionally challenging to formulate. In addition to puzzles regarding cardinality, they hinge upon difficult questions about the nature of "distinctness," which Lewis understood in terms of mereological disjointness. Such principles also require that we can single out a suitable category of entities ripe for recombination. It is controversial, however, whether the suitable entities are spacetime regions, objects, properties, states of affairs, or some other category. In addition, it is unclear that such principles might prove to be genuinely informative while, at the same time, wholly successful in snuffing out any illicit necessary connections.[25] This has led some, like Bricker (1991), to suggest that a viable Humean approach to modality requires, not one, but three separate principles—one of which he describes as a principle of recombination—for pursuing a broadly Lewisian treatment of plenitude.

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[23] The range of Humean approaches in metaphysics is a worthy topic in its own right. The Humeanism implemented in, say, Bricker (2017) and Dorr (2007) look markedly different even while they are united in their hostility to spurious metaphysical necessities. But mere hostility to necessities is not sufficient for Humean credentials. See, e.g., Mortensen (1989). On the general status of Humean recombination, see Wilson (2010, 2015) for a useful overview and some pointed challenges.

[24] On the putative conflict between Humean and Kripkean pictures, see deRosset (2009).

[25] Work on the proper formulation principles of plenitude is, of course, is well underway in the wake of Lewis. For a representative sampling, see Bricker (1991), Hofman (2006), Nolan (1998), Saucedo (2009), Russell and Hawthorne (2018), Efird and Stoneham (2008), and Gibbs (2019).

Second, Humeanism is uncompromising. It is nothing short of an unqualified ban on necessary connections between distinct existences. This means that if illicit necessary connections sneak in when we attempt to formulate Humean recombination in terms of, say, regions or properties, we would be forced to move on to another category of combinatorial units. Indeed, if no familiar category of entities can serve as absolutely modally independent units ripe for recombination, a commitment to Humean recombination would seem to require a kind of Tractarian mysticism: we would be forced to claim that, while we don't know what the units for recombination are, we can nevertheless be certain that they are entirely modally independent of one another. More generally, the proponent of Humean recombination isn't allowed to let their modal guard down in evaluating any metaphysical theories regardless of their subject matter. Metaphysical necessities are therefore to be rooted out altogether without exception both in abstract and concrete reality.[26]

Third, although Lewis is the preeminent defender of Humean recombination, there is conspicuously little substantive argument he offers in defense of his uncompromising and difficult to formulate principle. At times, Lewis links Humean recombination to a stricture against non-mereological modes of composition, hinting that they are two faces of the same metaphysical evil.[27] But, when doing so, Lewis provides no explanation of the root of this metaphysical evil apart from insisting that theories that invoke necessary connections are somehow "unintelligible." So, despite its critical role in his metaphysics, Lewis' Humean recombination remains a first principle whose *sui generis* epistemic status remains fairly mysterious.

As kindred species of Humeanism, recombination and the razor do share a common hostility to inexplicable necessities. If we accept possible worlds in which there are (exactly) eight hippos and other possible worlds where there are (exactly) ten hippos, Humeans of either stripe will reject a theory that deems worlds with (exactly) nine hippos impossible. This would be an objectionable necessity, unsustainable upon careful scrutiny. But, despite this commonality, the razor and recombination occupy notably different methodological postures. For example, while recombination aims to characterize the entirety of logical space, the razor is a kind of "regulative principle" of plenitude, inveighing against necessities rather than positively characterizing the entire plurality of worlds.

