

UNIVERSITY OF CALIFORNIA

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Modal Primitivism

A Study in the Metaphysics of Necessity and Possibility

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in Philosophy

by

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This work is dedicated to the memory of William H. M. deRosset.

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# Chapter 1

## Modal Primitivism

This chapter introduces *modal primitivism*. According to modal primitivism (henceforth just “primitivism”), necessity and possibility are part of the fundamental structure of the universe, and some modal claims would appear in any basic, overall description of that structure. Modal primitivism is also a view about the relation between modal facts and non-modal facts. Some modal facts are as basic and fundamental as any non-modal facts; some modal facts are not composed or constructed out of non-modal facts; some modal facts are not reducible to, or explained solely in terms of, non-modal facts; they are not “nothing over and above” non-modal facts; they do not have second-class metaphysical status with respect to non-modal facts, but rather enjoy the same metaphysical status; they are not dependent on non-modal facts. In short, according to modal primitivism some modal facts are not in general grounded in non-

modal facts.<sup>1</sup>

## 1.1 What primitivism claims

Like any other broad, sweeping metaphysical doctrine, modal primitivism and its anti-primitivist competitor resist precise definition. I will attempt here only to paint a picture of the metaphysical view on offer. We have already said that modal primitivism is the view that there are some necessities and possibilities which cannot be grounded or explained in entirely non-modal terms. Some modal facts, including some necessities, are modal “all the way down.” Modality is part of the fundamental furniture of the world. Modal facts are not second-class facts, in need of grounding in a more solid non-modal reality. Rather, they are just more facts, as solid as any fact can be. There are non-modal facts. And there are also modal facts. There are facts about what George W. Bush wore on the night before the 2000 presidential election, what he said, and whether he won. And there are also facts about what he might have worn, what he might have said, and whether he had to have won. The modal facts are not reducible to the non-modal facts; they are not made of or constituted by the non-modal facts; they are not even explained solely by reference to the non-modal facts. Rather, they are just more facts, alongside the non-modal ones. According to modal primitivism, no further deep metaphysical distinction ac-

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<sup>1</sup>The notion of *grounding* a fact is supposed to convey a thoroughly metaphysical idea, different from the epistemic idea of *providing grounds* for some opinion or assertion.

companies the distinction between modal facts and non-modal facts. The metaphysically most fundamental facts of the universe include both modal and non-modal facts. So do the metaphysically less fundamental facts.

By way of contrast, the anti-primitivist claims that each modal fact is grounded in non-modal facts. The universe is, at bottom, non-modal. Consider an analogous position in the metaphysics of nations: an anti-primitivist about nations holds that facts about nations are grounded in facts about persons and their behavior over time. As an upshot, the facts about nations are determined by, exhaustively explained by, and dependent on the lower-level facts about persons.<sup>2</sup> The anti-primitivist about nation-facts might express the view using some familiar expressions. The central formulation of the position would claim that the facts about nations obtain *solely in virtue of* facts about individuals. Often formulations suggesting a stronger relation are used: the facts about nations are *nothing over and above* facts about individuals; or the facts about nations are *nothing but* facts about the individuals. The debate about modal primitivism is then just the analogue of this dispute in the metaphysics of nations.

Though the relation of grounding is difficult to characterize precisely, the example of anti-primitivism about nation-facts does allow us to single out a couple of its general features. The facts about nations are supposed to obtain solely in virtue of the facts about in-

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<sup>2</sup>For a brief articulation of such a view, see (Kripke, 1980, p. 50).

dividuals and their behavior over time. This relation is asymmetric; the facts about individuals and their behavior over time do not obtain solely in virtue of the facts about nations. Also, the “in virtue of” claim requires that there be an explanatory relation the two kinds of facts. The anti-primitivist about nations claims that facts about individuals explain facts about nations. For instance, the anti-primitivist about nations might explain what it is for Britain and the United States to be allies in terms of what Churchill and Roosevelt did at Yalta, what Bush and Blair are doing today, and what a whole lot of other people did and are now doing in many far-flung places. Indeed, this anti-primitivism about nations will stand or fall depending on how complete and compelling the explanations are.

## **1.2 Test cases for primitivism**

I have stated the primitivist claims in the abstract. We can make the picture more concrete by mentioning some modal claims which strike a primitivist as stating modal facts that are resistant to being grounded in completely non-modal terms. These modal facts will serve as test cases for primitivism. The test cases for primitivism are of two sorts. First come test cases involve claims which are overwhelmingly plausible. Here, then, is a short list of such modal claims. First come some modal claims regarding Bush. As we have already said, he might have lost the 2000 electoral vote. He could not

have been a gas station. He could not have produced the solar system. He might not have existed. There are also modal claims about items of the natural world. Consider a particular silkworm pupa. It is possible that this very creature have not been a pupa. (Indeed, just a short time ago it was not a pupa, but a larva instead.) There are also claims which do not involve attributing a modal property to any particular individual, but which do involve natural kinds. For example, it is impossible for there to be a cat which is also a field of wildflowers. Finally, there are sweeping metaphysical claims that mention no particular individual or kind. For instance, there might have been individuals distinct from every actual individual.<sup>3</sup> Primitivists do not hold these truths to be self-evident. Some sophisticated argument may show that the claims should be abandoned. But in the meantime primitivists take them to be data. Primitivists will reject any view which baldly requires that these claims, which seem *prima facie* to be true, are *prima facie* untrue. The claims present *prima facie* counter-examples to any such view.

Not all primitivist test cases are so uncontroversial. The second kind of test case involve claims which do not have such immediate intuitive appeal. Consider, for example, the table at which I am

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<sup>3</sup>I advance this datum with a little more trepidation than the others, since some authors who accept that it is meaningful have nevertheless denied it; see for example a view described in (Linsky and Zalta, 1994). I do believe that the ordinary English claim made in the text enjoys a great deal of intuitive support. It seems intuitively true, for instance, that my parents might have had a fifth child, with everyone else reproducing as they actually did. And, again speaking intuitively, this would seem to be a situation in which something which there would have been an individual distinct from any actual individual. But the caveat in the main text below deserves special emphasis in this case: some sophisticated argument may show that these apparent data turn out to be falsehoods instead.

writing. This table, let us suppose, was actually produced from a certain hunk of wood, grown in the pine forests of North Carolina. There is another hunk of wood, which, we may also suppose, was grown in a pine forest in Australia. A necessity of origin thesis provides a controversial test case for primitivism: it is impossible that this table here should have been produced from that Australian hunk. Obviously, to deploy such a controversial test case in a discussion of primitivism, the claim must be defended.

The reason I think primitivism has a chance, and so is worth exploring, is that I believe that these test cases state modal facts, and I do not know of any compelling anti-primitivist proposal which gives us plausible groundings for all of these facts. Some anti-primitivist proposals do well on some test cases, but have more trouble with others. Different anti-primitivist proposals do well on different test cases. It is probably fair to say that no single test case makes trouble for all anti-primitivist proposals. This makes my rhetorical position somewhat complicated; I can't tell you which test case shows that primitivism is true, because there is no test case which resists every anti-primitivist proposal. My position is, rather, that every anti-primitivist proposal of which I am aware has trouble with some test case or other. Hence, I am exploring the idea that some modal facts resist grounding in any congeries of non-modal facts, without being in a position to say, independently of the details of a particular anti-primitivist view, which modal facts do the trick. (Of course, we

could just take the fact stated by the conjunction of the test cases, but this would just paper over the underlying rhetorical oddity.)

### 1.3 Skepticism about grounding

The “nothing over and above” and “nothing but”, and “solely in virtue of” locutions all express metaphysical relations that are difficult to characterize precisely. I will make no attempt to define these locutions here in other terms. Someone who is generally skeptical about metaphysics will be skeptical about these relations, and therefore also skeptical about the grounding claims at the center of this debate. Such skepticism may take one of a variety of forms. For instance, someone might claim that these locutions indicate no definite relations; that, even if they do indicate certain relations, we have not even the dimmest understanding of those relations; or that, even if we understand in some measure the relations these locutions indicate, there is no way to discover whether the relations obtain in any particular case.

I will attempt no rebuttal of this skepticism here. I here only note that we do seem to have at least a weak grip on the metaphysical notions at hand. In particular, a great deal of contemporary analytic philosophy makes free use of the “in virtue of” locution. In this respect, the question of whether modal facts are grounded in non-modal facts is no worse off than the question of what it is in virtue of which a name has the bearer that it does, or what it is in virtue

of which everyone has an obligation to respect one another.

## 1.4 Supervenience vs. grounding

But before we turn to the defense of modal primitivism, I want to add one last note of clarification. The “nothing over and above” locution that philosophers use to express grounding relations recalls discussions of recent decades about the notion of *supervenience*. Supervenience has become something of a philosophical football, receiving different treatments in the hands of different authors. There is a large variety of formulations of different notions in the literature, but they are all guided by a single underlying idea. Supervenience is either a relation between two realms of facts, or two kinds of properties. One realm of facts, the *supervenient facts*, supervenes on another, the *subvenient facts* when the supervenient facts are determined by the subvenient facts, in roughly the sense that situations cannot be just alike with respect to the subvenient facts, but differ with respect to the supervenient facts. When a supervenience relation holds between two realms of facts, nothing more needs to be done in order to fix the supervenient facts once the subvenient facts are fixed. Similarly, one realm of properties supervenes on another when whether a thing has the supervenient properties is determined by which among the subvenient properties, in roughly the sense that individuals cannot be indiscernible with respect to the subvenient properties but discernible with respect to the super-

venient properties. When a supervenience relation holds between two kinds of properties, nothing more needs to be done in order to fix the supervenient properties of a thing once its subvenient properties are fixed. The variety of different formulations of supervenience notions in the literature stems from different interpretations of the difficult and complicated impossibility claims. But, no matter how the notions are explained, supervenience is not grounding, and the question of whether modal primitivism is true is not settled by an answer to the question of whether any supervenience relation holds between them.

Terence Horgan Horgan (1993) has similarly argued that supervenience by itself indicates no interesting metaphysical relation between the supervenient facts and their subvenient base. One argument, also advanced here, is conceptual: nothing in the explanation of the notion of supervenience requires any interesting metaphysical relation. But he also proposes examples of views that endorse supervenience without requiring what I have here called grounding. His examples are taken from the history of philosophy. According to Horgan, British emergentists of the first half of the twentieth century can and did endorse the supervenience of psychological facts on broadly physical facts without claiming that the psychological facts were grounded in the physical facts; and G. E. Moore endorsed the supervenience of moral facts on non-moral facts without claiming that the moral facts are grounded in non-moral facts.<sup>4</sup> The exam-

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<sup>4</sup>Horgan also advances as an example the views of R. M. Hare about the relation between

ples of views in the literature which accept supervenience without accepting grounding surely reinforce the conceptual point, that supervenience and grounding are different notions. But the historical views are also controversial: it is not obvious that either historical position can, in the long run, be sensibly maintained. And so, for all the notional difference between supervenience and grounding, it might turn out that no view according to which there is supervenience without grounding can, in the long run, be sensibly maintained. To remove this last source of doubt, I hope now to introduce an example in which there is evidently supervenience without grounding.

One easy way to see that supervenience is not grounding is to notice that every realm of facts and every realm of properties supervenes on itself. It is easy to see that, for instance, that situations cannot differ with respect to the astronomical facts without differing with respect to those very same facts. Likewise, it is pretty clear that things individuals cannot be indiscernible with respect to their weight but also discernible with respect to that very same property. Perhaps every fact obtains in virtue of itself, and so facts of a certain kind obtain in virtue of facts of that very kind. But there do seem to be cases in which facts obtain in virtue of other facts. So there do seem to be cases in which, despite the supervenience of a

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the non-moral facts and assertibility conditions for sentences employing moral vocabulary. Hare was the first to use the word “supervenience” in print in something like the contemporary meaning. But, as Horgan notes, it is unclear whether Hare fits the contemporary notion of supervenience, which is “typically regarded nowadays as an interlevel relation between properties or facts”, since he holds that there are no moral facts or properties (Horgan, 1993, pp. 561-2)

realm of facts on itself, those facts do not obtain *solely* in virtue of themselves. Hence the supervenience on itself of every realm of facts and every realm of properties does not indicate that there is any relation of grounding in the offing. Further, it is simply incoherent to claim that the supervenience of a realm of facts on itself indicates an interesting metaphysical distinction to be made between, *e.g.* the astronomical facts and themselves. Lastly, the supervenience relation that obtains between a realm of facts and itself is symmetric, but grounding is asymmetric. So there can be supervenience without grounding, and claiming that the modal facts supervene on the non-modal facts does not by itself settle the question of whether modal primitivism is true.

The supervenience of a realm of facts on itself might be thought inadequate to show that the supervenience of modal facts on non-modal facts does not settle the question of whether modal facts are grounded in non-modal facts. The thought is that, while supervenience does not suffice for grounding in the case in which the supervenient facts and the subvenient facts are the same, it does suffice for grounding when we have two realms of facts or properties rather than one. Mere insistence on the distinctness of the two realms of facts or properties does not, however, save the claim that the supervenience of the modal facts on the non-modal facts indicates that the modal facts are grounded in the non-modal facts. The reason is that it is plausible to think that there are distinct realms

of facts that supervene symmetrically on one another. Suppose we are confronted with a particular blackboard. There are facts about how many triangular figures there are on the blackboard. Call these the triangle facts. There are also facts about how many trilateral figures there are on the blackboard. Call these the trilateral facts. It is plausible to maintain that these are two different realms of fact.<sup>5</sup> Assuming they are two domains of fact, it is pretty clear that the triangle facts supervene on the trilateral facts and *vice versa*: situations cannot differ with respect to how many triangular figures there are on the board, without also differing with respect to how many trilateral figures there are; and they cannot be the same with respect to how many triangular figures there are on the board without also being the same with respect to how many trilateral figures there are. So it is plausible to maintain that we have symmetric supervenience between distinct realms of fact. Since the relation is symmetric, but grounding cannot be symmetric, the mere supervenience of one realm of facts on another does not suffice for the one realm of facts to be grounded in the other.

There seem to be two obvious lines of response to this argument. One may argue that the triangle facts and the trilateral facts are not really distinct realms of fact. This line of response is sustained by the idea that, since, for a given numeral  $n$  the sentence “there are  $n$  triangular figures on the board” is necessarily coextensive with the

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<sup>5</sup>It also seems plausible to maintain that these are not two different realms of fact. Since I aim to make no controversial claims regarding the metaphysics of facts, I take no position on which of these two plausible positions is correct.

sentence “there are  $n$  trilateral figures on the board”, they report the same fact. In general, the claim is that, if  $P$  and  $Q$  are facts that are reported by necessarily co-extensive sentences, then  $P$  and  $Q$  are the same fact. Alternatively, one may concede the point, and simply say that, though *symmetric* supervenience between two realms of facts does not have any upshot for the question of whether one realm of facts is grounded in the other, *asymmetric* supervenience of one realm of facts on another does indicate that the facts of the one realm are all grounded in some congeries of facts of the other.

I think that the prospects for primitivism are independent of any particular controversial thesis regarding the identity or distinctness of facts. So I will not here insist that the triangle facts and the trilateral facts are distinct realms of fact. Instead, I will deal with both lines of response at once by giving a simple example of evidently distinct realms of fact, in which one realm asymmetrically supervenes on the other, but in which there is no metaphysical relation between them meriting the “nothing over and above”, “nothing but”, or “solely in virtue of” locutions.

Consider facts about the size and shape of this table here. For instance, there is the fact that it is more than 1 centimeter high, it is not spherical, etc. Call facts of this kind the *table-facts*. Now just pick a contingent fact  $P$  from outside this realm. ( $P$  might be the fact that there are at least one person in the same room as the table.) Consider the kind of fact obtained by conjoining  $P$

with all of the table-facts in turn.<sup>6</sup> You get such facts as that  $P$  and this table is more than 1 centimeter high,  $P$  and this table is not spherical, etc. Call facts of this kind the *conjunctive facts*. It's pretty easy to see that the table-facts supervene on the conjunctive facts, in the sense that situations cannot differ with respect to the table-facts without also differing with respect to the conjunctive facts. The relation is not symmetrical. Since  $P$  is contingent, situations can differ with respect to the conjunctive facts without differing with respect to the table-facts. Consider, for instance, the situation now and the situation yesterday at noon (when no one was in the same room as this table). Assuming that the table's size and shape has remained the same, the table-facts are the same in both situations. But, of course, the conjunctive facts differ. So the table-facts asymmetrically supervene on the conjunctive facts. But the table-facts are not grounded in the conjunctive facts. If there is any metaphysical relation of grounding here, it's partial, and it's going the other way.

This simple example shows that, in general, there can be asymmetric supervenience of one realm of facts on another without the supervenient facts being grounded in the subvenient facts. But one might think that the application of this result to the relation between modal facts and non-modal facts is problematic. In the simple ex-

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<sup>6</sup>I write here of conjoining facts; a somewhat more careful characterization of the conjunctive facts is that they are those facts which can be reported in any given situation by conjoining a contingent sentence  $P$  with a sentence reporting a table-fact if  $P$  is true; and conjoining  $\neg P$  with a sentence reporting a table-fact if  $P$  is not true.

ample, the table-facts supervene on the conjunctive facts because each table-fact is logically entailed by some conjunctive fact. And it is easy to see that logical entailment and grounding need not go together. Indeed, the logical entailments are via applications of the rule of simplification, which seems to be a paradigm case of entailment unaccompanied by grounding:  $P \wedge Q$  entails  $P$ , but  $P$  does not obtain solely in virtue of  $P \wedge Q$ ; and the fact that  $P$  is not “nothing over and above” or “nothing but” the fact that  $P \wedge Q$ . But, assuming for the sake of argument that modal facts do supervene on non-modal facts, they presumably do not do so because some non-modal fact logically entails each modal fact. So one might still wonder how there could be supervenience of the modal facts on the non-modal facts without modal facts all being grounded in some congeries of non-modal facts.

If we grant some very substantial assumptions, then we can get an illustration of how modal facts could have supervened on non-modal facts without the non-modal facts thereby grounding all of the modal facts. Suppose first that all modal claims are representable using the syntax of quantified modal logic.<sup>7</sup> Suppose also that the axioms of the system of modal logic S5 are true. So, for instance, if

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<sup>7</sup>Perhaps this assumption would need to be strengthened to include all actual and possible modal claims. Representability here requires only co-intension: a claim  $C$  is represented by a sentence  $S$  iff it is necessary that ( $C$  is true iff  $S$  is true). A claim  $C$  is representable in the syntax of quantified modal logic iff there is a sentence  $S$  which has a surface form that is evidently and recognizably the natural language analogue of sentences of quantified modal logic.  $S$  uses only the sentential modal operator “it might have been the case that”, the sentential negation operator “it is not the case that”, sentential conjunction, the quantifiers for variables  $v$  “There is a  $v$  such that”, names, variables, and simple predicates. (We omit complex terms for the sake of simplicity.)

it is possible that Bush have lost the 2000 election, then it is necessary that it is possible that Bush have lost the 2000 election. In S5, it is possible that  $\phi$  iff it is necessary that it is possible that  $\phi$ ; and it is necessary that  $\phi$  iff it is necessary that it is necessary that  $\phi$ . So it is impossible for the modal facts expressed by sentences in the syntax of quantified modal logic to be different from what they actually are. Since we assumed that all modal claims are representable in this syntax, it is impossible that the modal facts in general to differ. It is impossible for there to be two possible situations which differ with respect to the modal facts, since every possible situation is modally indiscernible from the actual situation. In this sense, situations cannot differ with respect to the modal facts. It will follow straightforwardly that situations cannot be the same with respect to the non-modal facts, but differ with respect to the modal facts.

According to at least some notions of supervenience, this gives us the supervenience of the modal on the non-modal. But the fact of supervenience in this case still leaves open the question of whether modal facts are all grounded in some congeries of non-modal facts. We get supervenience for free from the impossibility of the modal facts' differing. First, our assumptions both seem to state modal facts. For instance, it seems an evidently modal fact that, if it is possible that Bush have lost the 2000 election, it is necessary that it is possible that Bush have lost the 2000 election. So the assumptions from which the supervenience claim follows do not themselves seem

to be non-modal facts. Second, the involvement of non-modal facts in this circumstance is purely accidental; the modal facts supervene in exactly the same way, for instance, on the table facts, or on the facts about who will win the next Kentucky Derby. We would no more conclude from this that the modal facts are all grounded in non-modal facts, than that the modal facts are all grounded in facts about who won the Kentucky Derby. There is no metaphysical upshot for the supervenience relation in this case. Nevertheless, the supervenience relation does not obtain in virtue of there being any logical entailment by which each modal fact is implied by some non-modal fact. So here, then, is another way in which, perhaps, the modal facts supervene on the non-modal facts without being grounded in them.

The assumptions used to illustrate the supervenience of the modal on the non-modal are substantial and controversial. I myself am sorely tempted in particular by the idea that there are some modal facts which are not representable in the syntax of quantified modal logic.<sup>8</sup> And I do not know of any compelling argument that the axioms of S5 are true. So I do not think that the foregoing example is really a convincing way to establish the supervenience of the

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<sup>8</sup>David Wiggins is, too (Wiggins, 1980, pp. 106-7). The examples I have in mind involve the possession of a modal property by an individual. If such modal facts are not representable in the syntax of quantified modal logic, then the possibility that the modal facts differ does not require counter-examples to S5. Suppose that such facts are not representable in the syntax of quantified modal logic. Then, if “I might not have existed” is false in any situation in which I do not exist, then there is a modal fact, the fact that I might not have existed, which might not have obtained. No counter-example to S5 is required, however, since our assumption “I might not have existed” is not even representable in the syntax in which S5’s axioms are stated.

modal facts on non-modal facts.

Indeed, I am agnostic in general about whether modal facts supervene on non-modal facts in any sense. I am generally inclined to think that we will never know whether modal facts supervene on non-modal facts, just as we will never know exactly how many hairs Franklin Roosevelt had on his head at the close of trading on the New York Stock Exchange on Black Monday, 1929. But if modal facts do not supervene on non-modal facts, then it seems we leave open the circumstance that two situations could agree with respect to all of the non-modal facts, but differ with respect to the modal facts; there could be situations which exhibit a difference that is merely modal. This circumstance may strike some as intuitively bizarre. Whatever our opinion on how bizarre it is for situations to differ merely modally, it should be clear by this point that modal primitivism does not require any particular position on this matter. It is true that I do not endorse the strong assumptions we used to derive the supervenience of the modal on the non-modal. But my reservations are not required by modal primitivism. It is true that I am more generally agnostic about whether the modal facts supervene on the non-modal facts. But this agnosticism is not required by modal primitivism. In short, modal primitivism does not require any particular position on whether the modal facts supervene on the non-modal facts.

Still, if it turned out that modal facts did supervene on non-modal facts, then would not that at least be a reason for suspecting that primitivism was wrong? This section has been an extended argument for a ‘no’ answer to this question. Supervenience by itself gives us no reason to suspect that primitivism is wrong. Whether supervenience indicates grounding should be settled by examining the particular argument for the supervenience relation. If this argument gives us reason to suspect, not just that the modal facts are determined by the non-modal facts, but also that the modal facts obtain in virtue of the non-modal facts, then we have reason to suspect that primitivism is wrong. Otherwise, we do not. So the question of whether the supervenience of modal facts on non-modal facts would indicate a grounding relation turns on the specific explanation of why one should think that there is such a supervenience relation.

## 1.5 Modal primitivism’s prospects

One natural first reaction to modal primitivism is to suggest that it contradicts common sense about modality. As common sense would have it, modal facts obtain in virtue of non-modal facts. Consider, for example, the fact that George W. Bush might have lost the 2000 electoral vote. It is a matter of simple common sense that this modal fact obtains *in virtue of* certain non-modal facts, *e.g.* about how close the electoral vote was, how close the popular vote in Florida

was, and how many eligible voters in Florida were prevented from voting. “In virtue of” here seems to indicate a grounding relation. Despite appearances, however, primitivism does not contradict the common-sense view. The primitivist maintains that, even if the fact that Bush might have lost obtains in virtue of these non-modal facts, it also obtains in virtue of certain modal facts, *e.g.* that those eligible Florida voters who were as a matter of fact prevented from voting might have been allowed to vote. Hence the primitivist may accept that this modal fact obtains in virtue of certain non-modal facts. What the view denies is that the modal fact obtains solely in virtue of those non-modal facts; some modal facts also get in on the action. These modal facts are often taken for granted in our everyday modal discourse, so perhaps they are easily overlooked. Nevertheless, a full specification of the metaphysical grounds for the possibility of Bush’s defeat will include them.

This highlights the challenge that anti-primitivism faces. The anti-primitivist must provide groundings for modal facts in exclusively non-modal terms. Consider again the fact that Bush might have lost the 2000 presidential electoral vote. Someone might attempt to specify the grounds for this fact by reference to things that there might have been, as opposed to things that there merely are. For instance, we might appeal to the fact that there might have been a more charismatic Democratic candidate, an individual distinct from Gore and every other person who actually exists, who

attracted enough Democrats to the polls on Election Day to defeat Bush decisively. And even among those grounds that only mention things that there merely are, some of them attribute modal properties to those things, as opposed to attributing only non-modal properties. For instance, we might appeal to the fact that Gore might have been more charismatic. Both appeals evidently make use of modal facts. The anti-primitivist must claim that in this case, as in all others, there is a ground for the fact at hand that only refers to things that there merely are, as opposed to things that there might have been, and only applies non-modal properties to those things.

Though I have articulated the challenge that anti-primitivist views face, I can offer no single argument against all forms of anti-primitivism. Anti-primitivist views are legion, and each view differs from others in interesting and important ways. Hence each must be confronted on its own, in all of its gritty specificity. But this does not mean that there is nothing to be said in general about the prospects for defending primitivism against various anti-primitivist proposals. I will attempt here to describe a general strategy for defending primitivism.

The strategy was already suggested in our discussion of the common-sense view about the possibility that Bush have lost the 2000 electoral vote. There we found that we cannot fully specify the grounds for this possibility just by talking about what did happen. Some modal facts about what might have happened are also required.

This suggests a dilemma: if we let these missing modal facts into our explanation, then the proposal does not support anti-primitivism; but if we leave them out, then the proposed facts do not ground the possibility that Bush have lost.