The razor and recombination also differ in their stated scope. Hume's razor cautions against *necessities*, while Humean recombination cautions against *necessary connections*. The razor is therefore, at least in principle, broader in its scope. That said, nothing precludes a kind of consilience according to which these principles align in practice: each finding fault with the same putative necessities. This is because it is an open question whether the necessities that ought to be eliminated by the razor are just those necessary connections between distinct existences which recombination targets. If so, the difference in their stated scope will turn out to be purely superficial, since Hume's razor will motivate the rejection of the theoretical commitments that Humean recombination explicitly forbids. In what follows, I leave open whether this consilience

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[26] In Cowling (2017), I argue that the debate between platonists and nominalists satisfies the conditions required for successfully deploying of Hume's razor. In light of the vast proliferation of necessities required by viable forms of platonism, I hold Hume's razor to be a viable means for breaking the evidential deadlock between these views in the nominalist's favor.

[27] See Lewis (2001: 611)

between the razor and recombination holds. But, as I will argue below, there is reason to believe that recombination as Lewis and others have formulated it falls short of targeting the full range of necessities that Humeans should find objectionable. If that's correct, the generality of the razor is one of several reasons to prefer it to recombination.[28]

In light of the above issues, would-be proponents of recombination have three reasons to prefer the razor when implementing their Humean opposition to gratuitous necessities. First, it allows them to sidestep the potentially unsatisfiable demand of formulating a satisfactory recombination principle. Second, it avoids recombination's implausibly stringent requirements in application. And, third, it has better prospects for receiving a successful defense than recombination, since it can be motivated along the lines Forrest suggests whereas the strength and complexity of recombination principles render a parallel defense far less plausible. More generally, Hume's razor can, in principle, be treated in parallel with Ockham's razor and other virtue-tracking principles and, as a consequence, a defense of those parallel principles would admit of extension or generalization to Hume's razor.[29] While this is a highly tentative benefit, it does indicate that Hume's razor is in good (or at least fairly familiar) company, while Humean recombination stands out as a decidedly *sui generis* principle.

Each of these reasons for preferring Hume's razor is tentative, but, taken together, they warrant stronger optimism for a Humeanism that deploys the razor rather than Lewis' Humean recombination. The vices that afflict Humean recombination therefore open a kind of methodological backdoor to Hume's razor: it offers an escape from the difficulties that beset recombination but with one's Humean credentials left intact. And, as I'll argue in Section Five, the superiority of Hume's razor also has broader methodological consequences for Lewis' virtue-driven metaphysics.

§4. The Case Against Hume's Razor

Before turning to Lewis' views on recombination and virtue-driven metaphysics, let me take up two objections to Hume's razor.[37]

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[28] Lewis' Humean recombination is a thesis exclusively regarding qualitative possibility and therefore properly interpreted in the language of qualitative duplicates. It is not a thesis about *de re* modality. But, where Humean recombination is silent on matters of *de re* modality, Hume's razor involves no such restriction, though one can well imagine a "restricted" version that runs parallel to Humean recombination in concerning only qualitative possibilities. For considerations of space, I set aside the subtleties of comparing these principles as they concern *de re* modality and focus solely on qualitative possibility. I hope to say more about the implications of Hume's razor for essentialism elsewhere.

[29] An important exception: if one defends theoretical virtues like Ockham's razor via some kind of methodological naturalism, the uniquely metaphysical status of Hume's razor precludes it from being justified by way of such a strategy, given the rarity with which metaphysical modality figures into scientific theorizing.

[37] A more general complaint regarding the case for Hume's razor is that we have relied upon an impoverished (or contaminated) diet of examples. Since the proponent of Hume's razor can, when pressed with a result that seems unattractive, insist that the relevant theories are not really equal or that Humean considerations are outweighed by other virtues, there's no denying we're on slippery methodological ice.

The Argument from Irrelevance: Suppose two theories are live competitors. Then, presumably, each is conceivable in a robust sense. Given familiar assumptions about the conceivability-possibility link, if one theory admits possible worlds that the other does not and these worlds are indeed conceivable, then conceivability evidence would seem to mandate that we prefer the more modally liberal theory. After all, if we can conceive of the worlds to which the modal conservative is opposed, then we have reason to believe that the conservative theory simply misdescribes modal reality, errantly holding possible worlds to be impossible. In such cases, we seem to have good reason to reject the modally conservative theory solely on the basis of our conceivability evidence. But notice that Hume's razor will therefore never enter into the debate. And, if this is a general feature of theory choice, it looks as though, wherever we *could* apply Hume's razor in choosing between theories, it will simply prove otiose, since we will always already have conceivability evidence that justifies admitting the possibilities Hume's razor would have entreated us to admit.[38]

In ordinary domains, the argument from irrelevance seems to aptly describe our modal reasoning and the exceptionally limited role for Hume's razor. Suppose you and I disagree about whether Oxford could exist without Cambridge or vice versa. You (bizarrely) deny this is possible, while I affirm its possibility. In choosing between our theories, Hume's razor cuts no ice, since we have antecedent conceivability evidence to justify the verdict that you are mistaken and I am correct. I take this to be what Yablo (1993: 32) is getting at in the following remarks:

> Ordinarily we treat perceptual appearances as *prima facie* accurate, and absent specific grounds for doubt we accept them as a basis for reasonable belief. What about conceivability appearances? Outside of philosophy, at least, they are treated in a similar fashion. Suppose that you claim to be able to imagine a world in which Oxford University exists but Cambridge does not. Perhaps we can point to some complicating factor of a kind you had not considered, e.g., one was originally a college of the other, which takes our own modal intuitions in a different direction. But if nothing of the kind occurs to us, and if attempting the thought experiment ourselves we find no difficulty in it, we are not in a good position to dispute your claim. (Imagine your reaction if we said, "still, we wonder if it is really possible," though no further complication suggested itself.)

There is, I suspect, no role for Hume's razor in modal debates of this quotidian sort. Recall, however, that Hume's razor is not intended to operate in unrarefied air. It is properly applied in the face of metaphysical disagreement, where conceivability evidence is either wildly tenuous or simply unavailable.[39] The kind of case to keep in mind is Cameron's earlier argument regarding the contingency of composition or the debate between haecceitists and anti-haecceitists noted above. In these and similar debates, we are unsettled about which metaphysical theories are true, but our metaphysical uncertainty also contaminates our conceivability evidence, rendering it

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[38] Hume's razor will simply be otiose for those who think metaphysical necessity is no richer than logico-conceptual necessity. See, e.g., Levine and Trogdon (2009).

[39] Consider, for example, the strategy in Kripke (1980) of explaining away illusions of contingency on accounts of mistakes regarding the content of imaginings. In metaphysics, the specter of mistaken conceivings looms large once we consider what difference would mark our imagining of, say, nihilist, universalist, and other worlds with various mereological principles.

perfectly appropriate to wonder whether we actually possess relevant conceivability evidence (e.g., whether we are accurate in determining what we seem to imagine). It is only here, in the peculiar domain of metaphysics, that Hume's razor is likely to play a substantive role, since it is in metaphysics where our justificatory practices for modal claims run aground and saddle us with thorny disagreements.

The Argument from Metaphysical Chaos: Suppose that you are an especially open-minded metaphysician but have managed to entirely bracket the kinds of modal considerations relevant to Hume's razor. Finally, after gaining a deep familiarity with all manner of metaphysical debates –e.g., over tropes and universals—you arrive at a summative assessment (one that brackets Hume's razor): the necessitated versions of all such theories—i.e., the version of metaphysical theories according to which they are necessary truths—are no better or worse than their unnecessitated counterparts.

If we now add Hume's razor into the menu of theoretical virtues, it immediately mandates a kind of metaphysical chaos. For, although (let's suppose) you are agnostic about the metaphysics of the actual world, you ought to reasonably prefer the unnecessitated versions of these metaphysical theories and therefore posit a truly remarkable amount of metaphysical variation across the space of metaphysically possible worlds. There will, for example, be nominalist worlds and platonist worlds as well as trope worlds and universal worlds and many more besides. But now consider the result of all this: modal reality is a gruesome, patchwork quilt that admits of no systematic or even remotely unified account. Metaphysical chaos prevails. We are left without hope of describing the "fundamental structure" or "ultimate form" of reality, since possible worlds radically differ in even their most basic features.