The primitivist claims that anti-primitivist proposals face a dilemma when it comes to grounding the test cases. We might call this dilemma the *anti-primitivist predicament*

Either the proposal contains some residual modality, or the non-modal facts at best correlate with, rather than ground, the test case at hand.

This discussion suggests a “divide-and-conquer” strategy for defending primitivism. First, focus the debate on certain particular modal facts that serve as test cases for primitivism. Now, confronted with a particular anti-primitivist proposal for grounding the test case, the primitivist may argue that the proposal founders on one horn or the other of the anti-primitivist predicament. The proposal either (i) contains some residual modality, and so will not sustain anti-primitivism; or (ii) proposes facts that, at best, correlate with, rather than ground, the test case.

The dilemma is also expressive of the primitivist outlook. Primitivists think that some modal facts are absolutely fundamental. So either modality enters attempts to explain these facts at the most fundamental level, or the attempt at explanation fails. The history of philosophy has provided us with a number of notions that we take

to be intimately involved with modality: natures or essences, laws of nature, counterfactuals, and (more recently) possible worlds. These notions are all evidently to some extent technical philosophical notions, requiring explanation. As we shall see, many anti-primitivist views center around providing a non-modal explanation of one of these notions, and then attempting to exploit links between that notion and necessity and possibility to get a grounding for modal facts. The primitivist holds that if, in the course of providing an explanation of one of these notions, you scrub it clean of necessity and possibility, then you break its link with modality.

The strategy requires us to distinguish in many cases between genuine grounding and mere correlation. I have given at best only a rough-and-ready characterization of grounding, so how are we to make such a distinction? Well, my best grip on the notion of grounding is provided by the “in virtue of” locution so common in contemporary analytic philosophy. A fact is grounded in some facts  $P_1, P_2, \dots$  iff that fact obtains solely in virtue of  $P_1, P_2, \dots$ . The “in virtue of” locution requires that there be an explanatory relation between a fact and those facts in virtue of which it obtains. What sorts of explanations do the trick? Rather than attempt to answer these questions abstractly, I propose that we make such a distinction by comparing the anti-primitivist proposals to a paradigm case of genuine grounding that carries the kind of explanation that we are after. I will state the paradigm, attempt to draw several lessons

from it, and then return to the question of how to distinguish in practice between grounding and mere correlation.

Our paradigm of grounding will be the analysis of such chemical facts about water as its density, in terms of facts about configurations of hydrogen and oxygen atoms. For instance, according to the chemist, water has the density it does under certain conditions solely in virtue of facts about how close the  $H_2O$  molecules that make up water get to one another under those conditions. Thus, Water in its solid state is less dense than water in its liquid state in virtue of the fact that, given the peculiarities of the geometry of the  $H_2O$  molecules and facts about the mechanisms by which they are held in a crystalline lattice, when they are in a crystalline lattice there is more distance between them than when they are not.

There are several features of this paradigm that bear mention. First, the molecular theory of water proposed by the chemist does not enjoy immediate intuitive support when considered in isolation. No one, confronted with the bare claim that water is made of  $H_2O$  molecules, should admit that this claim garners immediate intuitive support. Even after we have understood the claim, we should not at first blush be inclined to think that it is true. (Perhaps we also should not at first blush be inclined to think that it is false, but that is a different matter.) But ordinary intuition is not the last word in how facts are to be analyzed. We should not believe the molecular theory of water because it is intuitively compelling in its

own right; it isn't. Generalizing from the case, the first lesson is that *the claim that a certain modal fact is grounded in some congeries of non-modal facts can be true without being intuitively appealing, even on reflection.*

Second, it is plausible to think the explanation of the chemical properties of parcels of water will appeal to bridge principles connecting facts about  $H_2O$  molecules and facts about water. For instance, the explanation will appeal to the fact that, as a matter of necessity, parcels of water are made of  $H_2O$  molecules. This bridge principle states an empirical discovery; it does not have the status of a stipulation or definition. Nevertheless, it still seems that such chemical facts about water as its density obtain solely in virtue of facts about configurations of  $H_2O$  molecules. So chemical facts about water can be grounded in facts about certain configurations of hydrogen and oxygen atoms, even if 'water'-vocabulary that cannot be defined in terms of 'hydrogen'- and 'oxygen'-vocabulary must be used as an ineliminable part of the explanations that accompany the grounding. So the second lesson seems to be that *an anti-primitivist may make appeal to non-trivial bridge principles statable only in modal terms; the ineliminability of modal vocabulary from proposed explanations of modal facts in non-modal terms does not settle the debate in favor of primitivism.*

These two lessons have the combined effect of complicating the assessment of various anti-primitivist proposals. Indeed, they make

it much more difficult to defend primitivism than one might have hoped or feared. Since claims of grounding need not be intuitively compelling, even on reflection, there may and often will be an intuitive gap between a fact and its grounds. G. E. Moore famously argued, with respect to the relation between moral facts and natural facts, that the presence of such an intuitive gap counted against claims that moral facts are a certain species of natural fact.<sup>9</sup> Suppose, for instance, we are arguing over whether the fact that something is good is nothing over and above its contributing to economic growth. Intuitively, given that something contributes to economic growth, it is still an open question whether it is good. Moore argued that the presence of such an open question indicates that the proposal is wrong. This argument has been called the “Open Question Argument” in the literature. For better or worse, our first two lessons indicate that no analogue of the Open Question Argument will settle the debate over modal primitivism. Suppose we ground the fact that water has density 1 in its liquid state under certain conditions in facts about how close  $H_2O$  molecules get to one another under those conditions, how massive an  $H_2O$  molecule is, and the fact that mass is localized in molecules under those conditions. The first lesson indicates that all parties should agree that, even given those “ $H_2O$ ”-facts, it is nevertheless still an open question as to whether *water* has density 1. Now, either we may appeal to the bridge principle to close the open question, or we may not. If we

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<sup>9</sup>(Moore, 1903)

may, then there is really no open question to appeal to. If we may not, then our paradigm case shows that the Open Question Argument is not sound: the density facts about water really are grounded in the “ $H_2O$ ”-facts, despite the existence of an open question.

Our lessons so far have been negative, and make the assessment of particular anti-primitivist proposals more difficult, rather than less. Two further lessons are more positive. The proposal to explain such chemical properties of water as its density in terms of configurations of hydrogen and oxygen atoms need not garner immediate intuitive support when considered in isolation. But that does not mean that grounding is completely unconstrained, that anything goes when it comes to assessing “solely in virtue of” claims. Our paradigm has two relevant virtues. First, given the molecular theory of water, the bridge principles stating, for instance, correlations between how close  $H_2O$  molecules in a crystalline lattice get to one another and how dense water is in its solid state, do not seem at all a matter of coincidence. The molecular theory of water, according to which water is made of  $H_2O$  molecules, and water in its solid state is made of  $H_2O$  molecules in a crystalline lattice, dissolves any sense that the bridge principle state an amazing coincidence. The theory by itself does not enjoy intuitive support, but given that the theory holds, the correlations it claims hold between facts and their grounds are not intuitively unexpected in light of other parts of the theory. We may call this the *coincidence effect*.

Our paradigm of grounding also has another feature that is worth mentioning. Consider again a bridge principle stating a correlation between how close  $H_2O$  molecules in a crystalline lattice get to one another and how dense water is in its solid state. This bridge principle makes claims about  $H_2O$  molecules on one side, and claims about the density of water on the other. Given, again, the chemist's molecular theory of water, the relevance of the claims about  $H_2O$  molecules in the facts about the density of water is intuitively clear. The involvement of facts about hydrogen and oxygen atoms in the density properties of water is manifest. The bits of water which exhibit the properties are composed of hydrogen and oxygen atoms; those atoms are the loci of mass in the water; and so facts about how close these atoms get to one another are intimately involved in how dense the water is. Call this the *relevance effect*.

In this case, the fact that the proposal has the relevance effect explains why it also has the coincidence effect. Assume that the molecular theory is correct. Then it seems that, because " $H_2O$ "-facts are intimately involved in how dense water is, the correlation between how close  $H_2O$  molecules get to one another in a crystalline lattice and water in its solid state having a certain density is no coincidence. But the coincidence effect and the relevance effect are separable in principle, since there may be a number of indirect ways to dissolve any air of coincidence without explaining exactly how the grounds for a fact are involved with it. For instance, our best

thermodynamic theory, taken together with a theory of burners, might claim that rising temperatures in a certain pot of water are correlated with facts about whether the burner on which the pot sits is on. And the theory might have the coincidence effect in this case: given the other claims of the theory, this correlation is not unexpected. Nevertheless, no plausible theory would hold that the facts about whether the water temperature is rising are grounded in facts about whether the burner is on. This is because, while a our theory might have the coincidence effect in the case of the correlation between rising temperature and the state of the burner, no plausible theory would have the relevance effect: even given the theory, the involvement of facts about the burner to facts about temperature is not manifest.

Or is it? This last example demonstrates that we must be somewhat careful about how we understand the kind of relevance required in order for a theory to have the relevance effect with respect to a given correlation. In at least one sense of “relevance”, the relevance of facts about whether the burner is on to facts about whether the water temperature is rising is manifest. There seem to be two ways in which the burner-facts are relevant to the temperature-facts. First, of course, we may suppose that, according to the thermodynamic theory, the burner’s being on causes the water temperature to rise. So the burner-facts are causally relevant to the facts about whether the water temperature is rising. Second, the burner’s being

on provides us with information about the temperature of the water. Our best evidence that the water's temperature is rising, in this instance, might be that the burner is on. So the burner-facts are epistemically relevant to the facts about whether the water temperature is rising. But merely epistemic or causal involvement is not what we are after when we want to know how facts are grounded.

What we are after is the peculiar kind of metaphysical involvement meriting the "solely in virtue of" locutions. Philosophers have used part-whole metaphors to express this kind of metaphysical involvement: we want to know how the facts to be grounded are *constituted*, or what their *constitutive structure* is; we want to know wherein such facts *consist*. I happen to find other turns of phrase more useful: the facts about burners are not *involved with* the facts about whether the water temperature is rising; it is implausible to think *what it comes to* for the water temperature to be rising is that the burner is on. Exact and non-metaphorical expressions of the idea are difficult to come by. So it will be very difficult in many cases to say whether a theory has the relevance effect with respect to a given correlation. It may similarly be difficult to say whether the theory has the coincidence effect with respect to that correlation. Fortunately, I think we have, in the molecular theory of water, a paradigm of a theory which proposes correlations that are surprising, but which nevertheless has the coincidence and relevance effects with respect to those correlations.

As this paradigm illustrates, we expect more of our explanations than that they generate no false predictions regarding the explananda. Proposals to ground modal facts in non-modal facts can then be assessed by determining how well the explanations of modal facts they propose live up to the standard set by the molecular theory of water. The paradigm provides us with tools, however imperfect, to distinguish between grounding and mere correlation. When we are faced with a particular proposed correlation between modal facts and non-modal facts, we should ask whether the rest of the proposal has the coincidence and relevance effects with respect to that correlation. If it does not, then we may conclude that the theory proposes non-modal facts that at best correlate with, rather than ground our test cases.

The danger, of course, in focusing on the paradigm of the molecular theory of water, is that there may be other paradigms of successful grounding which better fit one or another anti-primitivist proposal than does the molecular theory of water. This means that arguments against particular anti-primitivist proposals to the effect that they fail to live up to the standard set by the molecular theory of water are at best provisional. If another paradigm of successful grounding is found, then the proposal must also be assessed against the standard set by that other paradigm.

In this connection, I wish to mention one class of proposals that are, perhaps, naturally taken to be paradigms of grounding: math-

emathical reductions, *e.g.* of arithmetic to set theory. I find the question of whether such reductions should count as examples of grounding difficult, because I have very little in the way of intuitions about what mathematical facts come to. Given the truth of the relevant axioms and theorems, does every number have a successor in virtue of the fact that, for every set  $x$ , there is a set which contains exactly  $x$  and  $x$ 's members? I find the question difficult to answer in any direct way. By contrast, given the truth of the molecular theory of water, it is not difficult at all to believe that water has the density it does under various conditions in virtue of the facts about how close  $H_2O$  molecules get to one another under those conditions.

## 1.6 What is a modal fact?

Modal primitivism, recall, is the view that no further deep metaphysical distinction accompanies the distinction between modal facts and non-modal facts. In particular, there are some modal facts which are not grounded in any congeries of non-modal facts. I have discussed the notion of grounding at some length. But I have not yet touched on the question of what a modal fact is. The question, “What is a modal fact?”, may be used to ask for different information in different circumstances. I will not propose here to provide all the information that might be lacking. In particular, I will focus on the question “Which facts are modal?” rather than such ques-

tions as “what makes a fact modal?”, or “In virtue of what is a fact modal?”

So, which facts are modal facts? Our test cases already provide paradigmatic instances. The facts that Bush might have lost, that it is impossible for a cat to be a field of wildflowers, and that there might have been individuals which do not actually exist all provide paradigm cases. In general, I take our use of such modal vocabulary as “might”, “must”, “possible”, and “impossible” to state a certain fact as a *prima facie* indicator that the fact is modal.

Taking such modal vocabulary as a rough indicator that a fact is modal has two limitations. First, as Kripke (1980) has noticed, we often use such vocabulary to indicate something about our own epistemic state, *e.g.* our own lack of knowledge or certainty. So, a few years ago, government officials were saying, “cigarette smoking may cause cancer”, meaning that they had some reason to think that cigarette smoking does cause cancer. Likewise, hearing someone walking down the hall, but having seen my friend Joe leave for an appointment just five minutes ago, I might say, “Joe couldn’t be walking down the hall”, meaning that I am quite certain that Joe is not walking down the hall.

Distinguishing the epistemic use of modal vocabulary from its use as a means of stating modal claims is a difficult task. The distinction in principle is made by providing examples of claims that are intuitively true, but cannot be true if we insist on interpreting them

so that they state modal facts instead of facts about the current state of our knowledge. Kripke's example is the claim, "Goldbach's conjecture might be true, and it might be false". Presumably, if Goldbach's conjecture is true, it is necessarily true; and if it is false, then it is necessarily false. So, either way, the intuitively true claim turns out false if we insist on interpreting it as stating a modal fact. Instead, what seems to be true is that, at present, we do not know whether it is true or false (and we are not presently in possession of information that settles the question one way or another).<sup>10</sup> Or consider the second example of the last paragraph. Surely, though Joe is in fact not walking down the hall, he might have been walking down the hall, in the sense that it is a possibility for him that he walk down the hall. We may suppose that Joe is an inveterate hall-walker, so that, had he not had the appointment, he would have been walking down the hall. So the intuitively true claim, "Joe couldn't be walking down the hall", cannot be interpreted as stating the modal fact that it is impossible for Joe to walk down the hall; the correct interpretation in this circumstance seems to be, as previously indicated, that I am quite certain that Joe is not walking down the hall.

So there do seem to be these two distinct uses of the modal vo-

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<sup>10</sup>One complication with the example is that, if it turns out that Goldbach's conjecture is false, then there it has a particular counter-example, which can be proved in Peano Arithmetic. So, if it is false, we are in possession of information, the axioms of Peano Arithmetic, that settles the question. I confess that I have nothing helpful to say on this score to rehabilitate the proposed interpretation. Perhaps just knowing the axioms from which the imagined falsity of the conjecture follows is not enough to be in possession of information that settles the question.

cabulary. But establishing this distinction in principle does not help to decide, on any given occasion, whether a particular deployment of modal vocabulary is being used to state something about the utterer's state of knowledge rather than a modal fact. Here there is no substitute for good judgment. I will, however, attempt to aid our judgment by proposing a couple of heuristics to help us distinguish between the different uses of the modal vocabulary. These heuristics will not provide definitions of the epistemic or modal uses of this vocabulary more basic terms, and they will not provide for the eliminability of the modal vocabulary in every context. Rather, they are intended only to aid us in making the judgment on any given occasion as to whether a given claim states a modal fact.

The first heuristic, the *perhaps heuristic*, stems from the availability in English of a word "perhaps" which speakers can use to express their lack of knowledge or certainty. The heuristic works like this: if we are presented with an unembedded "might" or "could" claim, we ask if it can be paraphrased by a claim in which the modal vocabulary is replaced by "perhaps" (with appropriate stylistic changes). If so, then the claim states something about our state of knowledge or certainty. For instance, the government officials' claim, "cigarettes may cause cancer", can be paraphrased, "perhaps cigarettes *do* cause cancer." Likewise, our "Goldbach's conjecture might be true, and it might be false" can be paraphrased, "Perhaps Goldbach's conjecture is true, and perhaps it is false." On the other

hand, given that Bush did win the 2000 election, “Bush might have lost” cannot be paraphrased, “perhaps Bush did lose”.

The perhaps heuristic works well only for unembedded sentences employing “might” or “could”. Negate such sentences, and the heuristic does not seem to help. Consider again, for instance, my claim, “Joe couldn’t be walking down the hall.” Where do we put the negation in a paraphrase? “Perhaps Joe isn’t walking down the hall” is simply too weak. Intuitively, we want to negate the “perhaps”, not the walking. Maybe we could achieve this effect by using the sentential operator “it is perhaps the case that” as our official means of paraphrase, so, *e.g.* “cigarettes may cause cancer” gets the paraphrase “it is perhaps the case that cigarettes cause cancer.” Then the paraphrase of “Joe couldn’t be walking down the hall” would be “It is not the case that it is perhaps the case that Joe is walking down the hall.” I am not sure that this new paraphrase really succeeds in negating the “perhaps” in the paraphrase of the embedded “could”-sentence, so I do not find this strategy useful as an intuitive heuristic device to aid our judgment in particular cases.<sup>11</sup> Fortunately, natural language provides something like an antonym of “perhaps”: “definitely”. We can paraphrase “Joe couldn’t be walking down the hall” by “Definitely Joe is not walking down the hall.” “Definitely” will also help for unembedded

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<sup>11</sup>There is also the question of whether we can really express all of the claims we state using “perhaps” by means of the sentential modal operator, “it is perhaps the case that”. This question is akin to the question of whether we can really express all of the claims we state using “might” by means of the sentential modal operator “it might have been the case that”.

sentences employing “must” or “had to”. For instance, if, in similar circumstances, I conclude, “it must be Kate walking down the hall”, then what I say can be paraphrased by “Definitely it is Kate walking down the hall.” We can call this the *definitely heuristic*. Together, the definitely heuristic and the perhaps heuristic often help us recognize uses of modal vocabulary to state epistemic facts.

These heuristics help us distinguish the two uses of modal vocabulary in very many cases. Consider, for instance, our first test case, the fact that Bush might have lost the 2000 electoral vote. Given our present state of knowledge, we can say with confidence that Bush definitely won the 2000 electoral vote, so our claim cannot be paraphrased by “Perhaps Bush did lose the 2000 electoral vote.” Rather, our claim does not conflict with Bush’s definitely being the victor. We might express the situation by saying, “Though Bush definitely did win the 2000 electoral vote, he might have lost it.” Obviously, “Though Bush definitely did win the 2000 electoral vote, perhaps he lost it” is inadequate. What is under consideration in our test case is definitely a modal fact, rather than a fact about our state of knowledge or certainty. But there may still be a large swath of cases where the heuristic provides little or no help. These cases will be ones in which it is difficult to tell whether the facts at hand are modal or not.

The first limitation of using modal vocabulary as a rough guide to which facts are modal was that there were uses of this vocabulary

to state facts that were, in the relevant sense, non-modal. So modal vocabulary is not sufficient for being a modal fact. The second limitation is that it may not be necessary either. There are a number of notions that we take to be either modal or to have intimate connections with modality: abilities, dispositions, counterfactuals, natural laws, essences, possible worlds, and so on. If they are modal, then we may be able to state modal facts without using the modal vocabulary. For instance, we might use “there is a possible world *w* such that Bush lost” to state a modal fact, if it turns out that *being a possible world* is a modal condition. With the exception of abilities, dispositions, and counterfactuals all of these are technical philosophical notions in need of some explanation. So, as we shall see, the question of whether, *e.g.*, “there is a possible world *w* such that Bush lost” states a modal fact will depend on how one should understand the notion of a possible world. That leaves such natural notions as abilities, dispositions, and counterfactuals. Does “Joe has the ability to speak English” state a modal fact? I am personally inclined to think that it does, despite the fact that none of the modal vocabulary is used. So, whether the notions are technical or not, our judgment will be called upon in particular cases to determine whether we have a modal fact at hand.

Both limitations indicate that there is a crucial and ineliminable role for judgment in determining whether a given fact is modal or not. Judgments may differ in particular cases. Worse, there may be

gray areas, in which our best judgment may make no definitive pronouncement on whether a given fact is modal. Further, as we shall see, one's particular further convictions about the nature of modality may influence which facts one takes to be modal. Nevertheless, a good place to start our investigation is with paradigm cases of modal facts on the one hand, and of non-modal facts on the other. As I have said, paradigm cases of modal facts are provided by our test cases. Paradigm cases of non-modal facts are provided by their non-modal correlates: Bush did not lose the 2000 electoral vote; he is not a gas station; he did not produce the Solar System; he exists; no cat is a field of wildflowers; and there are not individuals distinct from every actual individual. Hopefully none of the applications of the anti-primitivist predicament in what follows depends on any controversial way of drawing the line between modal and non-modal facts.

## **1.7 The plan of action**

So far we have been articulating modal primitivism, and speaking generally about the prospects for defending it against anti-primitivist proposals. The next four chapters will be an attempt to explore the primitivist view and anti-primitivist competitors in detail. I will start out on the defensive. Chapter 2 discusses possible-worlds anti-primitivist views, and briefly maps out how a primitivist should view the role of possible worlds in metaphysics and in logic. Chapter

3 does the same for essence-based anti-primitivist views. Chapter 4 broaches a more semantically-oriented anti-primitivist approach, called *Conceptualism*, according to which modal facts are grounded in the semantic and syntactic properties of the concepts or words we use to express them. The variety of Conceptualist views is briefly canvassed. Kripke's response to Conceptualism, that it cannot account for our controversial test case, the necessity of origins, is reviewed. There are two responses to this problem available to the Conceptualist. The first response, showing how a Conceptualist may accommodate the origin thesis, is discussed. Chapter 5 discusses the second response, which denies that the controversial claim is true in the first place. I outline a new argument for the necessity of origins, and it is shown how various Conceptualist responses to this argument face problems.

## Chapter 2

# Possible Worlds

### 2.1 The possible worlds analysis of modality

We have already said that the anti-primitivist proposes to ground modal facts exclusively in non-modal facts. But how are we to ground the fact that Bush might have lost solely in terms, *e.g.*, of his height, Gore’s parentage, and the political history of the Rehnquist court? Prospects seem dim, and most anti-primitivists don’t propose to try. Instead, some anti-primitivists adopt the strategy of expanding the ontology, finding new entities, new properties, or new relations to do the explanatory work.<sup>1</sup> Note that expanding the ontology in this sense needn’t mean finding new objects to do the work of grounding modal facts. Introducing novel properties or relations among the familiar old entities also counts.

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<sup>1</sup>Supposing this kind of view correct, of course, the entities, properties, and relations have always been with us. They are “new” to us only in the sense that we ordinarily would not have supposed that there were such things.

One ontology-expanding proposal offers to ground modal facts in facts about exotic new entities called *possible worlds*. These entities may not seem novel to contemporary philosophers, who have grown rather comfortable with the term “possible world” in the last fifty years or so. Growing out of seminal work in the model theory of modal logic, the possible worlds analysis of modality has been adapted by metaphysicians to provide the most familiar account of the nature of modality in the philosophical literature.<sup>2</sup>

In recent decades, the possible worlds analysis of modal facts has been a dominant theme in the metaphysical investigation of modal facts. This analysis explains necessity in terms of truth in all possible worlds. The analysis holds the following crucial biconditional to be true:

A sentence of the form “it is necessary that  $\phi$ ” is true just in case  $\phi$  is true in every possible world.

Here, the philosopher’s quantification over possible worlds looks no more modal than the economist’s quantification over pork-bellies. And the notion of truth in a possible world is supposed to be no more modal than the notion of residence in an actual locality. So conditions are ripe for anti-primitivism. If the notion of a *possible*

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<sup>2</sup>In the present section, I oppose an anti-primitivist elaboration of a metaphysical notion of possible worlds. I am not opposing the use of entities called “possible worlds” in the model theory of modal logic. Logicians are typically silent on the specific nature of those entities, though the practice of calling them “possible worlds” is well-entrenched. From the point of view of the mathematical results obtained, it does not matter what these entities are, so long as there are enough of them. The usefulness of this rather spare model-theoretic notion of possible worlds in the metatheory of modal logic is, by this point, beyond question. The usefulness of a metaphysical notion of possible worlds for grounding modal facts is not.

*world* is ultimately given a non-modal explanation, then we will have a proposal to ground modal facts in facts that do not go beyond entities that there merely are — possible worlds and sentences — non-modal relations among those entities. Suppose, on the other hand, that the notion turns out to be modal, so that, for instance, the property *being a possible world* turns out to be analyzed in terms of some modal condition, *e.g. being a set of maximal compossible sentences*. In this case the crucial biconditional, however interesting it may be on other grounds, will not sustain anti-primitivism. So whether the analysis sustains anti-primitivism evidently depends on how the technical notion of a possible world is explained. Prospects for a non-modal explanation of the notion appear dim in light of its label, “possible world”. But that’s just a label: the notion itself deserves a closer look.

Now, the utility of the notion of a possible world in the model theory of modal logic is well-attested by the advances of recent decades. Logicians have shown that the logic of necessity and possibility can be modeled by quantification over possible worlds. And the properties of different modal logics can be modeled by the properties of relations on the space of possible worlds. All these results can be derived without saying much at all about what possible worlds are, and, in particular, whether the notion should receive a modal explanation. These achievements are significant, and suggest that some notion of possible world is indispensable. Nevertheless, de-

spite the utility of the notion of a possible world, I do not think that the non-modal notion of a possible world can serve to ground modal facts, and, in particular, the fact that Bush might have lost. In the remainder of this chapter, I will investigate the prospects for providing a non-modal grounding for modal facts by examining two attempts to provide a non-modal explanation of the notion of a possible world. The first such attempt we will examine will be David Lewis's. Since Lewis's view strikes many as peculiar, I will also examine a less committal anti-primitivist view, which forswears many of the Lewis's substantial claims.

## **2.2 David Lewis's worlds**

David Lewis offers a paradigm case of anti-primitivism by ontology-expansion. In this section I will outline this anti-primitivist view, and then I will propose two difficulties for it. I have two primary aims in this discussion. My first aim is to show that characterizing the view as a form of anti-primitivism is fruitful, even if one is unconvinced that the primitivist side is correct. I claim two principal fruits for casting David Lewis as an anti-primitivist. First, I will argue that exposing the anti-primitivist aims of Lewis's theory explains aspects of his view that might otherwise seem puzzling or peculiar. Second, I will argue that exposing those anti-primitivist aims also allows us to explain why Lewis's master argument for his view seems intuitively unconvincing. My second aim is to present David Lewis as a repre-

sentative anti-primitivist, in order to illustrate primitivism by way of contrast. I will make the point of contrast by arguing that Lewis's theory provides an example of the anti-primitivist predicament for ontology-expanding views. Thus, Lewis's view will provide an example of the more general tack that primitivists may take against a broad swath of anti-primitivist views. My aim here is expository. Our discussion of how Lewis's view encounters the anti-primitivist predicament is not supposed to provide primitivists with an airtight argument against all comers. Rather, it should provide a case study of a defense of primitivism using the anti-primitivist predicament.

We may call Lewis's conception of possible worlds, a *parallel spaces conception*. It is tailored to serve his anti-primitivism. Indeed, I will argue that many of Lewis's theoretical choices flow naturally from his anti-primitivist ambitions. Thus, casting his theory as a form of anti-primitivism helps explain some of those choices. According to Lewis's theory, the whole truth about modality can be summed up in a few sentences. There are many worlds. Each of those worlds is a space, a thing of the same kind as the space in which we all live.<sup>3</sup> Our space, the actual world, is just one space among many, co-existing with the others. There are also many individuals in those spaces. Some of those individuals are in our space; most are not. The things of one space stand in no spatial or tempo-

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<sup>3</sup>It is tempting call Lewis's spaces *universes*, and his view the *parallel universes* conception of possible worlds. I resist the temptation because, to my ear, calling a thing a universe misleadingly suggests that there is nothing outside it. Obviously the suggestion is contrary to Lewis's requirements.

ral relations to the things of another, nor is there causal interaction between spaces; different spaces are causally and spatially isolated from one another. Indeed, Lewis thinks that spaces are individuated by their isolation. If a thing of a space  $x$  bears spatial or temporal relations to a thing of a space  $y$ , then  $x$  and  $y$  are on that account the same space.<sup>4</sup>

No individual is in more than one world on Lewis's view. This point comports with his parallel spaces conception of possible worlds. Perhaps ordinary individuals like Bush can be scattered, having non-contiguous parts that are at some spatio-temporal distance from one another. But surely they cannot have parts that bear *no spatio-temporal relations whatsoever* to one another. So an ordinary individual like Bush cannot be in two entirely separate, disjoint spaces.<sup>5</sup>

Lewis introduces a new relation to accompany his newly-discovered spaces. There are *counterpart* relations among the individuals of different spaces, founded in relations of similarity among them. Lewis's discussion of the counterpart relation is complicated. The official account of the counterpart relation is that an individual  $x$  of world  $w$  is a counterpart of an individual  $y$  iff  $x$  resembles  $y$  closely in important respects, and nothing else in  $w$  resembles  $y$  more closely (Lewis, 1968, p. 114). Importantly, the respects of similarity are supposed by Lewis to be non-modal. Much of the complication comes in ex-

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<sup>4</sup>(Lewis, 1986, pp. 1-2, 69-81).

<sup>5</sup>McDaniel (2004) describes a view that attempts to reconcile the parallel spaces conception with the idea that a single individual is in more than one space. The view accepts that Bush does not have parts in disjoint spaces, claiming instead that Bush is wholly located in disjoint spaces. I will not here pursue the interesting vicissitudes of McDaniel's view.

plaining which similarities are “important”. Though this is taken by Lewis to be a complicated and context-sensitive matter, his particular commitments on this score are inessential to understanding the anti-primitivist nature of his proposal. We only need to note that the counterpart relation is supposed by Lewis to be explained at bottom solely in terms of similarity in non-modal respects, without reference to necessity or possibility.<sup>6</sup>

We now have enough on board to see how Lewis aims to analyze modal facts entirely in terms of facts about spaces, individuals and their counterparts. He analyzes the ordinary notions of essence, contingency, necessity, and possibility in his non-modal metaphysics. Consider again one of our primitivist data, the fact that Bush might have lost the 2000 electoral vote. Lewis’s analysis of this fact is that there is a counterpart of Bush, an inhabitant of some world or other, who lost.<sup>7</sup> This claim is no more modal than the claim that there is an opponent of Bush, an inhabitant of some state or other, who lost. Lewis proposes, then, to show that such apparently modal facts as that Bush might have lost ultimately reduce to non-modal facts regarding the existence of things and the relations in which they stand. Lewis’s explanations for modal facts do not go beyond the attribution of non-modal properties and relations to entities that there merely are. The explanations therefore meet the anti-primitivist’s requirements for an acceptable grounding for modal facts.<sup>8</sup> Lewis

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<sup>6</sup>See the discussions at (Lewis, 1968, pp. 114-6) and (Lewis, 1986, p. 88).

<sup>7</sup>(Lewis, 1986, pp. 12-3).

<sup>8</sup>How does Lewis respond to an objector who agrees with him about the nature of the

himself, of course, recognizes the anti-primitivist potential of the view he is propounding, and cites it as a major reason to adopt his view over competing primitivist metaphysical theories of modality.<sup>9</sup> Lewis himself recognizes that his view is a paradigm case of anti-primitivism.

A short exegetical note. The view I am describing here follows Lewis's discussion in *On the Plurality of Worlds* (Lewis, 1986). As I have said, Lewis's anti-primitivism is explicit in that discussion. Lewis's earlier expositions (*e.g.* in "Counterpart Theory and Quantified Modal Logic" (Lewis, 1968) and *Counterfactuals* (Lewis, 1973, pp. 84-91)) are more equivocal. For instance, in *Counterfactuals* (Lewis, 1973, p. 84), Lewis indicates that a possible world is a *way things could have been*. Lewis gives no further analysis of this claim in *Counterfactuals*, but he does suggest in that book another explanation of the notion which seems less friendly to primitivism. He indicates (Lewis, 1973, p. 85) that a possible world is *an entity of the same kind as the world which we inhabit*. On its face there is nothing modal about the second gloss. Indeed, Lewis's more recent parallel spaces conception can be seen as a way of working out in more detail what kind of thing he meant. Further, even in his

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spaces, but disagrees with him about how many there are? For instance, an objector might claim that, though Lewis is absolutely correct about the nature of spaces, there is only one space, the one we all inhabit. This is important in the present discussion, because Lewis's analysis of modal facts assumes that there is a space of the right sort to ground every possibility. Lewis attempts to establish the plurality of spaces by endorsing principles of recombination: roughly speaking, for any two individuals, even of distinct spaces, there is a single space containing any number of exact duplicates of both individuals (Lewis, 1986, pp. 86-92). None of our objections to Lewis's view will turn on this controversial doctrine.

<sup>9</sup>(Lewis, 1986, pp. 150-1, 156)

earliest work on possible worlds, in Lewis (1968), Lewis takes it as given that a single individual cannot inhabit more than one world. I have argued that this claim is the natural upshot of the parallel spaces conception. The standard view is that Lewis maintained and elaborated a single view on the metaphysics of possible worlds throughout his career. Casting his view as an articulation of anti-primitivism, however, provides a more complicated picture. According to this picture, Lewis's view started out as a mixture of primitivist and anti-primitivist conceptions of possible worlds. Later, he distinguished these strands, and embraced the fully anti-primitivist conception whole-heartedly, while criticizing the primitivist conception. For the rest of this section, we will focus only on Lewis's later, unequivocally anti-primitivist theory. In particular, the view I will call Lewis's from now on endorses the anti-primitivist parallel spaces conception of possible worlds.

Lewis's proposal raises an interesting exegetical question. Should we take Lewis to claim that his analysis of modal facts is the upshot of a semantic thesis about the meanings of our ordinary modal idioms? On this view, the analysis seems like the analysis of facts about vixens in terms of facts about female foxes. Or should we take him to claim instead that it is the upshot of a theoretical identification? On this view, the analysis at hand is more like the analysis of chemical facts about water in terms of facts about certain configurations of hydrogen and oxygen atoms. The question is difficult,

and I will not attempt to answer it here. I will simply assume that Lewis would take his thesis to be more like a theoretical identification, since this strategy avoids such controversial claims as that the semantics of ordinary English modal idioms are given by the quantificational analyses Lewis proposes.

As we have noted, the possible worlds analysis of modality has become a philosophical commonplace. Lewis's special conception of possible worlds as parallel spaces is not so widely shared.<sup>10</sup> There is no shortage of other conceptions in the philosophical literature. Why, then, choose Lewis's parallel spaces conception as a representative anti-primitivist view, instead of some other conception?

Explanations of those other conceptions of the notion of a possible world tend to appeal at some point to modal facts: possible worlds are maximal *compossible* sets of propositions (Adams, 1974); Possible worlds are maximal states of affairs that either do obtain or *could have* obtained (Plantinga, 1973); possible worlds are complete *ways things might have been* (Stalnaker, 1976). Absent further analysis, then, these more popular alternative conceptions of possible worlds are not suited to support an anti-primitivist metaphysics. Indeed, one of Lewis's arguments against these alternative conceptions and in favor of his own conception is that they admit some modal facts as primitive (Lewis, 1986, pp. 150-1). Lewis's parallel spaces conception, on the other hand, is very natural if we

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<sup>10</sup>Critics hold that Lewis's parallel spaces conception is undermotivated. See, *e.g.*, (Stalnaker, 1976, pp. 67ff.), (Sider, 2003), and (Salmon, 1988).

take the aim of the possible worlds analysis to provide a non-modal grounding for modal facts. We have argued that other features of Lewis's view, including the claim that ordinary individuals like Bush do not exist in more than one world, flow very naturally from this conception. When seen in light of its anti-primitivist ambitions, then, Lewis's parallel spaces conception seems to be a natural view.<sup>11</sup> Those anti-primitivist aims set Lewis's theory among the great foundational projects of philosophy: if Lewis is correct, then a non-modal language, containing ordinary quantifiers over parallel spaces and their contents, suffices to describe the metaphysical structure of the world, including all of modal reality. From the point of view of Lewis's anti-primitivism, this is what the ontology of possible worlds is supposed to do. If we accepted some primitivist conception of possible worlds, then, from Lewis's point of view, the invocation of possible worlds would lose its metaphysical point.

### **2.3 The ontological objection**

The primitivist must reject Lewis's view. What is there to be said against it? We will not examine all the objections that have been or could be proposed. Instead, we will focus on just two difficulties. Lewis's theory has two parts. The ontological part of the theory tells us that there are many spaces and many individuals in them, standing in counterpart relations to one another. The analytical part of

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<sup>11</sup>Sider (2003) agrees, see pp. 187–92.

the theory proposes analyses of what modal claims mean, broadly speaking. The two difficulties we will discuss attend, respectively, these two parts of Lewis's theory.

Let us start with the ontological part of Lewis's theory, the thesis that there are many spaces, containing many individuals. In our least philosophical moments we are not inclined to believe that, in addition to all the donkeys, people, continents, and planets that inhabit this space, there are also other spaces, hitherto unknown, with other donkeys, people, continents, and planets. Lewis's grounding of modal facts in non-modal facts requires this commitment. Lewis himself admits that having this strong, counter-intuitive ontological commitment is a problem for his view (Lewis, 1986, pp. 133-4). His response to this problem is that the counter-intuitive consequences are compensated by the theoretical benefits he believes accrue to the adoption of his view. According to Lewis, his new ontology can be used to answer some old philosophical questions. First and foremost, of course, the ontology answers questions about the metaphysical status of modal facts. But he uses it to answer lots of other philosophical questions as well, including questions regarding the contents of knowledge and belief, and the nature of properties.

Lewis notes that other counter-intuitive ontology-expanding theories have been proposed on apparently similar grounds. Lewis himself proposes an analogy with the ontology of set theory. According to Lewis, we should endorse the ontological claims of set theory be-

cause those claims provide a relatively simple, unified theory capable of expressing most, if not all, of mathematics.(Lewis, 1986, p. 4). In another realm, we should endorse an ontology which includes those unfamiliar and invisible entities, electrons, because it provides us with a simple, unified theory capable of providing scientific explanations for many electro-chemical phenomena.<sup>12</sup> Similarly, Lewis argues, if only we believe in those unfamiliar and invisible entities, parallel spaces, then we will have a simple, unified theory capable of solving stubborn philosophical problems. The argument here relies on the analogy between Lewis's ontology of parallel spaces and these other successful ontology-expanding theories: just as in those other cases, it is reasonable to believe Lewis's ontology because it is fruitful. Lewis's response here is his master argument for his view.

Highlighting the anti-primitivist aims of the theory allows us to frame a difficulty for this master argument. I will call this objection the *ontological objection*. Suppose for the sake of argument that we accept Lewis's view of why it is reasonable to believe in sets. Suppose also that we accept the analogous view of why it is reasonable to believe in electrons. Let us also accept Lewis's claim that his parallel spaces ontology is fruitful, in that it solves lots of nagging philosophical problems.<sup>13</sup> Noticing that Lewis's view is anti-primitivist

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<sup>12</sup>Lewis does not himself appeal to this scientific analogy.

<sup>13</sup>Hence, we set aside a different objection, that, contrary to Lewis's claim, the ontology of parallel spaces delivers no theoretical benefits, beyond a reduction in the number of primitive metaphysical notions. I am sympathetic with this objection. Set theory shed new light on the nature of the infinite, and facilitated in large measure the study of ordinals, cardinals, and transfinite arithmetic. Electron theory shed new light on various electrochemical phenomena. But, at least when it comes to modality, the parallel spaces ontology seems to me to shed no new light. Consider, for instance, a question I will address at length later on: is it possible

provides a crucial point of difference with the cases of set theory and electron theory. The sets of the iterative hierarchy are supposed to be mathematical entities. But then the set-theoretician is confirming an ontology of hitherto unknown mathematical entities. The mathematical hypothesis that there are sets is *confirmed* by its mathematical fruits. Likewise, the physicist confirms an ontology of certain microscopic physical entities – electrons – by the fact that this ontology allows us to explain various physical phenomena. The physical hypothesis that there are electrons is *confirmed* by its physical fruits.

Lewis’s proposal is different. Unlike set theory, it involves a physical hypothesis. Lewis is asserting the existence of certain mutually isolated spaces, filled in part with certain matter (*e.g.* the matter making up Bush’s counterpart in a space in which that counterpart lost an electoral vote). The existence and nature of space and matter are at the core of physics. Part of the job of that science is to say what spaces there are, what they are like, and how they are filled. So the thesis of a plurality of isolated spaces, containing all manner of things, is a paradigmatic physical hypothesis.<sup>14</sup> But, unlike

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for a certain table to have originated from a hunk of wood other than that from which it was actually produced? According to Lewis’s analysis, this is possible just in case there is a space in which the table has a counterpart made from a non-counterpart of the hunk from which it was actually made. It seems to me that, assuming Lewis’s analysis is correct, the modal question will shed light on the corresponding question about spaces and counterparts, rather than *vice versa*. Lewis himself claims that the fruits of his theory are mostly a matter of improved theoretical unity and economy. Is mere economy of primitives enough fruit to justify the intuitive cost? I don’t happen to think so myself, but I am not here urging this objection against Lewis.

<sup>14</sup>I am not contending that Lewis’s physical hypothesis *competes* with other hypotheses of contemporary physics, which might assert, *e.g.*, that there is only one space. Lewis thinks that, when we use quantifiers to state non-modal facts, we usually do not include all that there is in the range of our quantifiers. In particular, we typically quantify only over our space and

electron theory, this physical hypothesis is not invoked to explain physical phenomena. Rather, Lewis thinks the *physical* hypothesis is confirmed by its *philosophical* fruits. Lewis cannot bolster the reasonability of his ontology by appealing to the analogies with other ontology-expanding theories. The analogy with the ontology of set theory is weakened because Lewis's hypothesis of a plurality of spaces is a physical hypothesis. The analogy with electron theory is weakened because the hypothesis is not invoked to explain physical phenomena. These crucial points of difference in turn cast doubt on Lewis's master argument, since, at least initially, the argumentative procedure of confirming a physical hypothesis by its philosophical fruits does not seem reasonable.

It is worth noting that the ontological objection does not rely on the naive idea that physical hypotheses can never garner support from philosophical quarters. The point I am urging against the master argument is really much narrower: the case of the parallel spaces conception is importantly disanalogous to set and electron theory. The points of disanalogy here undermine the master argument. The ontological objection, however, does rely on another naive idea, that the procedure of confirming a physical hypothesis solely by its philosophical fruits does not seem reasonable.<sup>15</sup>

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the things it contains (Lewis, 1986, p. 5). Hence, if a physicist should claim that there is only one space, all the other spaces are not in the range of the quantificational expression "there is", so what she says is technically true. Perhaps this argument shows that Lewis's hypothesis does not *compete* with contemporary physics, but it does not show that it is not itself a physical hypothesis.

<sup>15</sup>A defender of Lewis's anti-primitivism might accept the ontological objection, and rework the ontology so that it no longer makes claims about what spaces there are, how those spaces are related, and how they are filled. This would mean giving up on the parallel spaces concep-

This suggests that Lewis should just bite the bullet here; he should just give up the analogies with set theory and electron theory. Neither case provides an example of a physical hypothesis confirmed on philosophical grounds. Hence, what we need here to bolster the master argument is an independently plausible paradigm that better fits the case of parallel spaces. I am not enough of an expert in the history of ideas to confidently claim that there is no such paradigm to be found. But in the absence of such a new paradigm, it still seems unreasonable to support Lewis's hypothesis by advertising to its fruitfulness in solving problems regarding the natures of modality, properties, and content.<sup>16</sup>

Nothing we have said here forecloses the possibility that Lewis's master argument can be bolstered by the provision of a new paradigm from the history of mathematics or science. Nevertheless, I think the objection explains why, even if we accept Lewis's analytic claims for the sake of argument, his master argument still seems unconvinc-

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tion of possible worlds altogether. Supposing this could be done without "going primitivist", this move would restore the analogy to set theory. The resulting theory is obviously a radical departure from Lewis's view. Though there is much to say about it, the view is obviously beyond the purview of the present section. I will discuss a view which attempts to vindicate possible worlds anti-primitivism without making Lewis's commitments to parallel spaces in section 2.6 below.

<sup>16</sup>Brian Skyrms has also objected to Lewis's exposition in *Counterfactuals* on the grounds that it proposes a physical hypothesis (Skyrms, 1976). Skyrms argues in effect that, since worlds are concrete, the hypothesis that there are other worlds can be confirmed only by their being required in our best physical theories. Lewis's response at (Lewis, 1986, pp. 110-5) is, in summary, that Skyrms has not established the link between the claim that worlds are concrete, and that they require confirmation of the same sort as physical hypotheses. Notice that our discussion above bypassed the question of concreteness entirely. Also notice that our objection rests in large measure on the apparent disanalogy between Lewis's parallel spaces conception on the one hand and set and electron theory on the other, rather than on some claim about how physical hypotheses must be confirmed. Skyrms's early insight in this case should not, however, be underestimated: in both cases the present treatment has benefited from having in hand Lewis's later exposition in *On the Plurality of Worlds*.

ing. Lewis's anti-primitivism requires him to explain the nature of his novel entities in some evidently non-modal manner. Appealing to the physical notion of a space seems to be a natural approach to this task. But this appeal makes his ontological claim into a physical hypothesis. And the master argument requires that this ontological claim be confirmed by its philosophical fruits. This feature of the case belies his analogy to the cases of set and electron theory, undermining the appeal of the master argument. If this diagnosis is correct, then recognizing the anti-primitivist aims of Lewis's theory has borne some fruit. It has provided us with an explanation of why Lewis's master argument seems unconvincing.<sup>17</sup>

## 2.4 The analytical objection

What can be said against the analytical part of Lewis's theory? The second difficulty, the *analytical objection*, is that Lewis's analysis of the modal facts that constitute the primitivist's data is counter-intuitive. Primitivists take their data to resist grounding in non-modal terms, so the primitivist will reject the analytical part of Lewis's view. The primitivist will claim that the loss of some electoral vote by someone else in a different space, bearing no spatio-temporal relations to Bush at all, is irrelevant to what might have happened to Bush. From the primitivist perspective, Lewis's analytical claim will therefore seem counter-intuitive.

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<sup>17</sup>Here I attempt to answer a question posed at (Sider, 2003, p. 194).

Thus Kripke (Kripke, 1980, p. 45n) writes jokingly, with respect to Lewis's analysis of 'Humphrey might have won the 1968 election', "Probably, however, Humphrey could not care less whether someone *else*, no matter how much resembling him, would have been victorious in another possible world. Thus Lewis's view seems to me even more bizarre than the usual notion of transworld identification that it replaces." I take one argument behind the joke to be that Lewis's analytical claim proposes a ground for the modal fact that Humphrey might have won that is intuitively irrelevant to that fact. Lewis's analysis for the claim that Humphrey might have won is that Humphrey has a counterpart in some other space who did win. But, the argument goes, the victory of some counterpart at some other place and time is intuitively irrelevant to whether Humphrey might have won here in 1968. Kripke is claiming, as a primitivist would, that it is intuitively bizarre to think that the victories of other individuals in other elections in other spaces has anything to do with the fact that Humphrey might have won here, any more than the victories of other individuals in other elections in other countries has anything to do with it.<sup>18</sup>

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<sup>18</sup>I interpret the argument here as an objection to Lewis's analytical claim, proceeding from a metaphysical intuition about what is relevant to the fact that Humphrey might have won: *pace* Lewis, other victories in other elections are irrelevant. Other commentators interpret the passage differently. (Hazen, 1979, pp. 320-1), for instance, claims that Kripke's argument proceeds instead from intuitions that the truth values of "Humphrey might have won" and the sentence expressing Lewis's proposed analysis diverge. One might also attempt to discern in this passage an argument in favor of a semantics for modal English in which possible worlds have overlapping domains. Such an interpretation is suggested by the occurrence of the footnote in a sustained discussion of whether possible worlds can be *stipulated* to contain such ordinary individuals as Humphrey. Since my purpose here is not to interpret Kripke, but to illustrate a strategy for defending primitivism, I will not pursue the interesting exegetical questions.

The difficulty here is an instance of the anti-primitivist predicament. If the fundamental notion of possible worlds is supposed to be *ways the world might have been*, including *ways Humphrey might have been*, then the relevance of facts about worlds to modal facts about Humphrey is manifest, but we do not have a form of anti-primitivism. On the other hand, if, with Lewis, we think of other possible worlds simply as other places, then we lose the relevance of facts about them to modal facts about Humphrey. So it seems we are stuck with either a primitivist ontology or an intuitively implausible analytical claim. At a more general level: if the novel ontology is explained in exclusively non-modal terms, then it will seem irrelevant to the modal facts it is supposed to ground. Lewis's theory does not have the relevance effect.

The analytical objection would not persuade Lewis. He can embrace the second horn of the dilemma, admitting that facts about who won other elections are intuitively irrelevant to whether Humphrey might have won the 1968 election. His proposed groundings are surprising; nevertheless, his analysis specifies the conditions under which the claims the primitivist takes as data are true (Lewis, 1986, pp. 12-13). Lewis himself would admit that his analytical claims do not enjoy immediate intuitive support when we consider them in isolation. But ordinary intuition is not the last word on how facts are to be analyzed. The analysis of chemical facts about water in terms of facts about certain configurations of hydrogen and oxygen

atoms does not enjoy immediate intuitive support, either. Instead, Lewis would argue, his analytical claim is supported by a broader consideration of the advantages garnered by the overall theory.

It is true that ordinary intuition is not the last word on how facts are to be analyzed. But the response in this case still seems to miss its mark. Consider an analogous objection to the analysis of such chemical facts about water as its density, in terms of configurations of hydrogen and oxygen atoms: “facts hydrogen and oxygen atoms just do not seem to be relevant to the facts about how dense water is.” The objection is not compelling because, assuming the chemist’s ontology is correct, the relevance of facts about hydrogen and oxygen atoms in the density properties of water is manifest. The bits of water which exhibit the properties are composed of hydrogen and oxygen atoms; those atoms are the loci of mass in the water; and so facts about how close these atoms get to one another are intimately involved in how dense the water is. The chemist’s ontology has a built-in response to the objection. To deploy the vocabulary introduced in chapter 1, the chemist’s theory has the relevance effect.

Lewis’s non-modal ontology of worlds does not have such a built-in response. Hence, the problem with the possible-worlds proposal is not that the possible-worlds ontology and proposed correlation with modal facts is counter-intuitive at first blush; the deeper problem is that, even assuming that the ontology is correct and the correlation holds, the possible-worlds analysis does not explain the involvement

of worlds in modality in the manner that one would expect a successful grounding to do.

## 2.5 Modal continuants and the analytical objection

There are a number of moves that Lewis could make here to respond to the analytical objection. One response is suggested by remarks he actually makes in response to Kripke's objection — the joke which we have interpreted as a form of the analytical objection. Lewis's non-modal ontology of parallel spaces has room for mereological constructions out of parts from different, disconnected parallel spaces. Thus Lewis defines the notion of a *modal continuant*:

[L]et us call X a *world-stage* of Y iff (1) X is a possible individual, entirely in one world, and is a part of Y; and (2) X is not a proper part of any other individual of which the same [*i.e.* being a possible individual and a part of Y] is true. And let us call Y *counterpart-interrelated* iff any two world-stages of Y are counterparts. And let us call Y *maximal counterpart-interrelated*, or for short let us call it a *modal continuant*, iff (1) Y is counterpart-interrelated; and (2) Y is not a proper part of any other individual of which the same is true. (Lewis, 1983, p. 41)

Modal continuants have parts that bear no spatio-temporal relations to one another. One may doubt whether there is a mereological composition relation that results in a whole whose parts bear no spatio-temporal relations whatsoever to one another. But suppose we follow Lewis in allowing that there is one. Modal continuants will therefore track the counterpart relations in virtue of which, according to Lewis's original view, things like Bush bear the modal properties that they do.

Lewis might now claim each among the ordinary things to which we attribute modal properties is one of these constructions. So, for instance, Bush is an individual who has as parts an inhabitant of this space which won the 2000 election in this space, and also an inhabitant of another space which lost a similar election in that space. I will call the world-stages of a modal continuant its *avatars*. Lewis possess the ingredients to analyze the possibility that Bush have lost in terms of his having an avatar that did lose.