The proponent of Hume's razor shouldn't be in the business of ruling out in advance potentially surprising consequences of theorizing. And, while we might hope to resist the prospect of metaphysical chaos, it would be hasty to deny that, under the right epistemic conditions, we might find ourselves perfectly well justified in stomaching an extreme degree of metaphysical contingency. Despite this, there are a few key things for the Humean to keep in mind.

First, a commitment to contingentism might be, as Miller (2009) suggests, unavoidable on the basis of considerations other than Hume's razor—e.g., because the simplest and most conservative metaphysical theory is one that abides differences in structure of this sort. Indeed, recent work on contingentism nicely illustrates the widespread but tendentious assumption that metaphysical matters are non-contingent and, given a virtue-driven methodology, Hume's razor is certainly one way that metaphysicians might seek to undermine anti-contingentist orthodoxy.[41]

Second, the characterization of metaphysical chaos given above provides an important clue regarding what its actual reception would be. Keep in mind that our efforts to provide accounts of metaphysical notions like similarity, change, time, and so on are driven, not just by virtues like parsimony, but also virtues like systematicity and unification. Minimizing necessities is only one of our theoretical aims. So, if admitting certain possibilities means forcibly abandoning otherwise attractive analyses of metaphysical notions, then it is by no means clear that we are

[41] On the varieties of contingentism and the different routes into the view, see Miller (2009, 2012, 2013).

obliged to embrace metaphysical chaos. Holding certain metaphysical theses to be contingent is, other things being equal, the apt stance. But, if a non-contingentist metaphysics of universals accumulates a massive share of theoretical virtues, Hume's razor might very well be outvoted. As tentative hypotheses go, I would strongly incline against the view that metaphysical chaos will win out, especially after we recognize that Hume's razor is just one principle among the many relevant to virtue-driven metaphysics.

§5. Lewis and Hume's Razor

I've now mounted a general case for discarding recombination in favor of Hume's razor and tried to ward off two main objections to it. In this section, I defend an even more controversial claim: that Lewis himself would have been better served to replace his talk of Humean recombination with appeals to Hume's razor. After making my case, I turn to the tension between virtue-driven metaphysics and recombination at the heart of Lewis' philosophical method.

Although Lewis' discussions of principles of plenitude underpin most recent engagements with Humeanism, there is a curious methodological feature of Lewis' brand of Humeanism. Although Lewis repeatedly gestures towards his recombination principle—e.g., in arguing against non-mereological composition and the necessity of laws of nature—he provides no comprehensive, detailed accounting of the principle apart from largely provisional efforts to rebut objections to it (e.g., the cardinality concerns presented in Forrest & Armstrong (1984).) The closest Lewis comes to a canonical formulation of Humean recombination is in the quote presented earlier, but even there Lewis is clear that we are "speaking roughly." Similarly, throughout the "Plenitude" section of *On the Plurality of Worlds*, we are introduced to complications that would surely figure into the formulation of an official recombination principle, but, oddly, no such principle ever emerges.

Along with the absence of a fully formulated recombination principle, it is a striking dialectical fact that some of Lewis' arguments in *Plurality* require a principle stronger than the one he roughly sketches. Specifically, Lewis' argument against magical ersatzism—the view that possible worlds are represented by abstract entities via some difficult to characterize representation relation—involves a dilemma regarding the *selection relation* claimed to hold of necessity between concrete reality and the magical erzatist's abstract elements.[42] But the selection relation is neither an object nor a region and so Lewis' working recombination principle, which patches together either objects or regions within spacetime, would be forced to remain silent about its modal character.[43] Despite this, Lewis finds fault with the magical ersatzist's modal claims regarding the selection relation and he does on expressly Humean grounds. In this way, Lewis' opposition to necessities outstrips his working version of Humean recombination.[44] And,

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[42] See Lewis (1986: 181).