This view faces some awkward commitments. We are intuitively inclined to think that one and the same thing both won the election and might have lost it. But, on Lewis's view, it might seem as if only a part of Bush — his avatar in the actual world — won the election, though Bush himself might have lost it. Lewis might resolve this awkwardness by arguing that, though it is only Bush's avatar that won in the first instance, Bush also has the property of winning in virtue of having a part (his actual avatar) that has the property of

winning. If we have allowed Lewis the kind of mereological composition needed for the construction of modal continuants, it seems a small concession to also allow him to attribute non-modal properties to these continuants inherited from the non-modal properties of their avatars. So let us also allow Lewis this move.<sup>19</sup>

Allowing such inheritability of non-modal properties has a second untoward consequence. Bush has the non-modal property of winning in virtue of having an avatar that won. But he also has an avatar that lost. So why doesn't Bush have both the property of *being the winner* and the property of *being the loser*? Lewis will have to restrict the non-modal properties inherited by Bush to those which are had by his actual avatar, excluding avatars in other parallel spaces. So Bush has the property of *being the winner* in virtue of having an actual avatar which has that property, *i.e.*, in virtue of actually being the winner. He has the property of *possibly being a loser* in virtue of having an avatar, actual or not, which has the property *being a loser*. This account of the grounds for Bush's having the non-modal property, *being the winner*, might be thought to get the order of explanation wrong. One might think that possession of a property *being actually  $\phi$*  should be explained in terms of having a property *being  $\phi$* , rather than *vice versa*. The possession of an actuality property should be explained in terms of possession the unvarnished property, not the reverse. But, given that the relevant

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<sup>19</sup>He still owes us an explanation of the distinction between such inheritable properties of avatars as *being the winner* and such non-inheritable properties as *having no avatars distinct from itself*. Let us also assume that something can be done about this.

notion of actuality is technical, intuitions may be no very firm guide in this matter.

A variant of Lewis's theory can appeal to modal continuants. How does this help with the analytical objection? Well, the objection gets an intuitive foothold because the victories of individuals other than Bush in other spaces seemed irrelevant to the fact that Bush might have lost here in 2000. To put the point crudely, the victories are in the wrong place, at the wrong time, with the wrong participants. But, if Bush is a modal continuant, then those victories, though victories of numerically distinct individuals, are victories of parts of Bush. Hence, it is no longer so clear that they are irrelevant to the possibility of his losing.

In truth, I think the analytical objection can still be made to stick, even if we accept the continuant-theory's ontological commitments, and confine our attention to the modal properties of modal continuants. For it still seems to me that the losses of Bush's avatars in other parallel spaces, no matter how closely resembling his actual avatar, do not seem to be involved in the possibility that a Bush lose here and now. Likewise, the losses of non-avatars that closely resemble Bush's actual avatar in other countries do not seem to be involved. Further, the actual losses of Bush's actual avatar in other elections at other times in this parallel space, though perhaps providing good evidence that Bush might have lost, do not seem to be involved. In short, I think that the analytical objection survives the

move to modal continuants.<sup>20</sup>

Worse, even if we have an answer to the analytical objection for modal continuants, it can still be stated for avatars. The novel ontology of modal continuants gives us a distinction between things which we did not distinguish before: there are modal continuants on the one hand, and their avatars on the other. We have granted to the continuant-theories that “Bush” refers to a modal continuant. But to which things, intuitively, does the property *might have lost* attach? Is it the modal continuant or its actual avatar? Does that property attach to the continuant, the thing which has parts which bear no spatio-temporal relations whatsoever to one another? Perhaps, though I would hesitate to take such a claim as data. Clearly, however, the property does attach to the avatar, the living, breathing thing which campaigned, speechified, and, in the first instance, won the election. What we should take as data is that this thing might have lost. The analysis provided by the continuant theory of the datum with respect to this thing is no different from Lewis’s analysis: the avatar has the property of being a possible loser in virtue of having a counterpart who lost. Even supposing the continuant theory answers the analytical objection when posed with

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<sup>20</sup>Lewis agrees that modal continuant theory does no better against Kripke’s objection than his original theory. He writes:

If Humphrey yearns to think only of himself and nobody else, it is no use that he the thinker is part of the same mereological sum as some winner. That much is provided by the thisworldly sum of Humphrey and Nixon! No; what matters is that the modal continuant is counterpart-interrelated, so that the thinker of the thought has a winner for a counterpart. [...] If more is wanted, I do not think the theory of modal continuants can provide it. (Lewis, 1983, p. 42)

It is not clear whether Lewis is interpreting Kripke’s remarks about Humphrey as I have.

respect to the continuant, it still lacks an answer to the analytical objection when posed with respect to the original focus of our investigation.

None of this excludes some further response to the analytical objection on Lewis's behalf.<sup>21</sup> Even if none of these moves work out in his favor, he could admit the objection as an intuitive cost, and still insist that it is compensated by the theoretical benefits of his parallel spaces conception. It was never my aim to put Lewis's view and all of its variants to bed, and I cannot, of course, claim to have done so with the analytical objection. We do have, however, a vivid example of how primitivism might be defended using the anti-primitivist predicament.

## 2.6 A less committal view?

One lesson that one might take from the arguments of the last two sections is that Lewis's particular parallel spaces conception of possible worlds should not be adopted by the anti-primitivist. Our objection, that Lewis's theory did not have the relevance effect, seemed to turn on the fact that Lewis proposes to analyze, *e.g.*, the modal properties of Bush in terms of the non-modal properties of someone else, living in another space. The argument turned on the fact that electoral losses of other individuals in other spaces are no more relevant to the possibility that Bush have lost here in 2000 than

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<sup>21</sup>See, for instance, McDaniel (2004). As might perhaps be clear from the text, I am skeptical about the extent to which such responses evade the anti-primitivist predicament.

are the electoral losses of other individuals in other countries. The intuitive force of the argument seems to turn on the fact that it is not Bush himself who appears in those other spaces. I have argued that the fact that one and the same individual does not, on Lewis's view, inhabit more than one possible world, is a natural upshot of the parallel spaces conception of possible worlds. Hence, it might appear as if one could avoid the analytical objection by abandoning the parallel spaces conception.

Surely one may advance a non-modal conception of possible worlds without embracing Lewis's parallel spaces conception. Here is one attempt at a non-modal explanation of the notion of a possible world which is less committal than Lewis's. According to this conception of possible worlds, the notion should not be given some modal explanation. We shouldn't even call them *possible* worlds; we should just say 'worlds' (as Lewis does in his later work). On this conception, worlds are what they are, and not another kind of thing. They are just a certain kind of thing. We can, perhaps, say a lot about how things of this kind are related, what properties they have, and even how we ought to reason concerning them, but we cannot give any further explanation of what it is to be a thing of this kind. Nevertheless, it is clear on this view that, like other kinds of things — rocks, trees, sets — there's nothing modal about being a thing of this kind.

This conception of possible worlds might seem at first to avoid

the analytical objection, since it does not commit its proponents to the parallel spaces conception. This first impression is misleading. It faces substantially the same difficulty as Lewis's theory did. This theory does not seem to have the relevance effect.

A crude illustration, if you'll permit me, shows why. If worlds are just a certain kind of thing, then they might as well be rocks. Imagine someone told you that "it is possible that  $\phi$ " is true iff there is a rock with a certain relational property, in virtue of which  $\phi$  is "true in" that rock. Then you might think "That's amazing!", but I don't think that we should be inclined to agree that the possibility that Bush have lost obtains solely in virtue of the existence of a rock with a certain complex relational property. This is not to deny that we might exploit the correlation to discover extremely interesting things about the structure of modal facts. (Thus the interest and value of the work I have mentioned in the model theory of modal logic. As a matter of fact, there are probably not enough rocks to serve the purposes for which standard model theories of modal logic use the entities called "possible worlds." Of course, the formal work exploits a correlation between modality and *sets* instead of rocks. The same point can be made, with some loss of vividness, with respect to sets.) But I do not think the rock-facts would seem at first blush to provide anything like a grounding for the possibility that Bush lost. Why not? Why do rock-facts seem badly suited to grounding the fact that Bush might have lost? Well, it's just that,

even if we accept the ontology of rocks and the correlation between the existence of rocks with certain complex relational properties and the possibilities for Bush, these rocks just do not seem to be involved in the fact that Bush might have lost.

Notice that the objection would fail if we adopted a modal explanation of the notion of a world broached earlier. Suppose possible worlds are *ways things might have been*, including *ways Bush might have been*. Then facts about *ways Bush might have been* do seem to be intimately involved in the fact that Bush might have lost. Of course, as we have noted, this explanation of the notion of a possible world is explicitly rejected by the proposal at hand.

The problem here is recognizably that the world-theory does not have the relevance effect: the involvement of the rock-facts in the modal facts they are supposed to ground is not made manifest, even when we accept the correlation claimed by the theory. And the dialectic will go the same way in this case as it did in the case of Lewis. The anti-primitivist proponent of this non-modal conception of possible worlds may complain that ordinary intuition is not the last word on how facts are to be analyzed. And the counter-response will still be that, though ordinary intuition is not the last word on how facts are to be analyzed, we still expect successful analyses to have the relevance effect. Thus, the analysis of chemical facts about water in terms of configurations of hydrogen and oxygen atoms, though as counter-intuitive at first blush as the worlds-theory, neverthe-

less has the relevance effect. Hence, the fundamental problem with possible-worlds anti-primitivist does not turn on the peculiarities of Lewis's alternative spaces conception. Less committal conceptions still encounter the analytical objection.

## Chapter 3

# Essence

This chapter discusses essence-based anti-primitivist views. All such views propose that modal facts are all grounded in facts about the essences of things. The notion of an essence, along with the closely related notions of something's nature, something's having a property essentially, and something's having a property by nature, is a technical term. Thinking about this technical notion has a very long pedigree in the history of philosophy, going back at least to Aristotle. Hence, the notion of essence has gotten a number of different explanations in the work of different philosophers.

One popular way of explaining this notion is explicitly modal: “ $x$  has  $P$  essentially” just means “ $x$  is necessarily  $P$ ”. And then the essences of things will be given by all of their essential properties. Two alternative modal notions provide slightly different explanations. On the first alternative, “ $x$  has  $P$  essentially” just means “It is necessary that: if  $x$  exists, then  $x$  has  $P$ .” Being an essential

property of  $x$ , on this view, is being a property that is necessary for  $x$ 's existence. A second explanation centers on identity rather than existence. This alternative claims that " $x$  has  $P$  essentially" just means "It is necessary that, for any  $y$ , if  $y = x$ , then  $y$  has  $P$ ."<sup>1</sup> Being an essential property of  $x$ , on this view, is being a property that is necessary for being identical to  $x$ . The questions of whether these formulations are equivalent and whether either is equivalent to the original formulation, " $x$  is necessarily  $P$ ," turn on questions which we will not broach here, including the relation between  $x$ 's existing and there being something identical to  $x$ , and the relation between  $x$ 's being necessarily  $P$  and its existing only contingently. Setting these questions aside, suppose that we adopt one or another of these alternatives for explaining essence. Then the attribution of essential properties to things just comes to the attribution of modal properties to things, and we do not have a form of anti-primitivism.

We get a form of anti-primitivism only if we give a non-modal explanation of the technical notion. There is no shortage of apparently non-modal explanations in the literature. Each such notion yields a distinctive anti-primitivist proposal. I will concentrate on only two: a kind-based essentialist view, and a definition-based essentialist view. In each case, I will argue that each proposal faces the anti-primitivist predicament. But before we explore the vagaries of each of these views I will attempt to outline the challenges that

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<sup>1</sup>An apparently stronger variation: "Necessarily, for any  $y$ , necessarily, if  $y = x$ , then  $y$  has  $P$ ."

any essence-based anti-primitivist view will face when attempting to ground our test cases. I will make suggestions about how such a view might overcome these challenges. Neither the challenges nor the suggestions for meeting them will turn on which explanation of the technical notion of essence and related notions is adopted. That is, I will attempt to show how one might hope to use facts about essence to ground modal properties, independently of which explanation one gives for the technical notion of essence. We will be discussing what might be termed *mere* essentialist anti-primitivism: the core claims that need to be made by any essence-based anti-primitivist view.

My main aim here is expository. Nevertheless, I believe that the exposition will show that, in order to carry out the anti-primitivist programme, the essentialist view has to make controversial metaphysical commitments, not supported in any direct way by our pre-theoretical commitments. Hence, though my aim is primarily expository, I think these reflections will counter the impression that the essentialist anti-primitivist view is the natural, intuitive default view regarding how modal facts are to be grounded.

### **3.1 Mere essentialist anti-primitivism**

Consider our first primitivist datum, the fact, regarding Bush, that he might have lost the 2000 electoral vote. How might we ground this fact in facts about essence? One explanation that has seemed

promising to philosophers is to suggest that this possibility obtains in virtue of the very nature or essence of things. Broadly speaking, the idea is that something is possible if and only if it is consistent with the essences or natures of things. What properties does Bush have essentially? The standard candidates are that he is human, he is a thinking thing, he is rational, he is an animal, he is alive, and so on. We can have disagreements about which properties Bush has essentially, but, however such discussions turn out, it is surely consistent with Bush's essence or nature that he lose the 2000 electoral vote. Hence, on this view, the possibility that Bush have lost is grounded in the consistency of Bush's losing with his having all those properties which he has essentially.

As we have noted, we will need some non-modal explanation of the notion of having a property essentially. We will quickly get to proposals for such explanations. In the meantime, we need only note that, however such an explanation goes, there will be at least a notional distinction between having a property necessarily and having it essentially. This distinction is often defended by citing properties that, *e.g.*, Bush has necessarily, but not essentially; the notional distinction is defended by citing a difference in extension.<sup>2</sup> According to this defense, there are differences in the extensions of “*x* has *P* necessarily” (or one of the alternative modal formulations) and “*x* has *P* essentially.” An example in the standard mold is Bush's having the property of *belonging to* {*Bush*}. According to philosophical

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<sup>2</sup>See, for instance, (Fine, 1994) for a *locus classicus* of this defense.

orthodoxy, Bush has the property of *belonging to*  $\{Bush\}$  necessarily. But it is no part of Bush's essence to belong to any set. So the property of *belonging to*  $\{Bush\}$  is not an essential property of Bush.<sup>3</sup>

Now there are several further aspects of the essence-based proposal which deserve comment, even in advance of any explanation of its central technical notion. The first is that the proposal requires the *consistency* of Bush's losing with each thing's having all those properties which it has essentially. Those steeped in the logical tradition will normally expect that consistency is a property of, or a relation between, sentences, propositions, beliefs, or some other sentence-like representation. But that does not seem to be the kind of consistency broached in the proposal for explaining the possibility that Bush have lost. No explicit mention of sentences or any other kind of representation is made when we claim that Bush's losing is consistent with his having all those properties which he has

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<sup>3</sup>This example is complicated by the evident contingency of Bush's existence. Some are tempted by the thought that Bush does not have the property *belonging to*  $\{Bush\}$  necessarily, because it is contingent that Bush exists in the first place. There surely is *some* notion of necessity, *e.g.* Prior's notion of *weak necessity* (Prior, 1956), on which one can have a property necessarily, even though one exists contingently and having that property requires existing. (It is weakly necessary that  $Fx$  iff it is necessary that, if  $x$  exists, then  $Fx$ ; alternatively, "It is weakly necessary that  $Fx$ " is true iff " $Fx$ " is true in every world in which  $x$  exists.) Given the need to make this distinction, it is perhaps too strong to claim, as I have, that Bush's having that property necessarily is a matter of philosophical orthodoxy. At least one of the alternative formulations does not seem to have this problem. It really is a matter of philosophical orthodoxy that it is necessary that Bush has the property *belonging to*  $\{Bush\}$  if Bush exists. Also, this problem is circumvented if we take the number 2 as our example instead of Bush. For it is a matter of philosophical orthodoxy that 2 exists necessarily. Unfortunately, insofar as we have any pre-theoretic convictions about essence at all, we have at best a tenuous pre-theoretic conviction that *belonging to*  $\{2\}$  is not an essential property of 2. (For that matter, I personally have at best tenuous intuitive convictions about the essential properties of Bush.) I should note in the interests of full disclosure that I have idiosyncratic suspicions in the philosophy of mathematics that run counter to the philosophical orthodoxy; that is why I have refrained from advancing the orthodoxy as an evident matter of fact.

essentially. Perhaps it will turn out that the best way to understand that claim is in terms, *e.g.*, of the consistency of propositions. Presumably there are essentialist views which take the consistency to be between sentences or propositions. But that would only be one theoretical choice. There are interesting metaphysical questions regarding the nature of such things as Bush's losing; but only one view, among many, identifies such things with representations.

Another choice would remain robustly realistic about the things that were taken to be consistent. On this other view, Bush's losing is consistent with his being a human being, and representations of any sort are just not involved. The consistency is quite independent of any means of representing the things which are consistent. This second view thereby seeks to avoid talk of propositions, sentences, or beliefs altogether, in favor of talking about things and the relations in which they stand. In this way, the view attempts to avoid awkward questions regarding the existence and structure of the relevant representations, and the expressibility of the modal and essentialist facts by their means. None of the discussion, I hope, will turn on whether the essentialist has taken this second way, or has instead identified entities like Bush's losing with propositions.

The formulation of the essence-based proposal so that it really supports anti-primitivism is a tricky matter. We have said that this view holds that the possibility that Bush have lost is grounded in the consistency of Bush's losing with his having all those properties

which he has essentially, *e.g. being a human being, being rational, etc.* Similarly for modal facts involving relations: the necessity that Bush belong to {Bush} is grounded in the inconsistency of his not belonging with the singleton's and Bush's having all of the properties they essentially.

All this may take care of relations among individuals. But not all of the primitivist data involved relations among individuals. Consider, for example, our primitivist datum regarding kinds, that it is impossible for there to be a cat which is also a field of wildflowers. The view we have discussed so far does not seem fitted to handle this case, since the claim does not involve individuals. It is too weak to suggest that this fact obtains solely in virtue of the facts that Tibbles's being a field of wildflowers is inconsistent with his essence, that Tiger's being a field of wildflowers is inconsistent with his essence, and so on for the rest of the actual cats. This leaves open whether there might have been another, special individual, distinct from Tibbles, Tiger, and every other actual cat, whose existence and whose being both a cat and a field of wildflowers is consistent with its essence. If there might have been such a thing, then, there might have been a thing for whom being both a cat and a field of wildflowers is a possibility.<sup>4</sup>

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<sup>4</sup>This may not *quite* establish the falsity of our datum: what is established is, at best, a doubly-modal claim that there might have been a thing which might have been both a cat and a field of wildflowers. This establishes at most the possible possibility that there be a cat which is also a field a wildflowers, and so does not contradict the impossibility of there being a cat which is also a field of wildflowers. But presumably it is also a datum that the original impossibility is not contingent. Not only is it impossible for there to be a cat to be a field of wildflowers, it is impossible that it be possible for there to be a cat to be a field of wildflowers.

An essentialist might make appeal at this point, not just to the essences of the cats that there are, but also to the essences of cats that there might have been. But this would be to abandon the anti-primitivist project. There is, however, another response available: following Kripke, the essentialist might propose to treat kinds on a par with individuals.<sup>5</sup> Kinds, like individuals, have essences, and possibilities for those kinds are given by what's consistent with their essential properties. In fact, no departure from the original view is made, so long as kinds themselves, in addition to their members, are among the individuals which may bear modal properties. Then the datum that it is impossible for there to be a cat that is also a field of wildflowers can be grounded in facts about what's consistent with the essences of the kinds *cat* and *field of wildflowers*. For essentialists would be happy to maintain that it is inconsistent with the essence of the kind *cat* that it has a field of wildflowers as a member.<sup>6</sup>

This leaves our last, and most general, primitivist datum, a sweeping metaphysical claim that mentions no particular individual or kind. According to this datum, there might have been individuals distinct from every actual individual. Here it might seem as

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<sup>5</sup>(Kripke, 1980, pp. 127, 134, *passim*). Technically, Kripke proposes explicitly to treat *names* for kinds on a par with *names* for individuals. This technically leaves somewhat open whether the kinds themselves bear some metaphysical kinship with individuals. But Kripke is committed to enough kinship so that kinds are the sort of thing that can be *referents* for name-like expressions.

<sup>6</sup>I must confess here that my intuitions on this matter are nowhere near firm in the absence of any explanation of the notion of essence at hand. It nevertheless seems as powerful and central a part of the essentialist tradition to attribute essential properties to kinds as it is to attribute essential properties to individuals. For instance, philosophers in this tradition claim not only Bush's being a human being, but also human beings' being rational, as paradigm cases of essence.

if the essentialist proposal we are pursuing is really stuck. No particular individual- or kind-essences will do the trick. Suppose it is consistent with the essences of all the actual individuals that there be an extra individual distinct from each of them. This still will not secure the possibility that there be such an individual. For the purposes of illustration, consider the claim that it is possible that there be a natural number which is distinct from every actual natural number. Suppose further that we thought that the essence of a natural number imposes only first-order constraints on its *predecessors* (together with their consequences), rather than, say, higher-order constraints on the entire domain of natural numbers. So, for instance, the essence of 3 may require that there it have only 0, 1 and 2 as predecessors, but it does not require that every number has only finitely many predecessors. Then the existence of an extra, non-standard natural number, for instance, would be *consistent* with the essences of each of the actual natural numbers. But this does not secure the possibility that there be such a non-standard natural number. Similarly, the consistency of the existence of an extra individual with the essences of all of the actual individuals just seems too weak to secure the possibility at hand. In the case of the natural numbers, perhaps an essentialist who held that the essence of a natural number imposes only first-order constraints on its predecessors would fall back on the essence of the kind *natural number*. But there don't seem to be any particular kinds involved

in our datum. What should the essentialist do?

There seem to be two alternatives. The first alternative is to take “individual” to be a natural kind. Then we can fall back on the essence of the kind *individual*, just as, in the case of natural numbers, we fell back on the essence of the kind *natural number*; it is possible that there have been individuals distinct from every actual individual solely in virtue of the fact that there being such an individual is consistent with the kind *individual*’s having all of its essential properties. (Perhaps a similar strategy is available if we take *being*, *distinctness*, or *actuality* to be kinds with essences of their own.) A second alternative is to take account of the essence of a certain special individual, the world itself. According to this alternative, possibilities are grounded in consistency with the essences of things, kinds, and the world which contains those things and kinds.

What are the constraints on attributions of essential properties to the kind *individual*, or to this world? Are there any constraints that are independent of the anti-primitivist proposal at hand? That is, are there any constraints on attributions of essential properties to the kind *individual* or to this world, other than the requirement that such attributions respect the possibilities? I confess that I am at a loss here. It seems that what we need to answer this question is a more developed theoretical exploration of the notions of essence, individual, and world.

We started with the apparently simple, if obscure, thought, that

possibility is just consistency with the essential properties of things. The application to our data has revealed that, in order to make good on that seemingly simple thought, we have to make theoretical claims, *e.g.* about the essential properties of kinds, the essential properties of the kind *individual*, or the essential properties of the world. I hope that this at least establishes that anti-primitivist essentialism needs such substantial metaphysical commitments that it should not be regarded as an intuitive default position in the metaphysics of modal facts.

I turn, then, from the exploration of mere essentialist anti-primitivism. I will leave in this incomplete and provisional state the attempt to explain how essentialist anti-primitivist theories might be developed independently of any particular non-modal explanations of the technical notion of essence and its close cousins. I will move on to prominent attempts to explain these notions. I will examine attempts to explain essence in terms of fundamental explanatory kinds, definitions, and processes of production.

## **3.2 Kind-based essentialism**

Here's a sketch of one very popular way of explaining the notion of essence, a kind-based essentialist view. In specifying the essence or nature of a thing, we specify *what it is*, in the philosophically weighty sense. The essential properties of a thing will be given by its membership in the fundamental explanatory kind or kinds to

which it belongs. For instance, when we ask what Bush is, in the philosophically weighty sense, the appropriate response will be that he is a human being. A human being is what he is. The fundamental kind or kinds of a thing are supposed to explain in turn various of that thing's dispositions and abilities. For instance, the fact that Bush can beget human beings obtains in virtue of his being a (young healthy male) human being. (I am skeptical, by the way, that it obtains *solely* in virtue of these non-modal facts, but I will not press that point here.) Hence his being of the fundamental kind that he is underlies very many of the modal facts concerning him.<sup>7</sup> Where what is under discussion is the object of some scientific investigation, we will typically defer to natural science to tell us what the fundamental explanatory kinds are. So, in the case of Bush, we might defer to biologists to tell us what he is. (Or, perhaps, we might defer to psychologists, anthropologists, philosophers, or maybe even political scientists — human beings turn out to be a difficult case.) In this case, the biologist's answer, "*a human being*", seems to fit the bill. On this view, the possibility that Bush have lost obtains solely in virtue of the consistency of his losing with his being a human being (together with the other essence-facts required, *e.g.*, about the kind *human being* and the world).<sup>8</sup>

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<sup>7</sup>Thus, the kind-based essentialism under discussion here makes contact with the Aristotelian notion of a *nature*. Aristotle claims in *Physics*, II, 192b21ff., that *natures* are principles of change, growth, and development. Such a "principle" would be expressed in various of the dispositions and abilities that a thing has. Indeed, Aristotle himself appeals to our example of Bush's having the ability to beget a human being as an example of the operation of a *nature* in his sense. (193b7-18).

<sup>8</sup>A proponent of kind-based anti-primitivism is (Wiggins, 1980). He also counts his view a form of Conceptualism, to be discussed in chapters 4 and 5 below. But the essentialism is

Three points of clarification. First, nothing in the kind-based essentialism requires that an individual have only one fundamental explanatory kind. For instance, it is perfectly consistent with the view that Bush has both *human being* and *animal* as fundamental explanatory kinds. Secondly, nothing in kind-based essentialism requires that the kinds form a taxonomic hierarchy; it is perfectly consistent with the view that  $K_1$  and  $K_2$  both be fundamental kinds for some common things, without one kind being a “sub-kind” of the other. For instance, it is perfectly consistent with the view that Bush has both *human being* and *male* as fundamental kinds, even though some males are not human beings, and some human beings are not males. So the view does not deny that fundamental explanatory kinds are sometimes orthogonal to one another.

The third complication is a little more subtle. It is perfectly consistent with the view that there be some kinds  $K$  which have members, some of which have  $K$  as a fundamental explanatory kind, and others of which do not. Let’s take an artificial example, just for the sake of illustration. Suppose that *being either a human being or beloved of Alexander the Great* is a kind. Both Bush and Bucephalus are members of this kind. But the view does not require that this is the fundamental kind for both. This might be a fundamental explanatory kind for Bush, without being one for Bucephalus.

Let’s try to get a more interesting example. Suppose that *male* is a fundamental kind for Bush. Suppose also, as I have read, that

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separable from the Conceptualism, so, for simplicity’s sake, we will deal with both separately.

there are amphibians which can change sex under certain circumstances. So a male amphibian of this sort may be male one week and female the next. Bush does not have this ability. (To avoid complications introduced by the availability of transgender surgery we might have to qualify these remarks so that they apply only to some such kind as *biological male*.) It is perfectly consistent with the kind-based essentialist view we are here considering that *male* be among Bush's fundamental kinds, but not among one of those amphibian's.

Thus, the view does not center on the monadic notion "*K* is a fundamental kind". In this case, the essentialist might hold that the kind *male* is not a fundamental kind *tout court*. It is fundamental for some of its members, and not fundamental for others. The view centers instead on a relation between kinds and their members: "*K* is a fundamental kind for *x*". Correlatively, we should not assume that "*K* is a fundamental kind for *x*" is to be analyzed as "*K* is a fundamental kind, and *x* is a member of *K*." In a quest for passable style, I will sometimes use "*x* is a member of fundamental kind *K*" or "*K* is *x*'s fundamental kind", and so on, for "*K* is a fundamental kind for *x*." These three points of clarification have the cumulative effect of showing that the kind-based essentialism is not wedded to the existence of a rigid taxonomy that neatly compartmentalizes all of nature. Contrary, perhaps, to the reputation of kind-based essentialism, the view may allow that the kind-facts on the ground

can be quite messy.

It certainly seems as if the facts that are supposed to ground the possibility that Bush have lost are thoroughly non-modal. So why doesn't this vindicate anti-primitivism? Well, it seems to me that the proposal does not carry the kind of explanation of the possibility of Bush's losing that one would expect from a grounding. To my mind, it would be an amazing coincidence if there turned out in general to be a correlation between what was possible and what was consistent with the essences of things. In short, the proposed explanation does not seem to me to have the coincidence effect. Since a grounding should have the coincidence effect, I think there is reason to suspect that we have no grounding.

But perhaps the proposed explanation really does have the coincidence effect, and my inability to see that it does is due to my own lack of understanding or imagination. Perhaps, that is, I am just being obtuse. To see why I am not just being obtuse here, I want to tease out a commitment of the kind-based essentialist view under discussion, and then consider another datum, regarding this silkworm pupa, that it might have failed to be a pupa. The commitment first. Suppose that a thing has a property  $P$  essentially. The view requires that it is possible for a thing to have a property only if having that property is consistent with that thing's having the properties that it has essentially. Obviously, then, the view will require that our thing could not have had *not*  $- P$ . Hence a thing's

having property  $P$  essentially (or by its very nature) requires its necessarily having  $P$ . (Maybe, again, we should say “its necessarily having  $P$  if it exists”). Call the necessities so-grounded the *essentialist necessities*. Any view, kind-based or not, according to which necessity is just consistency with essential properties has this commitment. It is just the flip side of the alleged correlation between the possibilities for things, and consistency with their having their essential properties. On the kind-based view we are considering, however, one species of essentialist necessity deserves special attention. The view under discussion here requires a correlation between a thing’s being a member of fundamental kind  $K$  and its being  $K$  necessarily. We might summarize the commitment by articulating this *Kind-Necessity Connection*:

**(KNC)** if  $K$  is a fundamental kind to which a thing belongs, then that thing is necessarily a member of  $K$ .

Consider now the fact, regarding a particular silkworm pupa, that it is possible that it not have been a pupa. According to the kind-based essentialist view, when we ask what our little creature is, in the philosophically weighty sense, the appropriate response will be that it is a silkworm. A silkworm is what it is. It is consistent with its being a silkworm that it fail to be a pupa. This fact (along, perhaps, with other facts regarding the world and the kinds *silkworm* and *pupa*) grounds the modal fact that being a non-pupa is among this little creature’s possibilities. Here we defer to biologists to tell

us what it is, and the biologist's answer seems to fit the bill. Faced with this proposal, I would say the same thing I said last time. It seems to me that it would be an amazing coincidence if there turned out in general to be a correlation between what was possible and what was consistent with the essences of things. Since a grounding should make clear why such a correlation is no coincidence, I think there is reason to suspect that we have no grounding. But this time, I think more can be said by way of argument for this dissatisfaction.

Suppose, for instance, we asked a counterfactual biologist what our little creature is — which fundamental kinds it belonged to. Nothing in our explanation of the notion of what something is, or the notion of a fundamental kind prevents her from answering, “That is a silkworm pupa”. But if that had been her answer, then the view would be committed against the datum, regarding this little creature, that it might have failed to be a pupa. For if what this creature is is a silkworm pupa, then (KNC) requires that it be a silkworm pupa as a matter of necessity. Its being a silkworm pupa would be an essentialist necessity. The general point is that there seems to be no reason to think that the fundamental kinds of science are going to line up with the modal facts in the way required by this view. The example of the counterfactual biologist is supposed to illustrate this general point.

Notice that there are two ways that the essentialist might avoid all this rigamarole. Both tacks involve abandoning anti-primitivism,

so taking either one of them would be a modal way out of our problem. First, an essentialist may adopt a modal constraint on the notion of something's belonging to a fundamental kind. According to this constraint, a thing has fundamental kind  $K$  only if it is necessarily a member of  $K$ . We noted that this claim (KNC) is a prediction of the kind-based theory we are discussing. Adopting it as a side constraint promotes it from a mere prediction to part of the fundamental explanation of the notion of kind at issue. Notice, by the way, that modalizing the notion of fundamental kind would provide many apparently non-modal facts, *e.g.* the fact that this little creature is a silkworm, with a modal component. Call this the *modalized notion of kind*. Given our datum, this would rule out the kind provided by our counterfactual biologist, "That is a silkworm pupa." Alternatively, an essentialist could cleave to the non-modal explanation of the notion of kind, but just adopt (KNC) as a fundamental explanatory principle. On this alternative, (KNC) would be a brute modal fact not grounded in any congeries of non-modal fact. This would also rule out the recalcitrant answer provided by our counterfactual biologist, "That is a silkworm pupa." But, of course, absent further analysis, taking either tack would render the view unsuitable for supporting anti-primitivism. The modal way out is not available to an anti-primitivist.

"Hold on a second," our essentialist might object. "You cheated when you imagined that the counterfactual biologist gives the an-

swer ‘silkworm pupa’ to the question, ‘What is this little creature?’ She shouldn’t give that answer, and any biologist worth her salt wouldn’t give that answer. The answer that she would and should give lines up with the necessary properties of this creature in exactly the way that my view requires. So we don’t have a counter-example here.”

The objector is correct; no counter-example is forthcoming here. The point was more delicate: if we link essences to fundamental explanatory kinds, with no modal constraints whatsoever, then it will be at best an amazing coincidence if it turns out that essential properties and necessary properties line up in the way the view requires. Nothing in the notion of a fundamental explanatory kind *prevents* our counterfactual biologist from giving her recalcitrant answer, “this is a silkworm pupa.” The proposed grounding does not have the coincidence effect. So we do not seem to have anything like a grounding of the fact that this creature might have failed to be a pupa given only the facts about what it is.

Indeed, there are cases where *factual* practitioners of other historical sciences make kind-attributions that have the same sorts of features as our *counterfactual* biologist’s classification of this creature as a silkworm pupa. Suppose that, faced with a particularly beautiful crystalline rock, we asked a geologist what that rock is, which fundamental kind it belonged to. Suppose that the geologist told us that it was marble. Suppose we asked him to say a little

more about marble. He might say something like this: “a marble is a metamorphic rock, a limestone or dolomite, that has been subjected to very high temperature and pressure.” If we ask him what a metamorphic rock is, then he might give the following answer: “A metamorphic rock is a previously existing rock that has acquired a new mineral composition or new structures, or commonly both. The change from the older rock to the new rock was affected by a process acting within the Earth’s crust, termed metamorphism. Such metamorphism takes place in response to changes in the geologic environment to which the pre-existing rock was subjected. The resulting metamorphic rock may retain vestiges of the original characters of the rock from which it was derived, but commonly the changes have been so thorough that the original characters were obliterated and the product is to all appearance a new rock.”<sup>9</sup> The parallel with the example of our counterfactual biologist is clear. The counterfactual biologist claimed that what our little creature is is a silkworm pupa; but the creature nevertheless pre-exists its being a pupa. According to our factual geologist, what this rock is is marble; but it nevertheless pre-exists its being marble.

Again, I am not suggesting that we have a counter-example here. I am personally unsure whether our geologist’s metaphysics of rocks is correct. There seem to be two ways in which one might seek to correct him. One might first insist that the rock does not pre-exist

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<sup>9</sup><http://www.geologynet.com/introform.htm>, “Introduction to Rocks and Minerals - A Classic Introductory Text to Rocks and Minerals”.

its being marble. The right way to describe the case is that an old rock, a limestone or dolomite, was replaced with a numerically distinct new rock, a marble. The product is not just “*to all appearance* a new rock” — it *really is* a new rock. Alternatively, one might accept that one and the same rock was once non-marble, and is now marble, but just draw the conclusion that marble is not the fundamental kind of this rock. The word “marble” is just a ‘phase sortal’, indicating a kind that is not fundamental.<sup>10</sup> One might take the first tack, denying that it is one and same rock all the way through, if one had taken the modal way out I talked about just a little while back, and were convinced that the geologist is correct to say that the fundamental kind of this rock is marble. One might take the second tack, denying that *marble* is really a fundamental kind, if one had taken the modal way out, and were convinced that the geologist was right to say that this rock pre-existed its being marble. But, if we avoid the modal way out, as an anti-primitivist must, both responses strike me as in need of motivation. So, again, I am not suggesting that the geologist is correct. I am suggesting that, unless we take the modal way out, there is no reason to expect the crucial correlation between essence and necessity, between what something is and how it had to be, required by (KNC). Since a grounding relation would give us reason to expect this correlation, we have reason to suspect that we have in the essentialist view no grounding for the possibility that our little creature have failed to

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<sup>10</sup>See, *e.g.* (Wiggins, 1980).

be a pupa.

### 3.3 Essence and definitions

Let us next consider an essence theory according to which the essential properties of a thing are those properties it has in virtue of its definition. The *locus classicus* of this view is Kit Fine’s “Essence and Modality”.<sup>11</sup> In the hands of some, this view might become a kind of nominal essentialism, according to which a singular term like “{Socrates}” may be defined in such a way that it grounds the necessities for the thing it denotes.<sup>12</sup> This kind of nominal essentialist claims that the definition of a singular term like ‘{Socrates}’ gives the essence of the thing that term designates.<sup>13</sup> This is not Fine’s view, and we will not be discussing it here.

Fine’s theory, the one in which we are interested now, differs from the nominalist essentialist in two ways. Definitions have a different *subject*, and different *constituents*. First, the subjects of Fine’s definitions are not usually singular terms, or indeed linguistic or conceptual items of any sort. Fine does not hold that the definitions on offer are always of singular terms, or of terms of any

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<sup>11</sup>(Fine, 1994)

<sup>12</sup>This view would count as a form of Conceptualism, to be discussed in chapters 4 and 5.

<sup>13</sup>There will be problems with this view when we confront the evident fact that a single thing may be designated by various singular terms, which are not interdefinable. For example, Socrates’s singleton set may be designated by “{Socrates}”, but also by the less standard “the set used as an example by Kit Fine in “Essence and Modality””. Perhaps a proponent will distinguish between those terms whose definitions give the essence of the thing, and those which do not. Perhaps instead the proponent will acknowledge that nothing has an essence independently of how it is designated; essences are had only “under a description”. We will not explore the issue here.

sort. Rather, he holds that the *things themselves*, independently of how they are designated, are defined. The definitions themselves also have different constituents. They are not made up of words or concepts, but of the very stuff of reality: things, properties, and relations. For instance, it is plausible to claim that the definition of {Socrates} contains the property of having Socrates as a member. So on this view it is essential to the set {Socrates} that it have Socrates as a member. The contrast with the nominal essentialism discussed above could not be sharper. Definitions are composed of things and properties, rather than representations of them. Hence, the way is open for our essence theorist to hold that the composition of the definition of a thing may, like the composition of a chemical substance, be available only *a posteriori*.<sup>14</sup> Let us follow Fine in calling the thing-involving definitions *real definitions*, in order to mark their distinction from the nominalist essentialist's definitions.

The way is still open, furthermore, for our essence theorist to eschew providing a grounding for necessities. He might explain the notion of a real definition in modal terms. For instance, he might hold that the definition of a thing  $x$  contains all those properties (other than those whose possession trivially implies being identical to  $x$ ) the possession of which, as a matter of necessity, a thing has just in case it is identical to  $x$ . This is also not the essence theorist in which we are interested, since such a view would render real defi-

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<sup>14</sup>In conversation Fine has said he believes that some definitions are discoverable only by empirical investigation.

nitions unsuitable for use in the service of anti-primitivism. Further, this view is ruled out by Fine's defense of his own view in "Essence and Modality". Fine's own example of a necessary property that is not essential rules out the proposed explanation. We have already cited what is essentially Fine's example in the discussion of the essentialist's distinction between having a property essentially and having a property necessarily; Fine claims that it is a necessity for Bush that he be a member of {Bush}.<sup>15</sup> Indeed, this property is both necessary and sufficient for being Bush. It is nonetheless not an essential property of the man.

This modal explanation of the notion of a real definition cannot be marshaled in support of anti-primitivism. If we eschew the modal explanation of the notion, however, then we may have the material we need to support anti-primitivism: any necessities for an actual thing which are grounded in its definition will be grounded in non-modal facts. We need the explanation of the notion of having a property  $P$  essentially, but that is easy to produce: a thing has a property  $P$  essentially iff  $P$  is a constituent of the thing's real definition. Now we can just apply the skeletons of explanations provided in our discussion of mere essentialist anti-primitivism above. Bush might have lost the 2000 electoral vote solely in virtue of the fact that his losing is consistent with his having all those properties which he has essentially. And similarly for the other data.<sup>16</sup>

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<sup>15</sup>Technically, Fine's example centers on Socrates, rather than Bush, but the difference seems irrelevant in the present circumstance.

<sup>16</sup>Fine, to the best of my knowledge, is no anti-primitivist. So we are here exploring a view

My fundamental objection to the claim that modal facts are grounded in facts about real definitions is similar to my earlier objection to the kind-based essentialist view. To my mind, without any modal constraint on the notion of a real definition, it would be an incredible coincidence if it turned out that the properties that constituted Bush's real definition were properties he could not have failed to have. In short, a theory that would explain all modal facts in terms of facts about real definitions does not have the coincidence effect. As before I will press this objection by first making explicit the correlation on which the proposed grounding relies, and then suggesting that it would be an amazing coincidence if the correlation held.

The correlation first. The explanation of the modal properties of a thing in terms of its real definition requires not only that the thing have a real definition, but also that the real definition have a modal upshot. The constituents of Bush's real definition, for instance, must be properties that he could not have failed to have. We can express this commitment to the *Definition-Necessity Connection*:

**(DNC)** if  $P$  is a constituent of a thing's real definition, then that thing necessarily has  $P$ .

As with (KNC), (DNC) provides a modal way out of the objection for the definition-based essentialist. But no anti-primitivist may avail himself of this modal way out. The anti-primitivist must not 

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which, though suggested by his writings, is not Fine's.

take (DNC) to explain the notion of a real definition. And the anti-primitivist must not take (DNC) to be a primitive modal fact regarding real definitions. Rather, an anti-primitivist must take (DNC) to state a prediction of his theory.

And now the objection will be that, even supposing that (DNC) is true, and so we have no counter-example to the essentialist view, it will still seem like an amazing coincidence that every property that is a constituent of a thing's real definition is also a property that it has necessarily. Nothing in the notion of a real definition (unconstrained by (DNC)) prevents contingent properties, *e.g.*, of Bush, from figuring in his real definition. Perhaps starting with the example of the real definition of {Bush} tends to obscure this fact. For, however the notion of a real definition is explained, presumably the real definitions of such mathematical entities as impure sets will involve only their mathematical properties. In this case, Fine quite sensibly takes the real definitions of impure sets to involve their membership properties, as opposed to such non-mathematical properties as, for instance, being thought interesting by academic philosophers. So *containing Bush* is part of {Bush}'s real definition, but *being used as an example by Kit Fine in "Essence and Modality"* is not. And, of course, it is a matter of philosophical orthodoxy that mathematical entities could not have failed to have their actual mathematical properties.

Switch the example, and the impression that the properties that

are part of a thing's definition are properties it has necessarily will go away. Consider again our silkworm pupa. Why shouldn't *being a pupa* be a part, however temporary, of its real definition? Or, supposing the factual geologist is right about our marble's having once failed to be marble, why shouldn't *being a marble* be part of its real definition, even if it turns out that its being marble is only a relatively recent turn in its career? Looking a little farther afield, why shouldn't such ordinary historical entities as baseball teams have their membership properties as part of their real definitions? For instance *having Alex Rodriguez as a player* it could now be a part of the real definition of the New York Yankees, even though the team has not always had A. Rod as a player, and certainly does not necessarily have him as a player.

Ordinarily, we take definitions of terms to specify modally necessary and sufficient conditions for being in the extension of that term (as *we* use it, with the meaning it *actually* has). Of course, not any specification of modally necessary and sufficient conditions for being in the extension of a term will count as a definition of the term. But any definition of a term will specify modally necessary and sufficient conditions for being in the extension of the term. Any proposed definition which fails to specify such necessary and sufficient conditions will not really count as a definition of the term.

It is easy, then, to import this constraint to the discussion of real definitions, which, as the name would suggest, are supposed

to be in some way importantly analogous to definitions of terms. Hence, when first introduced to the notion of a real definition, we may naturally latch on to a modalized notion of real definition, according to which the real definition  $D$  of a thing  $x$  is necessarily such that, a thing has all the properties in  $D$  iff it is identical to  $x$ . (DNC) is evidently a consequence of this modalized notion of real definition. But we have already dismissed a proposed explanation of this sort; the anti-primitivist cannot avail himself of this quite natural explanation of the notion of real definition. The explanation of the notion of a real definition must be completely free of any modal constraint for the purposes of anti-primitivism.

There are plenty of substitute explanations of the notion that seem promising. Explanations in terms of part-whole relations spring immediately to mind. Perhaps the real definition of a thing comprises its *parts*, or, alternatively, all those things which *constitute* the thing.<sup>17</sup> Perhaps some notion other than *part-whole* provides the right candidate. Perhaps the real definition of a thing comprises all of the fundamental explanatory kinds to which it belongs, for instance. These alternative, non-modal explanations of real definition do not appear at first blush to have any modal upshot. Many composite entities can change their parts, and I have already argued that there is no reason to expect (KNC) to be true, independently of

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<sup>17</sup>In private conversation, Fine has told me that this is his notion of real definitions for ordinary things, see (Fine, 1999). This does not make him an anti-primitivist, however: when asked point-blank in the same conversation why (DNC) is true, he replied that (DNC) was just part of his view. I take this to indicate a willingness on Fine's part to accept some such principle as (DNC) as a primitive modal fact about definitions.

adopting it as either a primitive modal fact or as part of the explanation of the notion of *fundamental kind*. If we adopt a non-modal alternative, then the expectation that (DNC) will be true dissipates.

Hence, it might appear at first as if an appeal to real definitions to ground modal facts will have the coincidence effect, if we take for granted that the modalized notion of real definition is being used. Once we recognize that the technical notion of a real definition is, according to the anti-primitivist proposal, not the modalized notion, the impression that the proposal has the coincidence effect goes away.

We have explored the prospects for grounding all modal facts in facts about essence. We attempted to show how, independently of which particular explanation of the technical notion of essence is provided, an essence-based anti-primitivist can attempt to provide groundings for each of the data. We found no general problems with the groundings that seemed completely insuperable, though it is by no means obvious that the strategies I suggested will ultimately prove satisfactory. I suggested that the cost of providing suitable groundings for all of our data was making controversial claims regarding the essential properties of kinds, and, eventually, regarding the essential properties of the kind *individual*, or of the world itself. I concluded on this basis that essence-based anti-primitivism is not the default, intuitive position. Then I looked at two quite different explanations of the notion of essence. The first held that the

essential properties of a thing were given by *what it is*, in the philosophically weighty sense: the fundamental explanatory kind or kinds to which it belongs. The second held that the essential properties of a thing were all those properties contained in its *real definition*. In both cases, I also urged an application of the anti-primitivist predicament: in steering ourselves away from providing modal explanations of the relevant notions, we found that the proposals provided facts that at best correlated with, rather than grounding, the data. The symptom of the failure to ground the modal facts on which I relied in both cases was that the proposed explanations did not have the coincidence effect.

## Chapter 4

# Conceptualism

Our discussion of anti-primitivist proposals so far has focused on metaphysically-oriented accounts. Possible worlds and essence-based anti-primitivist proposals seek to ground modal facts by introducing novel metaphysical ideas. Possible worlds proposals introduce a novel ontology which includes unfamiliar entities, possible worlds, which figure in the non-modal groundings for modal facts. Essence-based proposals introduce either a novel ontology of essences or natures, or a novel ideology including the relation of *having a property essentially*, to perform essentially the same task. These metaphysically-oriented views expand either our ontology, by proposing that we accept the existence of new entities, or our ideology, by proposing that we accept that certain novel relations obtain between the familiar old entities. (At the beginning of chapter 2, I called both sorts of views “ontology-expanding views,” running roughshod over the distinction between ontology and ideology.) Now we will turn

to a completely different kind of anti-primitivist proposal. This proposal does not seek to ground modal facts by expanding either our ontology or ideology. These semantically-oriented proposals do not aim to revise our opinions about what things there are or which non-modal relations they stand in. Rather, the proposals seek instead to ground modal facts in facts about how we represent those things and their relations. Modal facts are to be grounded, according to these approaches, in the semantic and syntactic properties of the words or concepts by whose means we represent the world. I will follow several authors<sup>1</sup> in calling this position *conceptualism*. According to the conceptualist, modal facts are ultimately the products of the semantic and syntactic features of our systems of representation.

There is a paradigm case in the philosophical lore which sustains the conceptualist position. It is necessary that no bachelors are married. Why can't there be a married bachelor? The conceptualist's answer is familiar: there is a relation between the concepts *bachelor* and *married* in virtue of which anything that falls under the one does not fall under the other. It is a rule associated with the concept *bachelor* that anything which falls under the concept *married* just does not count as a bachelor. Variants of the view favor talk of words or expressions over talk of concepts: the crucial relations according to these variants are between the meanings of the words "bachelor" and "married". But such variations cleave nevertheless to a main theme: necessity is primarily the result of semantic and

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<sup>1</sup>See, for instance, (Wiggins, 1980).

logical relations among representations, rather than relations among the things thereby represented.

There are reasons to doubt whether the conceptualist's favored grounding of necessities in semantic and logical facts can work, since analyticity does not in general seem to suffice for necessity. Kaplan has argued<sup>2</sup>, for instance, that the existence of such relations between words or concepts will not serve by themselves to ground necessities. To take a famous example from Kaplan,<sup>3</sup> "I am here" is plausibly considered an analytic truth, though it is not plausibly considered a necessity. Such counter-examples point us to a more fundamental difficulty with the conceptualist's view. The standard notion of analyticity used by conceptualists defines it as truth ascertainable from meaning (or conceptual content, or conceptual containment, etc.). This seems to be a long way from *necessary* truth ascertainable from meaning. Perhaps in order to preserve contact with the conceptualist tradition, Kripke himself guarantees that analyticity implies necessity by stipulation: he stipulates that a sentence is analytic iff it is both necessary and true in virtue of meaning. (Kripke, 1980, p. 39) The conceptualist has several ways out of this difficulty. For instance, he can claim that every modal fact that can be stated with an indexical can also be stated without one, and then that the modal facts we state using indexicals turn on the semantic and syntactic properties of their indexical-free surrogates. This

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<sup>2</sup>(Kaplan, 1989), citep[pp. ]Kripke:1980

<sup>3</sup>See (Kaplan, 1989, 509). Kaplan actually claims that "I am here now" is a logical truth.

strategy evidently involves a controversial but plausible position in the metaphysics of facts. Since I do not know how to mount a convincing defense of or objection to any position in the metaphysics of facts with even a whiff of plausibility, I will not press this objection here.

The paradigmatic explanation for the fact that it is necessary that no bachelors are married is obviously incomplete. Conceptualists diverge on the correct way to complete it. I will choose one such way, Carnap's, for the purposes of this rough exposition. According to Carnap, it is a semantic convention governing the sentential operator "it is necessary that ..." that a sentence of the form "it is necessary that  $\phi$ " is true iff  $\phi$  is analytic.<sup>4</sup> Our discussion of the syntactic, semantic, and logical relations between "bachelor" and "married" established the analyticity of "no bachelors are married". The convention governing the modal operator "it is necessary that ..." therefore requires the truth of "it is necessary that no bachelors are married." In short, the facts that ground the necessity are: (1) the fact that "bachelor" and "married" bear a semantic relation in virtue of which they exclude one another's application; and (2) the fact "it is necessary that ..." obeys a certain convention. The grounding explanation uses (1) to establish the analyticity of "no bachelors are married", and (2) to establish the truth of the sentence reporting the fact to be grounded. In neither case does the explanation go beyond reference to entities that there merely

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<sup>4</sup>(Carnap, 1947, p. 174).

are, and the non-modal properties of those entities. So we have an explanation that meets the anti-primitivist's requirements.