[43] Lewis (1986: 92) notes the possibility of extending recombination to non-spatiotemporal parts of objects, but decides against doing so on the grounds that it would require breaking from neutrality regarding the debate between proponents of universals and proponents of tropes. It would also, according to Lewis, fail to satisfy demands in generating relevant possible worlds involving alien properties.

[44] Nolan (2020) also notes this concern with Lewis' Humeanism as it concerns ideology rather than ontology: "But I suspect, again as above, Lewis will want to suggest that we have Humean intuitions that, absent special pleading, either the holding of a primitive two-place predicate is a matter of the intrinsic

since no adequate recombination principle is subsequently formulated, a crucial theoretical burden of his argument against magical ersatzism remains unmet. For the proponent of Hume's razor, the scope of the principle's application is broad enough to target posited necessities regarding the selection relation and the requirement for a fully formulated principle of plenitude simply does not arise. In this way, Hume's razor better serves Lewis' Humean needs in mounting this critical argument.

The second facet of Lewis' methodology that suggests the razor is a better tool than a recombination principle occurs in his discussions of the possibility of island universes—possible worlds consisting of spatiotemporally (or analogically spatiotemporally) disconnected regions. According to Lewis, such possibilities cannot be accommodated within his modal realist analysis without severe problems. And, in presenting his case for rejecting such possibilities, Lewis notes that a prohibition against them does not issue from his preferred principle of recombination. Instead, omitting these possibilities flows from virtue-driven considerations, reflecting concerns about the broader theoretical costs and benefits of admitting such possibilities. As Lewis (1986: 71-72) says:

> Against this objection [from island universes], I must simply deny the premise. I would rather not; I admit some inclination to agree with it. But it seems to me that it is no central part of our modal thinking, and not a consequence of any interesting general principle about what is possible. So it is negotiable. Given a choice between rejecting the alleged possibility of disconnected spacetimes within a single world and (what I take to be the alternative) resorting to a primitive worldmate relation, I take the former to be more credible.

Recall that Humean recombination purports to serve as a principle of plenitude apt for characterizing the space of metaphysically possible worlds. But, if Humean recombination settles what possible worlds there are, then Lewis ought to say either that possibilities involving island universes are required by recombination and must be admitted, deny they are required by recombination, or confess that we are without a satisfactorily formulated principle to adjudicate the issue. He does none of these things.[45] So, if we are to make sense of how he handles this matter as well as his surprising claim that our account of the limits of modal reality is a negotiable matter, we seem to require, not a recombination principle, but a virtue-driven principle like Hume's razor

Let me be clear: I'm not arguing that Lewis was implicitly relying on Hume's razor rather than recombination (though this is arguably the case in his handling of island universes). He clearly prioritized the latter and it is difficult to say what he might have made of the former principle. My claim is, instead, that if we sought to rehearse the Lewisian arguments just considered, they can be more plausibly developed via Hume's razor rather than principles of recombination.

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natures of the two entities involved, or it should be modally flexible in the way that external relations are." On Lewisian recombination and ideology, see Cowling (2021).

[45] For a discussion of Lewis' treatment of island universes and how recombination bears upon their possibility, see Bricker (2020a).

Hume's razor fares better for certain limited purposes within Lewis' metaphysics, but there is a larger methodological issue that stems from the interaction between Lewis' virtue-driven metaphysics and his Humean recombination: how are we to reconcile these two principles in the event that they conflict with one another? Notice that, while Lewis relies upon theoretical virtues *and* voices a non-negotiable commitment to recombination, the proponent of Hume's razor need not serve two different masters: Humean metaphysics is virtue-driven through and through. Contrary to Lewis' preferred method, there is no need for the Humean to take the minimization of necessities as an unqualified dogma; it is merely one theoretical consideration among others. This is because Humean scruples are akin to Ockhamist scruples and each is captured via a different razor.