The example provides the occasion for two clarifications of the primitivist position. First and most importantly, an anti-primitivist explanation of a modal fact may make reference to concepts or lexical items that are, intuitively speaking, modal. For instance, Carnap's explanation made reference to non-modal properties of a certain sentential modal operator, "it is necessary that ...". The constraint on the anti-primitivist explanation is that it make reference only to entities that actually exist, as opposed to those which might have or had to have existed, and that it attribute to those entities only non-modal properties and relations. Here is a list of entities to which we make reference: the expressions "bachelor", "married", "it is necessary that ...", the sentences "no bachelors are married" and "it is necessary that no bachelors are married", and (perhaps) conventions and rules governing their use. All of these items actually exist. We make reference to certain syntactic, semantic, and logical relations among these entities, including such properties as *being analytic*, and such relations as *being governed by a convention*. None of these properties or relations seem on their face to be modal. So, whatever its other merits or deficiencies, this explanation seems to meet the anti-primitivist requirements; it passes the test. We have not explained our target necessity in terms of modal facts simply because one of the entities mentioned in the explana-

tion is, intuitively, a notion of modality. Our explanation is no more in terms of modal facts for making reference to a word for modality than it is in terms of bachelor-facts for making reference to a word for bachelors.<sup>5</sup>

The second clarification is that the dispute between the primitivist and the anti-primitivist does not turn on the definability or eliminability of any modal expressions whatsoever. Carnap's explanation invokes a convention governing the use of the sentential modal operator "it is necessary that . . .", according to which a sentence of the form "it is necessary that  $\phi$ " is true iff  $\phi$  is analytic. But this was just a matter of the *truth conditions* for sentences containing the necessity operator. No claim was made that the biconditional provides a *definition* of the modal sentence. Indeed, in one striking passage, Carnap himself explicitly denies that the right-hand side of the biconditional gives a definition or translation of the left-hand side.<sup>6</sup> So anti-primitivism does not require the definability or

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<sup>5</sup>Thanks are due to D.A. Martin for bringing the necessity for this clarification to my attention.

<sup>6</sup>The passage is striking enough to quote in its entirety:

It should be noted that the two sentences 'N(A)' and 'the sentence 'A' is L-true in  $S_2$ ' correspond to each other merely in the sense that, if one of them is true, the other must also be true; in other words, they are L-equivalent (assuming that L-terms are defined in a suitable way so as to apply also to the metalanguage). This correspondence cannot be used as a *definition* for 'N', because the second sentence belongs, not to the object language  $S_2$  as the first one does, but to the metalanguage  $M$ . The second sentence is not even a *translation* of the first in the strict sense which requires not only L-equivalence but intensional isomorphism (§14). If  $M$  contains the modal term 'necessary', then 'N(A)' can be translated into  $M$  by a sentence of the form 'it is necessary that . . .' (where '. . .' is the translation of 'A'). If  $M$  contains no modal terms, then there is no strict translation for 'N(A)'. But the correspondence stated makes it possible in any case to give an *interpretation* for 'N(A)' in  $M$  with the help of the concept of L-truth, for example, by laying down the truth rule, 39-1 [*i.e.* the biconditional mentioned in the text above.](Carnap, 1947, p. 176).

Carnap does not say exactly why the right-hand side provides no translation. He notes that

eliminability of modal vocabulary from the language. Of course, if all natural language modal vocabulary were eliminable in virtue of definitions, then the anti-primitivist position would presumably be correct. The point is that the anti-primitivist need not make such a claim.

As with essence-based anti-primitivism, conceptualism encounters a number of problems accounting for the data. The possibility that Bush have lost is no problem: applying the Carnapian view we have just sketched, “Bush did not lose the 2000 electoral vote” is certainly no analyticity. Likewise, “this creature is not a pupa” is no analyticity. How about the impossibility of there being a cat which is also a field of wildflowers? Perhaps it is plausible to claim that “there is no cat which is also a field of wildflowers” is analytic. The next datum, the fact that it is possible that there be an individual distinct from every actual individual, poses a much clearer problem. For it is plausible to hold that “there is no individual distinct from every actual individual” is an analytic truth, given the standard understanding of the quasi-technical philosophical notion of *actual*. The problem stems from the fact that “actual” here seems to be functioning like an indexical, and, as we have already noted, conceptualists will have difficulties grounding possibilities that are stated using indexicals. The response to this problem that we are allowing to conceptualist is to come up with a non-indexical surrogate

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the two sides are not intensionally isomorphic, but does not say specifically what the relevant differences are. Perhaps the difference consists in the fact that the right-hand side mentions a sentence, whereas, intuitively, the left-hand side does not.

sentence to express the fact at hand, and to run the conceptualist analysis on that sentence.

What might such a non-indexical surrogate be? Here the conceptualist might appeal to the fact that there is a property, had by all and only the things that there merely are, that is *rigid* in the sense that it is necessary that a thing have this property if and only if it actually has it. (In the possible-worlds framework, this property can be modeled by a predicate whose extension in every world is the domain of the actual world of the model.) Now, though our explanation of the rigidity of this property, which we may as well call  $F$ , is modal, there is supposed to be nothing modal about having  $F$ .  $F$  is just a property, like *green*, but with a different extension and modal profile. Then the non-modal surrogate sentence to express the modal fact to be grounded will be something like: “It is possible that there be something which does not have  $F$ .” And now the conceptualist can appeal to the fact that “Everything has  $F$ ” is not analytic to ground the possibility at hand.

Now that we have in view the barest outlines of the conceptualist picture, the rest of the chapter will be devoted to two tasks. First, I will fill out this picture a little by laying out a little of the rich variety of different conceptualist views. Then I will examine the prospects for defending primitivism against conceptualist anti-primitivism by reference to our controversial test case: the necessity of origin thesis. We will first note, following Kripke, that the necessity of origin the-

sis is difficult for a conceptualist to ground. One response available to the conceptualist is to deny that the thesis is true, and so deny that there is any fact to ground. I will reserve response to this line of defense for the next chapter. Another response is to accept that there is a modal fact to be grounded in this case, and to attempt to co-opt that fact for conceptualism by providing a surprising conceptualist grounding. We will examine extant conceptualist attempts to co-opt the necessity of origin thesis at the end of this chapter.

#### 4.1 The varieties of conceptualism

I have already said that conceptualism is the view that modal facts are grounded in the semantic and syntactic properties of the words or concepts by whose means they are represented. This description of the conceptualist position hides a delicate point. The conceptualist claims that modal facts can be grounded by bringing to light semantic and syntactic properties of the words or concepts involved in expressing this fact. In many such cases, however, there will be a pair of concepts  $C_1$  and  $C_2$  under which an individual falls, such that  $(C_1x \Rightarrow Fx)$  is a conceptual truth (and hence necessary by the conceptualist's lights), while  $(C_2x \Rightarrow Fx)$  is not. Quine has provided a famous example:

Mathematicians may conceivably be said to be necessarily rational and not necessarily two-legged; and cyclists necessarily two-legged and not necessarily rational. But

what of an individual who counts among his eccentricities both mathematics and cycling? Is this concrete individual necessarily rational and contingently two-legged or vice versa? Just insofar as we are talking referentially of the object, with no special bias toward a background grouping of mathematicians as against cyclists or vice versa, there is no semblance of sense in rating some of his attributes as necessary and others as contingent. (Quine, 1960, p. 199)

I myself do not believe that, unless one is already a conceptualist, one should be tempted to think that Quine has correctly described the modal facts here. But many conceptualists have taken Quine to have put his finger on an important insight. They have been led by this alleged phenomenon to deny that individuals bear properties necessarily independently of which concepts are used to describe them. The determination of which properties are bourn necessarily by an individual is relative to the manner in which the individual is described. We shall call this claim *Church's relativity thesis*.<sup>7</sup> For instance, suppose that a certain individual  $x$  falls under the concepts  $C_1$  and  $C_2$ ,  $(C_1x \Rightarrow Fx)$  is a conceptual truth but  $(C_2x \Rightarrow Fx)$  is not, and  $(C_1x \Rightarrow Fx)$  is used by a conceptualist somehow to ground the claim that  $x$  necessarily bears property  $F$ . Then an

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<sup>7</sup>Alonzo Church in (Church, 1943, p. 46) broaches the idea that no variables for individuals are to be allowed into contexts governed by a necessity operator. Carnap writes in (Carnap, 1947, p. 180) that, "...individual variables in modal sentences... must be interpreted as referring, not to individuals, but to individual concepts", because of the puzzles raised by the phenomena noted in the last paragraph. Church's relativity thesis provides a natural diagnosis of the inadmissibility of variables referring to individuals in modal contexts.

adherent of Church's relativity thesis would say that  $x$  necessarily bears  $F$  under the description  $C_1$ , but not under the description  $C_2$ . Such a position is, perhaps, not best described as claiming that  $x$  is necessarily  $F$ . This position will, then, deny outright the data that we have advanced involving modal properties of individuals. For instance, an adherent of Church's relativity thesis will not allow that it is a fact, regarding the concrete individual Bush, *e.g.*, that he might have lost. He will claim that there it makes no sense to count *not losing* among his contingent attributes. It is possible that Bush, described as "Bush", lose the electoral vote. It is not possible that Bush, described as "the only candidate who did not lose the 2000 electoral vote", lose the electoral vote.

I said when introducing the our test cases for primitivism that we should reject any view which required that the claims we took as data, which seem *prima facie* to be true, are *prima facie* false. Can we not on these grounds object to the conceptualist? Well, the impetus to reject the data is provided in the first instance by Church's relativity thesis. Evidently, we can reject the conceptualist position for being incompatible with claims we took to be data only if conceptualism cannot avoid Church's relativity thesis.

Church's relativity thesis is not inevitable for a conceptualist. In order to explain the alternatives, let us consider for a moment an objection to conceptualism inspired by Kripke's distinction between necessity and *a priority* in *Naming and Necessity*. Marking the dis-

inction between *a priority* and necessity is a central point, perhaps the central point, of *Naming and Necessity*.

Saul Kripke argues at length that necessity is to be distinguished from both *a priority* and analyticity. Necessity is one thing, and these notions are other things. Necessity is not to be reduced to or explained in terms of such notions. The conceptualist says that modal facts are ultimately grounded in semantic and logical relations among the concepts or words by which we represent them. Modal facts are ultimately the products of the semantic and logical features of our systems of representation. Hence we may expect such notions as *a priority* and analyticity to figure centrally in our fundamental account of modality, bearing as they do on the semantic and logical features of our systems of representation. Indeed, the facts that the conceptualist proposes to ground modal facts are paradigm cases in the philosophical tradition of facts that are known to us *a priori*.

Kripke advances two relevant criticisms of the view that necessity and *a priority* coincide. Unsurprisingly, these criticisms can be adapted to pose difficulties for conceptualism. First, Kripke points out that, even if necessity and *a priority* coincide in this or that particular case, the general claim that they coincide everywhere is nonetheless extraordinary. To see how surprising the coincidence would be, Kripke reminds us of the original explanation of the notion of necessity at hand.

We ask whether something might have been true, or might

have been false. Well, if something is false, it's obviously not necessarily true. If it is true, might it have been otherwise? Is it possible that, in this respect, the world should have been different from the way it is? If the answer is 'no', then this fact about the world is a necessary one. If the answer is 'yes', then this fact about the world is a contingent one. This in and of itself has nothing to do with anyone's knowledge of anything. It's certainly a philosophical thesis, and not a matter of obvious definitional equivalence, either that everything *a priori* is necessary or that everything necessary is *a priori*. (Kripke, 1980, p. 36)

The last two sentences contain an argument against there being too close a relationship between *a priority* and necessity. They establish at least that the claim that necessity and *a priority* coincide is not the default position of common sense at the beginning of an investigation of necessity.

The argument would be equally good if what were under discussion were there being too close a relationship between necessity and relations among concepts. The conceptualist claims that, whenever we are presented with a necessity, there will always be some relations among the concepts used to express that necessity which undergird it. But questions of necessity ask after how some things might have been or had to have been. This in and of itself has noth-

ing to do with anyone's concepts or words for those things. So it is certainly a philosophical thesis, and no mere triviality, to claim that every necessity can be grounded in relations among concepts. The conceptualist, mixed or otherwise, endorses this extraordinary philosophical thesis. But why does he think it is true? Why does he think that there will always be a grounding for each necessity in relations among concepts? At the very least, this argument establishes that conceptualism is not the default position of common sense at the beginning of an investigation of necessity and possibility.

Kripke's first criticism does not show that necessity and *a priori* do not coincide. At most, it shows that it would be surprising and interesting — a philosophical thesis — if they did turn out to coincide. And the analogous criticism of conceptualism does not show that there are modal facts not grounded in facts about the semantic and syntactic features of our systems of representation. This is where Kripke's second line of criticism comes in. His second strategy against the view that necessity and *a priority* coincide is to produce counter-examples: necessities that can be known only *a posteriori*, and contingencies that can be known *a priori*. Our necessity of origin thesis is among his examples. Recall again our setup: we are given this table here, which was, we suppose, produced from a certain hunk of wood grown in the pine forests of North Carolina. We are also given another hunk of wood, grown in the pine forests of Australia. By Kripke's lights and according to our necessity of ori-

gin thesis, it is impossible for this table to have been made from that Australian hunk. If he is correct, then the conceptualist's paradigm case, "no bachelors are married", is not representative of the entire class of necessities. The conceptualist claims that the paradigmatic necessity is knowable *a priori*, and his claim is very plausible. But Kripke argues that there are some other necessities for which the *a priori* claim is implausible.<sup>8</sup>

The adaptation of this criticism to pose a problem for conceptualism might seem straightforward. The conceptualist claims that modal facts are grounded in facts about semantic and syntactic relations among our words or concepts. For instance, the fact that it is necessary that no bachelor be married is grounded (in part) in the fact that "No bachelor is married" is analytic. Such semantic and syntactic facts are paradigm cases of facts that we can know *a priori*. So it would seem that conceptualism is committed to the coincidence of necessity and *a priori*. But, as Kripke has shown, there are necessities that cannot be known *a priori*; our origin thesis provides an example. So conceptualism must be wrong, since it is committed to the false claim that all necessities are *a priori*, and *vice versa*.

One response to this criticism is to deny Kripke's counter-examples to the coincidence thesis. The origin thesis, for instance, is quite

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<sup>8</sup>The examples of *a posteriori* necessities that have garnered the most attention in the literature on conceptualism are claims involving identity, *e.g.*, that it is necessary that Cicero is identical to Tully. We will discuss such cases in a little more detail when we come to discuss various alternative conceptualist views below.

controversial, as I noted when I first broached it. So one promising route for the conceptualist to take is simply to deny that these claims are true. We will be confronting this defense of conceptualism in the next chapter. Though this is quite promising when it comes to the origin thesis, Kripke offers other, more intuitively compelling examples to bolster his case. For instance, Kripke argues that, though it is necessary that Cicero be identical to Tully, it is not *a priori* that Cicero is identical to Tully. Both claims enjoy a large measure of plausibility in the wake of Kripke's treatment of them in *Naming and Necessity*.<sup>9</sup> So, for most, denying that the alleged counter-examples are true has not seemed a promising strategy for dealing with this second criticism.

But there is another strategy available. Conceptualism is not committed to the coincidence of necessity and *a priority*. Consider the following qualified position. This position admits that there are necessities that are not *a priori*. For instance, though it is necessary that Cicero be identical to Tully, it is not *a priori* that Cicero is identical to Tully. Cases like this, however, always involve two factors. First, there is a non-demonstrable, non-modal fact that some relation  $R$  holds between two individuals. Here, for instance, there is a non-modal fact, that Cicero is identical to Tully, that actually obtains, but does not do so demonstrably. There is no *a priori* demonstration of the fact that Cicero is identical to Tully.

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<sup>9</sup>Of course, some deny the *a priority* claim, see (Soames, 2002). And some might even still deny the necessity claim.

Secondly, there is a general claim that the fact obtains necessarily if it does at all

$$(\forall x)(\forall y)(Rxy \Rightarrow \Box Rxy).$$

In the case we are considering, there is the following general fact about identity: for any  $x$  and  $y$ , if  $x$  is identical to  $y$ , it is necessary that  $x$  is identical to  $y$ . There is a proof of this second fact, according to Kripke.<sup>10</sup> According to the position we are discussing, the second factor is always *a priori* demonstrable.<sup>11</sup> The second claim warrants the necessitation of the empirical matter of fact reported by the first claim. This position gives up the idea that necessity implies demonstrability, but holds on to the idea that *necessitation* implies demonstrability.

Let us return to the origin thesis. If Kripke's treatment of the necessity of identity is taken as the model for all *a posteriori* necessities, then his discussion seems to support the qualified conceptualist position. Kripke himself factors the necessity that Cicero be identical to Tully into a non-modal, non-demonstrable premise, and a provable general premise warranting the necessitation of identities.<sup>12</sup> When it comes to the necessity of origins, a similar strategy is suggested in the argument of footnote 56 of *Naming and Necessity*.<sup>13</sup> First, it is taken to be a non-demonstrable matter of fact

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<sup>10</sup>(Kripke, 1971)

<sup>11</sup>Such a demonstration may presuppose the coherence of sentences containing free occurrences of variables within the scope of modal operators. One who accepts Church's relativity thesis may deny that such sentences are coherent. The view under consideration here will accept their coherence. Likewise, the view presupposes that "Cicero" and "Tully" are acceptable substituends for variables  $x$  and  $y$ . Neither view is uncontroversial.

<sup>12</sup>(Kripke, 1971, p. 152)

<sup>13</sup>(Kripke, 1980, p. 114n).

that our table came from its particular source hunk. Then Kripke claims that he can give “something like a proof” of the necessitation premise: If that table actually came from a certain hunk, then it did so necessarily.<sup>14</sup> Commentators have claimed that Kripke’s argument here fails to establish the origin thesis,<sup>15</sup> but the point for present purposes is perfectly clear: though Kripke forthrightly resists the claim that necessity implies demonstrability, his discussion never confronts the more qualified position, that necessitation implies demonstrability. Indeed, the form of his discussion seems to recommend the position.

To make this position a form of conceptualism, we lack only the claim that the *a priori* demonstration which establishes the necessitation step is grounded solely in logical and conceptual truths. It is plausible to hold this view for the necessitation premise “if Cicero is identical to Tully, then it is necessary that Cicero be identical to Tully”, if Kripke is right to say that this premise is provable. Suppose the conceptualist can provide a similar argument on purely logical and conceptual grounds in the case of the necessity of origin. Then the grounds for the origin thesis are provided by the ordinary non-modal fact that this table comes from a certain hunk together with an *a priori* argument establishing Kripke’s ne-

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<sup>14</sup>Kripke’s claim in footnote 56 is both more subtle and more general than we have here stated. He thinks he can give something like a proof of the principle that, if a material object had its origin in a certain hunk of matter, then it could not have originated from any other hunk of matter. The claim is subtler because it does not allege that a material object had to have its actual origin, but that it could not have had any other origin. (These claims are equivalent if we assume that a material object had to have an origin.) The claim is more general, because it governs the production of any material object whatsoever, not just tables.

<sup>15</sup>(Salmon, 1979). See also the discussion of Kripke’s argument in the next chapter.

cessitation premise. This grounding of modal facts by a mixture of non-modal fact and *a priori* necessitation recommends calling this position *mixed conceptualism*.

This strategy for defending conceptualism does not take a skeptical point of view, denying, for instance, our origin thesis. Rather, it seeks to accommodate the truth of Kripke's claims with the conceptualist position. So we have two avenues for defending conceptualism against the claim that the view cannot ground our origin thesis. The first, *skeptical* defense denies that the origin thesis is true. The second, *accommodationist* defense accepts the thesis, and proposes non-modal grounds for it along lines acceptable to the conceptualist point of view. I will delay discussing the skeptical defense until the next chapter. I will focus for now on the accommodationist defense.

Notice that mixed conceptualism needn't partake of Church's relativity thesis. It is necessary that Cicero be identical to Tully. The mixed conceptualist admits this *a posteriori* necessity.<sup>16</sup> Notice that, by his lights, it need not matter how we describe the men (*i.e.* the *man*). This relation of identity holds of necessity between Cicero and Tully no matter how "they" are described.

If the mixed conceptualist does not accept Church's relativity thesis, then her grounding for *a posteriori* necessities may require deft formulation. This point is clearest in the case of the necessity

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<sup>16</sup>Here, as throughout, we are simply ignoring complications arising from non-existence. In this particular case, we are ignoring complications arising from the fact that the existence of each of the women is independent of the existence of the other.

of identity

$$(\forall x)(\forall y)(x = y \Rightarrow \Box x = y) \quad .$$

Kripke's argument that Cicero and Tully are necessarily identical involves the instantiation of this principle. Supporters of Church's relativity thesis may observe that some choices of instantial terms for  $x$  and  $y$  will not preserve truth. For instance, instantiation of the principle using "the inventor of bifocals" for ' $x$ ', and ' $y$ ' for ' $y$ ' yields an evident falsehood under assignment of Ben Franklin to ' $y$ ': the inventor of bifocals =  $y \Rightarrow \Box$  the inventor of bifocals =  $y$  .

A proponent of Church's relativity thesis would urge us to blame this oddity on the fact that necessity is relative to a description. The mixed conceptualist need not go along. He can claim that the alleged instantiation involves the logical mistake of instantiating to a definite description which does not take widest scope.<sup>17</sup> In effect, rather than blaming the oddity on the alleged incoherence of the metaphysical idea of a thing's having modal properties independently of how it is described, the mixed conceptualist can blame the semantic peculiarities of the instantial terms.<sup>18</sup>

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<sup>17</sup>This is the response of (Smullyan, 1947) to Quine's famous puzzle about whether nine, i.e. the number of planets, is necessarily greater than seven, (Quine, 1947). Philosophers of language since Russell have often held that occurrences of definite descriptions in a sentence, unlike variables but like quantifier phrases, have scope. If this thought is correct, then a plausible logical constraint on instantiation of bound variables to terms which take scope is that the instantial term take the same scope as the quantifier.

<sup>18</sup>The mixed conceptualist may, in addition, claim that there are really two metaphysical ideas, both of which are equally legitimate. There is first the metaphysical idea of a thing's having necessary properties under a description. This kind of necessity is accepted even by the proponent of Church's relativity thesis. There is, in addition, the metaphysical idea of a thing's having necessary properties independently of how it is described. This kind of necessity is ruled out by Church's relativity thesis. Following Quine ((Quine, 1956)), we might call the first idea "notional" necessity and the second "relational". See (Kaplan, 1986) for an attempt to find a single metaphysical idea underlying both relational and notional modalities. Following Kaplan, we may avoid the detour through philosophy of language by representing

There is a last brand of conceptualism which we have hitherto neglected. The positions we have considered so far all grounded necessities in constraints on the concepts or meanings associated with predicate or relational expressions, e.g., “is a bachelor”, and “is identical to”. A final brand of conceptualism appeals similarly to constraints on the concepts or meanings associated with singular terms. The position is clearest when stated for those singular terms for which we most evidently possess adequate definitions: mathematical terms. Let us focus on these terms then, even though this is not the ground on which the dispute over modal primitivism is fought. Consider the term for Socrates’s singleton set ‘{Socrates}’. This term, it might be argued, is definable as *the set whose sole member is Socrates*. We can establish, using only logic and the definition, that Socrates is a member of {Socrates}.<sup>19</sup> The brand of conceptualism we are now considering, which we may as well call *definitional conceptualism*, holds that we thereby ground the necessity of the membership relation between this set and Socrates.

This makes it seem, unfortunately, that any old term for Socrates’ singleton will do. Consider the term ‘!Socrates!’, which I hereby define as *the set used as an example by Kit Fine in “Essence and*

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the relevant metaphysical claims about the particular individuals using free variables instead of names or other closed terms. We then consider the resulting open sentences under the assignments of the relevant individuals to the variables. In effect, we represent the application of general claims to particular cases by *assignment to free variables* rather than *instantiation to bound variables*. For instance, we abandon the question of whether ‘Cicero = Tully  $\Rightarrow$   $\Box$  Cicero = Tully’ is true in favor of the question of whether ‘ $x = y \Rightarrow \Box x = y$ ’ is true under the assignment of Cicero to ‘ $x$ ’ and Tully to ‘ $y$ ’.

<sup>19</sup>Again we are ignoring complications that will arise in the case in which either Socrates or his singleton do not exist.

*Modality*".<sup>20</sup> The referent of '!Socrates!' is {Socrates}. Shall we conclude on the basis of our definition that there is a necessary relation between Kit Fine and Socrates's singleton? This would be a hitherto unnoticed metaphysical constraint on the practice of philosophy! Perhaps Church's relativity thesis is in order: described as '!Socrates!', that set is necessarily Fine's example; not so when described as '{Socrates}'. But then the definitional conceptualist, like other proponents of Church's relativity thesis, may not confront the Humean claim at all.

Definitional conceptualists will accept Church's relativity thesis. They will discriminate between our two defined terms. '!Socrates!' would have designated other sets if circumstances had been different. In particular, it would have designated a different set if, say, Kit Fine had chosen a pair set {Socrates, Plato} as his example. '{Socrates}', on the other hand, is a privileged designator of the set: it designates that set in every possible world in which it exists, so its definition will ground necessary connections between the set and other things. Philosophers following Kripke call terms of the second sort *rigid designators*. Only rigid designators for a thing have definitions that may ground necessary connections between that thing and other things, according to the view here under discussion.<sup>21</sup>

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<sup>20</sup>(Fine, 1994)

<sup>21</sup>Kit Fine ((Fine, 1994)) defends a view, which I have already discussed, according to which necessities for a thing may be grounded in real definitions for that thing. Of course, given a rigid designator for a thing, we may always take the definition of the thing also to define the rigid designator. Fine's view shares with the definitional conceptualism described here the idea that a definition may ground necessities for a thing by providing necessary and sufficient conditions for being that thing. His view may differ in that, for Fine, the definition of a thing may only be discoverable by empirical means.

We have already resolved to set aside brands of conceptualism that embrace Church's relativity thesis, on the grounds that they reject some of those claims that we are taking as data for the purposes of our exploration of modal primitivism. So we will set aside definitional conceptualism, if, as I have argued, it requires Church's relativity thesis. But the discussion of definitional conceptualism does highlight the availability of a particular form of mixed conceptualism which is not committed to Church's relativity thesis. Definitional conceptualism proposes to ground necessities in conceptually-grounded claims of the form  $t = \text{the}\phi$ , for  $t$  a term, *e.g.* '{Socrates}' = the set whose sole member is Socrates. Such claims provide necessary and sufficient conditions for being the referent of the term  $t$ .

Though this particular proposal requires that we adopt Church's relativity thesis because a single object can be denoted by terms with different modal profiles, a suggestion that does not commit one to Church's relativity thesis seems to be in the neighborhood: ground necessities for a thing in conceptually-given necessary and sufficient conditions for being that thing (independently of how that thing is specified). For instance, many philosophers have maintained that the membership properties of a set provide necessary and sufficient conditions for being that very set. Further, they have maintained that that this fact is given as part of the very concept of "set". Hence, it will be a conceptually-grounded truth that, given that

$y$  is a set and has exactly  $x_1, x_2, \dots$  as members, it is necessary that anything which is a set and has exactly  $x_1, x_2, \dots$  as members is identical to  $y$ . Then, the fact that  $\{\text{Socrates}\}$  is a set and has exactly Socrates as a member, together with this conceptually-grounded general fact about set-membership, grounds the fact that (setting aside once again worries about the existence of  $\{\text{Socrates}\}$ ), it is necessary that that set contain Socrates as its sole member. This is recognizably an example of a mixed conceptualist grounding for the necessity at hand. A particular variant, then, of mixed conceptualism proposes to ground such *a posteriori* necessities as our origin thesis in part in conceptual truths specifying necessary and sufficient conditions for being a certain thing.

It seems that mixed conceptualism is the best game in town for a conceptualist grounding of those test cases we take as data. But, how is a conceptualist to handle the controversial claim which we advanced as a test case for modal primitivism: the origin thesis? We have already seen that a conceptualist may take either of two lines on our origin thesis. First, the conceptualist may adopt a skeptical strategy and simply deny that the origin thesis is true. Second, the conceptualist may adopt an accommodationist strategy, and attempt to provide some combination of non-modal matters of fact and conceptually-grounded modal generalizations to ground the origin thesis. The second, accommodationist line will be the focus of the remainder of this chapter.

At first glance, then accomodationist line looks quite difficult: it just doesn't seem at first glance as if, *e.g.* the claim, "if a material object has its origin in a certain hunk of matter, that it could not have had its origin in any other hunk of matter"<sup>22</sup> can be grounded in relations among concepts. I will examine two extant attempts to show that this first glance is misleading. I will start with J.L. Mackie's attempt to provide a conceptualist grounding for the origin thesis, by appeal to the so-called "branching time" model. Next I will discuss attempts by multiple authors to ground origin theses in principles which specifying non-trivial sufficient conditions for being the very table at issue in our origin thesis.

## 4.2 Branching Times

J.L. Mackie has adopted the accomodationist line, defending mixed conceptualism by attempting to provide a non-modal grounding for origin theses.<sup>23</sup> Recall that, according to mixed conceptualism, in every case in which we face an *a posteriori* necessity claim, there will be a necessitation premise claiming, with respect to a particular property  $\phi$ , that anything which has  $\phi$  has it of necessity. The mixed conceptualist claims that this necessitation premise is grounded in the syntactic and semantic properties of a system of representation,

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<sup>22</sup>(Kripke, 1980, p. 114n).

<sup>23</sup>J. L. Mackie (1974). Mackie is disinclined to talk about relations among concepts, but the core of the view remains. He writes (Mackie, 1974, p. 560), "If such explanations [as Mackie proposes for various *a posteriori* necessities], are correct, it will follow that these *de re* modalities are, in a very broad sense, *de dicto* after all. Though these necessities apply to individual things and natural kinds. . . , that they do so apply is primarily a feature of the way we think and speak, of how we handle identity in association with counterfactual possibility."

and can in principle be known *a priori*. The *a posteriori* necessity is grounded in the necessitation claim, together with non-modal *a posteriori* claims.

The claim that we can always find a necessitation premise to fit the bill is extraordinary. To illustrate how strong it is, let's consider again the origin thesis, that this table could not have originated from that Australian hunk. Mackie defends a generalization of this claim: any table which was made from a given hunk could not been made from any distinct hunk. The relevant necessitation premise is, roughly, that anything  $x$  which has its origin in a certain thing  $y$  has its origin in  $y$  of necessity. Mackie proposes to ground this necessitation premise in a relation between our concepts of identity and necessity. His approach has since been dubbed the *branching times* model for *de re* modality.

Questions about possibility are settled according to the branching times model by asking whether the history of the universe could have gone as it actually has, up to a point, and then diverged in a way that brought about the possibility in question. On one simple version of this framework, the possibilities for this table are given in all the ways the universe could have gone on after its advent. None of these histories, however, include its coming from a different hunk. By the time of the divergence, it is too late for it to have had a different origin. There are possibilities for individuals included in earlier divergences, but none of these, according to the framework,

are possibilities for this table; these divergences are too early to present possibilities for it. Nothing about this argument is particular to this table's case, so the same result appears to hold in general. The branching times model seems to provide a grounding for the general necessitation premise.

Mackie holds the branching times model to be enshrined in the rules that govern our ordinary notions of possibility and identity. It is "... a feature of the way we think and speak, of how we handle identity in association with counterfactual possibility," according to Mackie (Mackie, 1974, p. 560). Suppose for the sake of argument he is correct. Suppose that, in virtue of the very meaning attaching to our concept of necessity, a property  $\phi$  is possible for this table just in case there is a way the universe could have diverged from actual history at a certain point in which it has  $\phi$ . Mackie's conceptualism will be incomplete if he cannot provide conceptualist groundings for facts about how the universe might go on from a certain point in its history.

How can he fill this gap? Without some further, non-modal grounding of facts about how the universe might have gone on from the advent of this table, we might have an interesting proposal regarding how to ground our origin thesis, but we do not have a proposal suited to the needs of anti-primitivism. Mackie hints at how this problem is to be resolved in the opening of the paper, when he declares his allegiance to conceptualism:

Logical and epistemic modalities are metaphysically harmless, but empiricists tend to be suspicious about any further varieties of necessity. What could constitute a necessity which attaches directly to a thing's being something or having certain properties, and which is not analyzable in terms of what we know or in terms of the meaning we attach to various expressions? (Mackie, 1974, p. 551).

All of the residual modality to which we might appeal in grounding our origin thesis must be grounded in accordance with mixed conceptualism. But we already have a model for doing this, in the case of "it is necessary that no bachelor be married." The ways that the universe can go on, *e.g.*, after the advent of this table, comprises all those histories which are consistent with (i) its history up to that point, and (ii) all of the conceptually-grounded modal claims that mention no particular individual. Many of the type-(ii) necessities will be those that philosophers have traditionally counted as *de dicto* necessities, including the impossibility that there be a married bachelor, and the impossibility that there be a cat which is also a field of wildflowers. Some, however, may, like the necessitation premise in Kripke's argument for the necessity of Cicero's being identical to Tully, involve claims that have traditionally been taken to go beyond the *de dicto*. For instance, Mackie might claim that it is 'a feature of the way we think and speak, of how we handle tablehood in association with counterfactual possibility,' that anything which

is a table is necessarily a table. Hence, it is impossible for a table to survive metamorphosis into a stool. Similar remarks may also apply for other sortal terms.<sup>24</sup> It is difficult to say whether such a claim is plausible. Let's just grant that Mackie has some acceptable conceptualist grounding for facts about how the world could go on after a certain point in its history.

His proposal for a conceptualist grounding of the modalization premise is still incomplete. Call the point in time after which divergences from actual history are relevant to the possibilities for this table its *divergence point*. The little argument from the branching model to the modalization premise assumed that this table's divergence point is some time at or after its advent. By the time it comes on the scene, the argument went, it is too late for divergences from actual history to change its origins. Hence having different origins is not a possibility for this table. A similar argument, however, will show that it is impossible for it to have arrived on the scene at a slightly different time or place. Likewise the weather at its advent would be a necessity for it if the assumption were warranted. These examples show that the assumption that the divergence point comes at or after its advent is implausible. But this assumption is crucial to the argument. Suppose we allowed the divergence point to precede its advent. This move solves one problem: nothing in the

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<sup>24</sup>I believe that the example of the counterfactual biologist broached last chapter provides some reason to doubt whether, where such necessitation claims are true, they are conceptually grounded, rather than grounded in whatever way is appropriate to modal claims in, *e.g.*, the biological sciences. But I will not push this point here. On the centrality of sortal terms to the conceptualist program, see (Wiggins, 1980).

argument itself rules out divergences which result in its arriving on the scene at a different time or place. So far so good. But likewise nothing in the argument itself rules out divergences which result in its coming from a different hunk, either.

This suggests the following dilemma for an attempt to ground Mackie's generalization of the origin thesis as the upshot of the structural features of the branching model. Either the divergence point must be at or after the time of this table's advent or it may be before the time of its advent. If it must be at or after the time of this table's advent, then it is by no means obvious that the branching model provides an accurate model of our reasoning about possibilities for things, since it seems then to yield implausible upshots. If, on the other hand, the divergence point may be at or before the time of this table's advent, then the branching model by itself is inadequate to ground the necessity of origins, since we are given no reason why some aspects of this table's origin, its time or place for instance, are fungible, while other aspects are not.

But there is a more fundamental problem on either horn of the dilemma for the claim that the necessity of origins is the upshot of the branching model. Suppose we choose to restrict divergence points to times at or after the time of this table's advent. This restriction seems *ad hoc*, unmotivated by the description of the branching model. We might suspect, then, that the branching model on its own provides inadequate grounds for the necessity of origins.

Likewise, if we allow times before this table's advent to be divergence points, then it seems that the branching model on its own provides inadequate grounds for the necessity of origins. In general, there seems to be an ingredient missing from the explanation of the grounds of the necessity of origins

Intuitively, there are some aspects of this table's origin that could have been different. According to the origin thesis, there are some which could not. The branching times model does not provide the resources to mark this distinction, and so cannot provide an adequate grounding for origin thesis. The branching times model lacks some essential ingredient to distinguish between the necessary and contingent features of this table's origination. Conceptualism requires that the missing ingredient is to be found somehow in the semantic and syntactic relations among concepts. Suppose that such an ingredient is found. Then, we will have a conceptually-grounded claim, independent of the branching-times model, to the effect that it is impossible that any table should have been made from a hunk other than that from which it is actually made. (And we will have no correlative claim for the impossibility that any table should have been made at any other time or place than when and where it was actually made.) But then, the missing conceptual ingredient will serve to ground Mackie's generalization of the origin thesis quite independently of the branching times model; the branching times model would be irrelevant to the grounding of our origin thesis. I

conclude that the branching times model does not provide an adequate conceptualist grounding of our origin thesis.

### 4.3 Sufficiency

The sufficiency account starts with a weak principle asserting the possibility that this table be constructed from its actual, North Carolinian hunk, while some table or other is constructed from that Australian hunk. This principle asserts the possibility of another table-production:

**(PATP)** It is possible both that this table is a table made from that North Carolinian hunk and that there be a table made from that Australian hunk.

This says that it is possible to construct some table or other from that Australian hunk, alongside this table; call that other table  $T_2$ . This possibility claim, like other possibility claims on the conceptualist view, is grounded in the fact that the embedded claim, “this table is a table made from that North Carolinian hunk and there is a table made from that Australian hunk” is consistent with all the conceptually-grounded necessities. The sufficiency account also requires a principle of origin uniqueness:

**(OU)** Necessarily, if  $T_1$  is a table made from hunk  $H_1$  and  $T_2$  is a table made from hunk  $H_2$  and  $H_1 \neq H_2$ , then  $T_1 \neq T_2$ .

Suppose we stipulate that our use of the expression *made from* indicates a relation between a table and a hunk of raw material that provides *exactly* the matter, no more and no less, that ends up in the table. So the table originates *entirely* from the hunk, in the sense that all the material used to produce the table was included in the hunk. And the table originates *exhaustively* from the hunk, in the sense that the productive process exhausts the hunk of raw material; no other material of the hunk is left over. Given our stipulation about *made from*, the origin uniqueness principle says that a single table cannot *entirely and exhaustively* originate from each of two distinct hunks within a *single* possible world.<sup>25</sup> Suppose that there is a world in which this table is made from both the North Carolinian and Australian hunks. Our stipulation regarding the use of ‘made from’ requires that the two hunks contain exactly the same material. Barring the possibility of distinct but exactly coincident hunks, the product tables are identical, as (OU) says. The principle is no logical truth, since the impossibility of distinct but exactly

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<sup>25</sup>It is natural in English to speak of tables being made from hunks containing only a portion of their original material, as in ‘this table was originally made from that leg.’ If we allowed such a colloquial understanding of the expression ‘made from’, then Kripke’s generalization of our origin thesis would have actual counter-examples. (Recall that the generalization claims that  $T_1$  could not have come from any hunk of matter other than  $H_1$ .) For instance, this table was not only “made from” that leg, but also from other, distinct legs. It is not only possible for this table to have been “made from” a hunk distinct from this leg, it actually was “made from” a distinct hunk, e.g. that other leg. This kind of counter-example is ruled out if we require that the table *exclusively* originate from any hunk it was ‘made from’ in our more technical sense. It is also natural in English to speak of a table’s being made from a hunk which is only partially used up in the manufacture, as in ‘this table was originally made from a certain block of wood, half of which was left over’. But then, employing this colloquial sense of ‘made from’, this table was not only “made from” that block of wood, it was also “made from” the half which was used up. This kind of counter-example is ruled out if we require that the table *exhaustively* originate from any hunk it was ‘made from’ in our more technical sense. These counter-examples to Kripke’s thesis are uninteresting. I adopt the stipulation of the main text as a way of avoiding them.

coincident hunks is no logical truth. Nevertheless, (OU) is still an uncontroversial truth about material objects like tables: tables with distinct origins (in a world) are also distinct. Perhaps, like the necessity that no bachelors are married, it is plausible to claim that (OU) states a conceptually-grounded necessity.

In the situation promised by (PATP), the table made from the Australian hunk — call it  $T_2$  — is, by the necessary distinctness of the hunks and origin uniqueness, distinct from this table and necessarily so. But the impossibility of making our original table from the Australian hunk does not follow, for nothing we have said forecloses the possibility of another, special table,  $T_3$ , which is constructible from the Australian hunk but is not compossible with this table's production from its North Carolinian hunk. Thus, the logic of the situation so far allows that  $T_3$  might be identical to this table, and thus a counter-example to the origin thesis. This gap is bridged by appealing to another principle, the sufficiency of origin for tables.

**(SO)** If it is possible for a table,  $T$ , to originate from a hunk,  $H$ , then necessarily any table originating from  $H$  is  $T$ .

This claims that each hunk has lurking in it at most one possible table, or, more generally, that having a particular origin is a sufficient condition for being a particular table. With the sufficiency principle in hand, one may infer that  $T_3$  is identical to  $T_2$  because both share the very same origin, *viz.*, the Australian hunk. Since it was shown that  $T_2$  is necessarily distinct from this table, we can conclude the

same for  $T_3$  and, indeed, for any table coming from the Australian hunk.<sup>26</sup>

If all of the premises of this argument can be grounded in some combination of non-conceptual, non-modal matters of fact with conceptual truths regarding what is necessary and possible, then we have a candidate for a mixed conceptualist grounding for our origin thesis. But I, along with many others, am skeptical about the truth of such sufficiency principles as (SO), not to mention the claim that it is a *conceptual* truth.<sup>27</sup> It seems implausible to claim that a hunk has at most one table “lurking” in it, in the sense that, if it is possible to make a table  $T$  from that hunk, then any table made from that very hunk is identical to  $T$ . Perhaps it is possible to make a modernist table from our North Carolinian hunk. Perhaps it is also to make a Shaker table from that very hunk. And it seems, though it is not possible to make both tables from that hunk in the same world, that they are, perhaps, distinct tables nevertheless. It seems the difference of plan for the table suffices to allow for the numerical distinctness of the products of the productive effort.

In the face of such a counter-example, a proponent of the sufficiency-based approach can choose to weaken (SO), so that it mentions, *e.g.*, the plan according to which a table is made. On this weakened ver-

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<sup>26</sup>Accounts that ground origin theses in the sufficiency of origin include McGinn (1976); Johnston (1977); Salmon (1979); Noonan (1983); and Forbes (1981, 1985, ch. 6). Forbes also makes use of a branching times framework for other purposes, but it plays no direct role in his argument for the origin thesis.

<sup>27</sup>For some doubts, see, *e.g.*, Salmon (1979); Robertson (1998); Hawthorne and Gendler (2000); MacKay (1986); Chihara (1998); Della Rocca (1996); Sarkar (1982); Noonan (1983); and Kripke (1980, 43, 46).

sion, though sameness of source hunk by itself does not guarantee sameness of product, sameness of source hunk plus sameness of plan does. Thus a weakened sufficiency principle might be:

**(W-SO)** If it is possible for a table,  $T$ , to be made from a hunk,  $H$ , according to a certain plan,  $P$ , then necessarily any table originating from  $H$  according to  $P$  is  $T$ .

If we also assume that, as a matter of necessity, a table is made from a hunk iff there is a plan such that that table is made from that hunk according to that plan, and also strengthen (PATP) to mention plans, then the argument will work along the lines previously sketched. Suppose, for the purposes of *reductio*, that it is possible to make this table from that Australian hunk. Then it is possible that there is a plan  $P$  such that this table is made from that hunk according to  $P$ . This means that  $P$  and the Australian hunk can “combine” in a table-production; nothing about either  $P$  or the hunk requires as a matter of necessity that no table can be made from that hunk according to that plan.  $P$  is a possible plan for manufacturing a table from the Australian hunk. But then a strengthening of (PATP), to admit the possibility of another table production according to  $P$ , is plausible:

**(S-PATP)** It is possible both that this table is a table made from that North Carolinian hunk and that there be a table made from that Australian hunk according to  $P$ .

In the situation promised by (PATP), the table made from the Australian hunk — call it  $T_2$  — is, by the necessary distinctness of the hunks and origin uniqueness, distinct from this table and necessarily so. But then any table that might be made from the Australian hunk according to  $P$  is identical to  $T_2$ , according to (W-SO), contradicting our original assumption that this table might have been made according to  $P$  from the Australian hunk.

Perhaps sameness of source hunk and plan does not suffice for sameness of product. Perhaps, for instance, we think that hunks can exchange molecules over time, and that a total difference in the constituent molecules of the Australian hunk would allow a difference in the identity of a table produced from that hunk according to a given plan. If so, we will need to add in sameness of constituent molecules, or some such, to secure sufficiency. Nevertheless, the sufficiency-based approach hopes that some conceptually-based weakening of (SO) (with correlative strengthening of (PATP)) will be available to ground our origin thesis.<sup>28</sup> Perhaps the sufficiency principle appealed to will be as weak as the claim that any indiscernible process of table-manufacture from  $H$  (using the same molecules, workers, tools, *etc.* in the same way) suffices for the product to be  $T$  and no

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<sup>28</sup>The sufficiency-based account cannot, however, appeal to a trivially true analogue of (SO), which makes the identity of the product table part of the sufficient condition, as in “If it is possible to make a table  $T$  from a hunk  $H$ , where the product of that production is  $T$ , then necessarily any table produced from  $H$ , where the product of that production is  $T$ , is identical to  $T$ .” The correlative strengthening of (PATP), “it is possible both that this table is a table made from that North Carolinian hunk, and that there be a table made from that Australian hunk, where the product of that second production is identical to this table”, is evidently false, given (OU). So the weakened analogue of (SO) must still be at least minimally interesting for this strategy to work.

other.<sup>29</sup> I hope to have at least illustrated the strategy that the sufficiency-based account will follow.

Let's take the weakest sufficiency principle that seems useful for the present purpose: that any indiscernible process of table-manufacture from  $H$  suffices for the product to be identical to  $T$ . More canonically, let  $D$  be a complete description of the course of a productive process, including the identity and features of the source hunk, the workers, tools, and facilities involved, but not including any claim about the identity of the product:

**(I-SO)** If it is possible for a table,  $T$ , to originate from a hunk,  $H$ , according to  $D$  then necessarily any table originating from  $H$  according to  $D$  is  $T$ .

(I-SO) is denied by a view I shall call *Insufficientism*. The Insufficientist holds that there are no non-trivial sufficient conditions for being this table here (or any other). A table's identity is 'bare' in the sense that it depends on no further facts about either the table itself or anything else. A proponent of this view holds, for instance, that  $H$ 's being in the place that it actually was, being manipulated and shaped as it actually was, with the tools, by the workers, and under the circumstances it actually was, provides no guarantee that  $T$ , rather than some other table, is the product. The product of these labors might simply have been a different table. The proponent of bare identities, then, denies that  $T$  must emerge in those

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<sup>29</sup>This is, more or less, the sufficiency principle employed by Forbes (1981, 1985, ch. 6).

circumstances.

I find Insufficientism a very attractive view. Kripke has shown that descriptions of the career of a thing that remain silent on which thing it is, although actually true of no other thing, might have been true of something else. Suppose, for instance, that we are given a description  $D$  of the “career” of a  $T$ , including what color it is at each point in its history, what style it was made in, who owned it, and so on, but is silent on whether it is identical to or distinct from  $T$  or any other particular table. Kripke has argued that some other table might have had all the features required by  $D$ . So indiscernibility from  $T$  does not suffice for identity with  $T$ . We have already suggested that production from  $H$  does not suffice for identity with  $T$ . Insufficientism is strongly suggested by a generalization of these two points: creation from  $H$  by a productive process indiscernible from a process in which  $T$  is produced from  $H$  also does not suffice for identity with  $T$ . If the features of  $T$  don’t suffice, and production from  $H$  doesn’t suffice, then we have no reason to think that putting them together *will* suffice.

Insufficientism is also strongly suggested in other cases where origin theses are at issue. Consider cases which involve the production of human beings from pairs of gametes. Kripke has suggested that, given that Elizabeth Windsor came from a certain pair of gametes, she could not have come from a completely different pair of gametes, *e.g.* some particular pair of gametes out of Harry and Bess Truman.

(Kripke, 1980, pp. 112-4) Kripke has argued that Elizabeth Windsor's career might have been enjoyed by a distinct woman. And we know that Elizabeth Windsor might have had an identical twin. It is plausible to claim that Elizabeth Windsor might have had an identical twin who enjoyed Windsor's actual career. This would be a case in which the twin, distinct from Windsor herself, comes from Windsor's gametes and enjoys her career. Perhaps a proponent of the sufficiency approach might claim that it is impossible for the twin not to have been a twin, so that sameness of gametes, plus indiscernibility of career, plus not being a twin suffices for identity with Windsor. But it is not obvious that it really is a necessity, regarding Windsor's possible twin, that she be a twin, much less that this necessity is conceptually grounded. An imperfect analogue of identical twinning out of biological precursors is provided by Ship-of-Theseus cases. Suppose some planks are used to build a certain ship, the planks are gradually replaced, one-by-one in the ordinary process of ship repair, and then another ship is built on the same plan from the original planks. Here we have two ships produced in separate productive processes from the same raw materials – the same planks.

These are evidently not decisive arguments in favor of Insufficiency. There are, of course, examples of sufficient conditions obtained by conjoining separately insufficient conditions. The point here is not to establish Insufficiency, but to pose a challenge for

the conceptualist who wants to rely on sufficiency principles. Such a conceptualist thinks that the Insufficientist has overlooked some semantic or syntactic feature of the ways in which we think and talk. But which semantic or syntactic feature or features have been overlooked? It does not seem that the Insufficientist has committed any conceptual mistake. The conceptualist claims, surprisingly, that there is a conceptual mistake. The challenge, then, for the conceptualist is to produce the argument which pinpoints that mistake and establishes the surprising claim. I conclude that, without an argument against Insufficientism, the sufficiency-based approach does not provide an adequate grounding for our origin thesis.

#### **4.4 Where next for conceptualism?**

Where does this leave the conceptualist's accommodationist strategy? We have offered no conclusive argument that no accommodation of our origin thesis is possible. We have only noted that the origin thesis seems on its face recalcitrant for conceptualist treatment, and we have criticized two attempts to accommodate the origin thesis within a conceptualist view. But, in the absence of a decisive argument against there being any conceptualist grounding for our origin thesis, this represents only the opening salvo. Though I do not know of any extant conceptualist proposal for grounding the origin thesis other than branching-times and sufficiency, this does not mean that there are no more to find.

I turn, however, from the accomodationist response to the origin thesis to the skeptical response. In the next chapter, we will explore the prospects for defending conceptualism by simply denying our controversial origin thesis.

## Chapter 5

# Grounding the necessity of origin

### 5.1 A Kripkean objection to conceptualism

Recall that part of Kripke's strategy for distinguishing the modal notion of necessity from *a priori* and analyticity is to produce examples of necessities that seem to be *a posteriori*. Our necessity of origin thesis is among his examples. But it seems to have importance, not just for the relation between *a priori* and necessity, but also for the brand of anti-primitivism I have been calling *conceptualism*. Recall again our usual setup: we are given this table here, which was, we suppose, produced from a certain hunk of wood grown in the pine forests of North Carolina. We are also given another hunk of wood, grown in the pine forests of Australia. For the sake of brevity, I will call this table here  $T_1$ , the North Carolinian

hunk  $H_1$ , and the Australian hunk  $H_2$ . By Kripke's lights and according to our necessity of origin thesis, it is impossible for  $T_1$  to have been made from  $H_2$ . If the origin thesis is true, then, I argued, it seems as if the conceptualist's paradigm case, "no bachelors are married", is not representative of the entire class of necessities. The conceptualist claims that the paradigmatic necessity is knowable *a priori*, and his claim is very plausible. But Kripke argues that there are some other necessities for which the *a priority* claim is implausible. I have already discussed conceptualist attempts to accommodate the truth of the origin thesis to the requirements of conceptualism. But, as I have also indicated, there is another response available. The conceptualist can simply take a skeptical line, denying that the origin thesis is true, and hence that there is any necessity to ground. This chapter explores the prospects for this skeptical line.

Suppose that the skeptical line is correct, and the origin thesis is false. We still have a modal fact to ground: the possibility that  $T_1$  have been made from  $H_2$ . But this possibility is much easier than the origin thesis for a conceptualist to handle; the conceptualist may maintain that this possibility obtains solely in virtue of the fact that it is no conceptual truth that  $T_1$  was not made from  $H_2$ .

As I noted when our origin thesis was first broached, the claim that it is impossible for  $T_1$  to have been produced from  $H_2$  is quite controversial. Indeed, on the face of the matter, it would seem that

skepticism about the claim is warranted. This initial skepticism is based on a modal intuition of irrelevance, so I will call it *irrelevance skepticism*. Nothing about  $T_1$ , its past history, or its future career seems to require that it be connected as a matter of necessity to a particular original owner (as opposed to an indiscernible twin owner); and likewise, nothing about the table, its past history, or its future career seems to require that it be connected as a matter of necessity to a particular original source hunk (as opposed to an indiscernible twin hunk). Though this is only a first impression, it does seem that the origin thesis enjoys less intuitive support than its negation.<sup>1</sup> At the very least, it faces a legitimate skeptical challenge: why couldn't  $T_1$  have come from  $H_2$ ? What excludes such an origination from its possibilities?