Some proponents of Humean recombination are sure to resist its replacement by the razor. There are, I believe, two main reasons for mounting such resistance. First, Humean recombination can serve as an exceptionally powerful tool for generating verdicts about what is and what is not possible, especially given plausible-sounding formulations of recombination. In contrast, Hume's razor can do comparatively little to positively characterize modal reality. For example, such principles might promise to succinctly describe exactly which spatiotemporal structures are possible. So, for the proponent of recombination, it is the power of recombination that renders it preferable.

The defender of Hume's razor ought to concede that various formulations of recombination deliver seemingly informative conclusions regarding exotic possibilities. At the same time, this power comes at a cost in plausibility. The richer a recombination principle is (e.g., in its assumptions about ontological categories, distinctness, cardinality, and so on), the more contentious its status as the correct way to characterize modal reality. We should, I take it, be suspicious of any principle that promises as much as recombination does and favor modesty in our principles for theory choice. Therefore, Hume's razor emerges as something like the safe bet for Humeans.

Second, some proponents of Humean recombination might claim that, if we trade Humean recombination in for Hume's razor, we will simply bury ourselves deeper into a morass of difficult to quantify and even harder to compare theoretical virtues and vices. We are, according to the proponent of recombination, better served to take our chance with an attractive first principle in metaphysics—one that offers unambiguous metaphysical verdicts. So understood, recombination is required as a kind of basic constraint on our theorizing without which we would be doomed to idly push around different theoretical virtues arriving at no substantive conclusions.

This is a difficult objection to answer, but, again, the defender of Hume's razor should begin with a concession. In metaphysics, epistemic equivalence among theories is a fact of life. All too frequently, we find offsetting virtues and vices that render it exceptionally hard to determine when two theories are close enough that a razor-style consideration might serve as a plausible means for tiebreaking. Sweeping consequences are therefore unlikely to issue from Hume's razor. And, if they do, it will only be because they have been paired with sustained efforts to show that some theories are close competitors. But we ought to prefer modest consequences to implausible ones. And, if we are beholden to recombination, the costs are far reaching and non-negotiable. For example, are we obliged to stomach gross violations of parsimony if the only

alternative is, say, abiding a single necessary connection? Should it turn out that the only metaphysical theory that avoids necessary connections is rife with all manner of theoretical vices, Lewis' method would require us to endorse it over its rivals solely because it is consistent with recombination. There is, I believe, little to like about this ultimatum. When faced with it, a reasonable Humean ought to view recombination as a potential hindrance rather than a help. For reasons of this sort, the prospects for a Humean virtue-driven metaphysics are improved by taking up the razor.

§6. Conclusion

This paper has examined Hume's razor, explored some of its applications, and argued that would-be Humeans ought to prefer the razor to Humean recombination. I've also argued that Hume's razor is a principle uniquely concerned with metaphysical modality and, in turn, metaphysical theories. This bears directly upon a question from Section One: are there any theoretical virtues that are distinctively metaphysical rather than perfectly general? Yes, says the proponent of Hume's razor, because metaphysical modality tracks a modal aspect of reality with which metaphysics rather than science, mathematics, or ethics is concerned. And, since metaphysical modality rarely plays a role in domains like jurisprudence, economics, and population genetics, Hume's razor is relatively circumscribed in its scope of application. This suggests Hume's razor is comparatively modest when set against Ockham's razor. Finally, I've argued that, for Humeans concerned with the foundations of virtue-driven metaphysics, a commitment to Hume's razor proves more attractive than Lewis' bipartite commitment to both Humean recombination and virtue-driven metaphysics. We are therefore best served to incorporate Humeanism into the diet of theoretical virtues rather than divide our loyalties between Humean recombination and virtue-driven metaphysics.[47]

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