Kripke's arguments for the origin thesis do not seem to lay this skeptical challenge to rest. Kripke writes, "It just seems to me that anything coming from a different origin would not be this object."<sup>2</sup> For my own part, it seems that Kripke's confidence in the intuitive merits of the origin thesis is not warranted. Origin theses do not seem appealing at first blush, and further reflection on the claims inclines me towards skepticism. This suggests that the conceptualist's skeptical line is more promising avenue than the accommodationist line we explored last chapter. But Kripke does not rely on

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<sup>1</sup>Some in the philosophical literature seem to disagree, claiming that origin theses enjoy a great deal of pre-philosophical intuitive support. Foremost among these is, of course, (Kripke, 1980, esp. pp. 112-3), but see also (Mackie, 1974, p. 551).

<sup>2</sup>(Kripke, 1980, p. 113).

intuition alone to back the origin thesis. In a footnote, he also gives an argument that he says provides “something like a proof” in “a large class of cases” of a generalization of our origin thesis. Here is the full text of the argument:

A principle suggested by these examples is: *If a material object has its origin from a certain hunk of matter, it could not have had its origin in any other matter.* Some qualifications might have to be stated (for example, the vagueness of the notion of hunk of matter leads to some problems), but in a large class of cases the principle is perhaps susceptible of something like proof, using the principle of the necessity of identity for particulars. Let ‘ $[T_1]$ ’ be a name (rigid designator) of a table, let ‘ $[H_1]$ ’ name the piece of wood from which it actually came. Let ‘ $[H_2]$ ’ name another piece of wood. Then suppose  $[T_1]$  were made from  $[H_1]$ , as in the actual world, but also another table  $[T_2]$  were simultaneously made from  $[H_2]$ . (We assume that there is no relation between  $[H_1]$  and  $[H_2]$  which makes the possibility of making a table from one dependent on the possibility of making a table from the other.) Now in this situation  $[T_1] \neq [T_2]$ ; hence, even if  $[T_2]$  were made by itself, and no table were made from  $[H_1]$ ,  $[T_2]$  would not be  $[T_1]$ . . . . [T]he argument applies only if the making of  $[T_2]$  from  $[H_2]$  does not affect the possibility of making  $[T_1]$

from  $[H_1]$ , and vice-versa.<sup>3</sup>

The argument appears to go like this. We are given our old friend, the table  $T_1$ , which originates from  $H_1$ . We are to consider a different hunk  $H_2$ . Kripke quite plausibly notes that it might have been that  $T_1$  is produced from  $H_1$  just as it actually is, while  $H_2$  is used to produce some table  $T_2$ .  $T_2$  and  $T_1$  are distinct in such a case, and hence, by the necessity of distinctness, actually distinct as well. Kripke concludes that any table that might be made from  $H_2$  would be distinct from  $T_1$ .

But this argument fails to establish that  $T_1$  could not have come from  $H_2$ . Kripke has only shown that  $T_2$ , one among the tables that might have been made from  $H_2$ , is distinct from  $T_1$ . He needed to show more. He had to establish that *any* table that might have been made from  $H_2$  is distinct from  $T_1$ . The argument as stated does not rule out the possibility that some table distinct from  $T_2$  (but identical to  $T_1$ ) be made from  $H_2$ , while nothing is made from  $H_1$ .<sup>4</sup> Kripke's argument fails to establish the origin thesis. Another argument is needed. I believe that another argument can be given, and I will press the Kripkean objection by giving the argument.

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<sup>3</sup>(Kripke, 1980, p. 114n). I hope that replacing Kripke's original nomenclature with the  $T$ 's and  $H$ 's aids understanding.

<sup>4</sup>This criticism of Kripke's putative proof is derivative of Salmon (1979).

## 5.2 Grounds for the origin thesis

$T_1$  was originally produced (we assume) from a particular hunk of wood  $H_1$ , grown in North Carolina. We are attempting to ground an origin thesis to the effect that  $T_1$  could not have been produced from that Australian hunk,  $H_2$ . We want to know why, if the origin thesis is true, this necessity obtains. The answer to this question requires consideration of another question in the metaphysics of production: in general, what does it take to prevent the production of a particular material object from a particular hunk? More particularly, what does it take to prevent  $T_1$ 's production from  $H_1$ ?<sup>5</sup>

It is a contingent fact that  $H_1$  gives rise to  $T_1$ . There are many ways it might not have come to pass. We might have made  $H_1$  into a chair; we might have burned  $H_1$  for warmth; we might have seized the means of table production; we might just have decided to leave  $H_1$  alone. In all of these cases, some factor prevents the production of  $T_1$  from  $H_1$ . By assumption,  $T_1$  emerged from  $H_1$  in the actual circumstances. The factors that prevent  $T_1$ 's production in each case are those divergences from the actual circumstances responsible for  $T_1$ 's not coming from  $H_1$  in that case.<sup>6</sup>

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<sup>5</sup>I am indebted to Guy Rohrbaugh for many of the formulations of points made in this section.

<sup>6</sup>Although it is a sufficient condition on a factor's responsibility for an effect that it causes the effect, this is not a necessary condition. Many cases of prevention cannot be thought of as strictly causal, as we are often contemplating the absence of a certain event being responsible for the absence of another. Consider the following contrasting pair of cases. First,  $T_1$  fails to eventuate because  $H_1$  has suffered dry rot and has been rendered unsuitable for table-making. Here, the connection between the dry rot and  $T_1$ 's failing to eventuate involves an identifiable causal process involving  $H_1$ . Second,  $T_1$  fails to eventuate because life failed to evolve and there are no trees and, thus, no  $H_1$ . Here, there is no identifiable causal process involving  $H_1$  or the production process, but in both cases, 'because' expresses a relation of responsibility.

We should notice an important feature of these examples; each preventing factor is responsible for some effect on  $H_1$ , or the people or tools involved in the productive effort. In this sense, the preventions are *local*. What is unconnected to the existence of  $H_1$  or the making of  $T_1$  from  $H_1$  is irrelevant to  $T_1$ 's production and cannot interfere. These reflections suggest that processes of table-creation are governed by a principle of *Locality of Prevention*: any case in which some factor prevents the production of  $T_1$  from  $H_1$  must differ from actual circumstances in the locale of either  $H_1$  or other elements of the process by which  $T_1$  actually emerged.<sup>7</sup>

It is important to distinguish two claims that deserve the title “Locality of Prevention”. The first claim is the one I have been defending: in the absence of any factor which affects  $H_1$  or some other element of the production of  $T_1$ , that production *may* result in the production of  $T_1$ . Nothing prevents  $T_1$  from being produced, and its emergence is possible. We may call this the *Weak Locality of Prevention*. A stronger claim, with which it might easily be confused, is that in the absence of such factors the process *must* result in the production of  $T_1$ . Nothing prevents  $T_1$  from being produced, so its emergence is inevitable. Call this the *Strong Locality of Prevention*.

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<sup>7</sup>Note that this claim states a necessary condition for preventing the production of  $T_1$  from  $H_1$ . No implication of the converse, a sufficient condition for preventing that production, is intended. A productive effort using  $H_1$  as raw material may result in  $T_1$  even though there are significant differences from the actual circumstances in the locale of the production. The Locality of Prevention allows that there is more than one way to produce a table. Suppose local authorities arrest the table-makers. In this case, one might expect the arrests to prevent the production. But other factors may allow this interference to be overcome. Suppose that the table-makers are quickly released. It stands to reason that they might continue their productive efforts with  $T_1$  as the eventual result.

The stronger claim, unlike the weaker, articulates a sufficient condition for being  $T_1$ : any table which is produced from  $H_1$  under precisely the actual conditions is, as a matter of necessity,  $T_1$ . We could use the Strong Locality of Prevention in the argument for the origin thesis. But the present approach relies instead on the Weak Locality of Prevention, and hence eschews such sufficient conditions for being  $T_1$ . All that is promised by the Weak Locality of Prevention is that  $T_1$  might still be the product in such a case. But, for all that the principle tells us, it also might not.<sup>8</sup>

The difference between the two claims can be illustrated by appeal to a metaphysical view which accepts the weaker, but denies the stronger. We have already encountered such a view, the Insufficientism of last chapter. Recall that, according to Insufficientism, there are no non-trivial sufficient conditions for being  $T_1$ .  $T_1$ 's identity is 'bare' in the sense that it depends on no further facts about either  $T_1$  or anything else. So  $H_1$ 's being in the place that it actually was, being manipulated and shaped as it actually was, with the tools, by the workers, and under the circumstances it actually was, provides no guarantee that  $T_1$ , rather than some other table, is the product. The Insufficientist, then, denies the Strong Locality of Prevention.

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<sup>8</sup>There is a delicate question here about the force of the 'might' in ' $T_1$  might still be the product.' Although the ordinary English locution seems to express the thought tolerably well, those who are overly used to hearing 'could' as 'there exists a possible world in which' may be left puzzled. In the locution of possible worlds, the claim amounts to this: Assume we are given a factor  $F$  such that there is a world in which  $F$  obtains, while  $H_1$ , the tools, workers, and facilities involved in the productive process are unaffected; then there is a possible world in which  $F$  obtains, and  $T_1$  is a table produced from  $H_1$ . In that sense the production *can* still succeed, even though  $F$  takes place. Of course this is consistent with there being another possible world in which  $F$  obtains and  $T_1$  is not produced from  $H_1$ .

But she will find nothing to quarrel with in the Weak Locality of Prevention: it is the inevitability of  $T_1$ 's emergence she finds repugnant. Its possibility is no problem for her.<sup>9</sup> To repeat, the Weak Locality of Prevention only requires that  $T_1$  may eventuate in a situation in which  $H_1$  and other elements of the productive process are unaffected, not that it must. I emphasize the distinction between 'may' and 'must' here because keeping the distinction firmly in mind will help distinguish the present approach from those based on principles similar to the sufficiency of origin. I will also continue to use the label "Locality of Prevention" for the *Weak* Locality of Prevention, when its relative weakness is not at issue.

The Locality of Prevention provides grounds for the origin thesis. But before we trace how it manages this feat, it is worthwhile to dwell on its import. The Locality of Prevention expresses what looks like a general truth about processes of table-production: they are essentially local phenomena. The causal-historical path leading to this table runs through quite specific materials and processes of assembly which are distinct from those leading to your table, or, indeed, to anything constructed from completely different materials, at other times, or in other places. Because the actual production of this table from its source hunk is solely a matter of what happens along the causal-historical path, any factor that interferes with that

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<sup>9</sup>Some of the literature on the necessity of origin rests the case for origin theses on the rejection of this position, *e.g.* (Forbes, 1985, ch. 6). Noonan (1983) thinks the case for origin theses rests on the rejection of 'bare' identities (see esp. p. 3), but argues against the ultimate coherence of such a position. Obviously, the route sketched here does not rest on its rejection.

production must make a difference along this path. Factors that fail to influence it do not prevent the desk from coming into existence just as it actually does. Running the productive process which actually leads from  $H_1$  to  $T_1$  in the presence of factors which do not locally infringe *can* still lead to  $T_1$ . Interestingly, nothing about this reasoning is really specific to tables. Analogous restrictions on prevention seem to govern the production of most kinds of material objects, many kinds of events, and perhaps even some kinds of non-material things.<sup>10</sup>

Despite their generality, the restrictions imposed by the Locality of Prevention are not trivial. There are kinds for which these restrictions do not hold. Call something a *prototypical table* if it is the first table ever made in the universe. We may prevent the production of a prototypical table from a source hunk simply by constructing another prototypical table at some earlier point in time. Such interference need not be local.<sup>11</sup> It is also easy to find examples of kinds for which interference might occur ‘after the fact.’ Call something a *super-prototypical-table* if it is the only table ever to exist in the universe. What produces a super-prototypical-table in one circum-

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<sup>10</sup> Although the independence approach to the origin thesis offered here applies most obviously to material objects, considerations of constitution play no essential role in the reasoning. What matters is rather producibility and the invulnerability of such productive processes to non-local interference. Where events and non-material things fit this profile, as, for example, symphonies and species of animal arguably do, similar reasoning will apply.

<sup>11</sup> The interference is not just with the existence of, say,  $PT_1$ , nor with its creation from some hunk or other, but with the *production* of  $PT_1$  from, say,  $H_1$ . We are thinking of productions as individuated in part by the kind of thing the product is. So, supposing  $PT_1$  to be a prototypical table constructed from  $H_1$ , the production of that very table from  $H_1$  may fail in some other world, even though the right table is produced from  $H_1$  in that world. The prototypical table production fails because the product is not a *prototypical* table.

stance may fail to do so in another. The construction of a second table, even after the first is completed, will spoil it. Productions of prototypical- and super-prototypical-tables are vulnerable to forms of competitive interference. What prevents their production is our running the very same sort of process on another hunk somewhere else.

The contrast with ordinary tables is instructive, for ordinary tables do not seem vulnerable to the same sort of non-local, competitive interference. As far as making  $T_1$  from  $H_1$  goes, it just doesn't matter what you do with some other hunk of wood somewhere else in the universe. Make it into a table or don't. As long as the second process doesn't infringe on the process which actually makes  $H_1$  into  $T_1$ , this process may well run as it actually did, resulting in  $T_1$ . The reasoning is symmetric. Suppose we do make that second hunk into a table. Whether we make  $H_1$  into  $T_1$  or not is irrelevant to the success of our new endeavor, unless the two processes locally interfere with one another.

The Locality of Prevention has the following consequence: if one table production need not have effects in the locale of another and *vice versa*, then it is possible for both productions to succeed. Table productions can be isolated from the effects of other table productions in most cases.<sup>12</sup> The upshot is that productions of tables

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<sup>12</sup>Notice that the idea that table productions can be isolated from one another in this way should be irresistible to the irrelevance skeptic, who is antecedently inclined to think that, *e.g.* the workers, tools, facilities, time of manufacture, *etc.*, are all metaphysically optional for the production of a given table.

from hunks seem to enjoy a form of *independence* from one another. A process that turns one hunk into a table *need not* interfere with any other, though there are cases in which they do, in fact, interfere. Suppose we burn one of the hunks in order to power the machine which makes the other hunk into a table. In this situation, we can no longer make any of the tables we might otherwise have made from the burned hunk. But this connection between the processes is contingent. Had we found another source of power, the second hunk would have remained available for table-manufacture. The form of independence is one which rules out only necessary interference between table productions.

If this reasoning is correct, we seem to have the following situation. Given any two distinct hunks, a table constructed from the first hunk can, in principle, also be constructed in the presence of the production of any of the tables which can be constructed from the second hunk.<sup>13</sup> This is what we may call an *independence principle*.<sup>14</sup> It expresses the compossibility of table-productions from distinct hunks.

Independence is the ineluctable result of the Locality of Preven-

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<sup>13</sup>This claim is a bit too strong as it stands, and is vulnerable to plausible counter-examples in a limited range of cases. For now I paint in broad strokes, ignoring complications for expository purposes. We will discuss a counter-example below.

<sup>14</sup>Independence principles, and the availability of a valid argument from them to the origin thesis, appear to have been first noticed by Kit Fine and Robert Stalnaker. In footnote 11 of (Salmon, 1979), Salmon attributes such an idea to both Fine and Stalnaker. He also broaches a similar idea in (Salmon, 1981, pp. 201, 212-3). Depending on how the argument of footnote 56 of *Naming and Necessity* should be interpreted, the idea may originally have been Kripke's. Salmon himself, in (Salmon, 1981), broaches an interpretation of Kripke's footnote that invokes an independence principle as its crucial premise, rather than a sufficiency principle. A more recent interpretation along these lines is offered by (Cameron, 2005). Perhaps it is obvious that this chapter is the result of reflection on what Kripke says there.

tion. Because making a table is just a matter of what happens locally along the casual-historical path, the paths are compossible when nothing requires one to affect the other as a matter of necessity. Whenever processes of production are invulnerable to non-local interference, there will be an analogous principle of independence. So, independence principles seem to hold no less generally than does the Locality of Prevention.

The origin thesis is a simple byproduct of independence principles. Let us start with an explicit characterization of an independence principle for our  $T_1$ – $H_1$  test case. Recall that we understand ‘made from’ so that it holds only between tables and hunks which contain all and only their initial matter.

**(T-IND)** For any table,  $T_2$ , which might be made from  $H_2$ , it is possible that both  $T_1$  is a table made from  $H_1$  and  $T_2$  is a table made from  $H_2$ .

The argument requires two other premises. The first is a familiar logical principle, the (necessary) necessity of distinctness.

**(ND)** Necessarily, if  $x \neq y$ , then necessarily  $x \neq y$ .

The second is another metaphysical principle, which we have already encountered. I have called it *origin uniqueness*, and I reproduce it here for the sake of exposition.

**(OU)** Necessarily, if  $T_1$  is a table made from  $H_1$  and  $T_2$  is a table made from  $H_2$  and  $H_1 \neq H_2$ , then  $T_1 \neq T_2$ .

As I noted before, this principle says that a single table cannot entirely and exhaustively originate from distinct hunks in a single possible world. I also argued in the last chapter that, given our understanding of the ‘made from’ relation, (OU) is uncontroversial, though not a logical truth. The conclusion is the origin thesis that is our concern.

**(T-NO)** It is necessary that any table  $T_2$  made from  $H_2$  be distinct from  $T_1$ .

Now the argument. Start with our table,  $T_1$ , made from a hunk,  $H_1$ . Suppose the origin thesis is false: it is possible that  $T_1$  be produced from that Australian hunk  $H_2$ , which is distinct from  $H_1$ . Since  $T_1$  actually comes from  $H_1$  and it is possible that  $T_1$  come from  $H_2$ , the independence principle says that both productions are jointly possible in some world  $w$ . Since  $H_1$  and  $H_2$  are distinct, they are distinct in  $w$  as well by the necessity of distinctness. By origin uniqueness, the distinctness of the hunks in  $w$  shows that  $T_1$  is distinct from itself in  $w$ , which is absurd. Since the choice of  $H_2$  was arbitrary, we conclude that it is impossible to make  $T_1$  from any such  $H_2$ . Q.E.D.<sup>15</sup>

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<sup>15</sup>The argument is straightforward and requires only the K and T axioms along with the rule of necessitation. One could, for elegance, use B and the necessity of identity in lieu of (ND). The relevant QML symbolizations are:

**(T-IND)**  $\Box\forall t_2(O(h_2, t_2) \Rightarrow \Diamond(O(h_2, t_2) \wedge O(h_1, t_1)))$

**(ND)**  $\Box\forall x\Box\forall y\Box(x \neq y \Rightarrow \Box(x \neq y))$

**(OU)**  $\Box\forall t_1\forall h_1\Box\forall t_2\forall h_2\Box[(h_1 \neq h_2 \wedge O(h_1, t_1) \wedge O(h_2, t_2)) \Rightarrow t_2 \neq t_1]$

**(T-NO)**  $\Box\forall t_2(O(h_2, t_2) \Rightarrow t_2 \neq t_1)$

In accordance with the discussion of the main text, our assumption that  $H_2 \neq H_1$  is used as an ancillary premise. Notice a peculiarity of the symbolization of (T-IND): the statement of the premise in English only makes possibility claims, but its symbolization into QML uses the

One natural reaction to the argument is to think that, while valid, it simply begs the question because the independence principle just is our origin thesis in disguise. What difference is there, one might ask, between being told that  $T_1$  could not have come from  $H_2$  and being told that the production of any table from  $H_2$  is compossible with  $T_1$ 's production from  $H_1$ ? Strictly speaking, the charge is false. The independence principle and the necessity of origin do not imply one another. First, independence, by itself, does not imply the origin thesis in the absence of the necessity of distinctness and origin uniqueness. If distinctness were contingent, then a table actually made from  $H_1$  could be identical to a table made from  $H_2$  in a world in which nothing is made from  $H_1$ . While neither the necessity of distinctness nor origin uniqueness is open to much doubt, our reasons for accepting them come from quarters far removed from those which support the origin thesis. Second, the necessity of origin does not imply independence. Even if no table could ever come from other matter, it might still be the case that independence fails because some distinct table-productions are not compossible. The necessity of origin only denies the existence of certain possibilities, while independence principles make a positive claim that a certain situation, that containing both table-productions, is possible.

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necessity operator. This peculiarity is a species of the phenomenon illustrated by the traditional treatment in logic of the English sentence, "If a dolphin jumps, then it is happy." The English sentence contains no universal quantifier expression, *e.g.* "all" or "each", but its symbolization may. If any discrepancy of interpretation arises because of the difference between the English articulation of the premise and its QML symbolization, the English articulation of the premise and the argument should be taken as canonical. The QML symbolization is inserted only to clarify how the argument from independence to the origin thesis proceeds and which other principles, besides independence, are used.

Such logical niceties aside, one might still think there is something to the spirit of the charge. After all, if the independence principle is true, it rules out any form of necessary interference between the making of  $T_1$  from  $H_1$  and the making of any table at all from  $H_2$ . Haven't we just stipulated away the apparent counter-example to the origin thesis, that in which the interference comes from our making  $H_2$  into  $T_1$ ? To see why the answer is 'no,' we need to go back to the justification of independence. Where  $H_1$  and  $H_2$  are distinct hunks and we have a way making  $H_1$  into a particular table, if we also have a way of making  $H_2$  into a particular table, then it seems that we could, in principle, run both of these processes together. The distinctness of the hunks seems to guarantee that there is no necessary interference between the processes; in at least one world, we can run them both and get the very tables we produced separately. Someone who wants to claim that we can make  $H_2$  into  $T_1$  needs to explain either why we could not also run the process which in fact turned  $H_1$  into  $T_1$  or why that process could not result in  $T_1$ . Either sort of explanation would appear to violate the Locality of Prevention principle. It won't do simply to say, 'We've already made  $T_1$ , so  $T_1$  can no longer be made,' without also telling us what factor necessarily affects  $H_1$  or some other element used to produce  $T_1$  from it. Without some explanation of why the two processes *must* interfere with each other, the objector is left baldly claiming some unspecified form of prevention. One may object to

independence principles, but the assertion of independence is not just the bald assertion of the origin thesis. Independence has its own grounds of support, and one who objects to the origin thesis must find some flaw in these independent grounds.

Indeed, the argument is so far from being circular, that it appears to have pulled off the impossible. The independence principle used is a possibility claim, so the argument shows that the origin thesis can be grounded in a possibility claim. This is surprising: naively one would have thought that, the fewer the possibilities, the likelier the origin thesis. So it comes as a surprise that accepting that there is a certain possibility commits one to the origin thesis.<sup>16</sup>

### 5.3 Sufficiency again?

In the last chapter, I argued that a conceptualist who aims to take an accommodationist line with our origin thesis should not appeal to sufficiency principles as part of the grounds. I urged two main lines of objection: I claimed (i) that sufficiency principles are probably not true; and (ii) that, even if they are true, they state modal facts that do not appear to be grounded conceptually. The first line of criticism is equal proof against the Independence-based argument I have advanced in the last section, should it turn out that the argument covertly depends on sufficiency principles. Fortunately, the argument does not covertly depend on sufficiency principles.

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<sup>16</sup>Thanks are due to D. A. Martin for bringing this oddity to my attention. He thinks of it as a reason for skepticism about the argument; I think of it as an advertisement for its merit.

The difference between the independence approach and the sufficiency approach is subtle because the forms of argument are superficially similar. Both use the necessity of distinctness, origin uniqueness, and some compossibility claim about table productions to reach the origin thesis. Recall that the sufficiency account starts with an independence-like principle, though one that is weaker and more obviously true. I have called the principle, which asserts the possibility of another table production, (PATP). I reproduce it here, substituting in  $T$ 's and  $H$ 's:

**(PATP)** It is possible both that  $T_1$  is a table made from  $H_1$  and that there be a table  $T_2$  made from  $H_2$ .

(PATP), plus some ancillary premises, including (OU), establish the distinctness of  $T_1$  and *one* of the tables that might have been made from  $H_2$ . This is short of establishing the distinctness of  $T_1$  from *any* of the tables that might have been made from  $H_2$ . This gap in the argument from (PATP) was bridged by appealing to the sufficiency of origin for tables. According to sufficiency principles, any table that might be made from  $H_2$  is identical to the one whose distinctness from  $T_1$  we have already established. Thus  $T_1$  is distinct from any of the tables that might have been made from  $H_2$ .<sup>17</sup>

I, along with many others, am skeptical about the truth of such sufficiency principles,<sup>18</sup> but what is relevant here is that the ar-

<sup>17</sup>Readers will notice that the argument from (PATP) without sufficiency is just a regimented version of the argument attributed to Kripke in the introductory section of this chapter. The Sufficiency approach plugs the hole in that argument (which may or may not be the argument that Kripke gives) with sufficiency principles.

<sup>18</sup>I have already cited the following fellow-doubters: Salmon (1979); Robertson (1998);

gument from independence does not presuppose, and is compatible with the falsity of, the sufficiency of origin. The independence principle says that the making of  $T_1$  from  $H_1$  does not foreclose the possibility of making any table that might otherwise be made from  $H_2$ , for both may be constructed in the same world. The truth of this claim is entirely compatible with our being able to make a number of alternative tables from a single hunk of matter, and this is the denial of the sufficiency principle. Essentially, the sufficiency principle functions in the argument by ensuring an unusually strong form of independence between table-makings: no table from  $H_2$  need interfere with  $T_1$ 's coming from  $H_1$  because any table from  $H_2$  is  $T_2$ , which we already know from (T-WIN) does not interfere. But once one sees how the argument from independence proceeds, it becomes clear that sufficiency principles are an unnecessarily strong way of guaranteeing the independence required to derive the origin thesis.

While it should be clear that the argument from independence does not rely on any sufficiency of origin principle, one might think that sufficiency reasoning is still at work in the justification of independence itself.<sup>19</sup> This impression may be dispelled. I suggested that independence principles have their source in the principle of Locality of Prevention: a production process can be prevented only by factors which affect the raw materials, workers, tools, and facilities involved. Where there are two such processes which need not affect

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Hawthorne and Gendler (2000); MacKay (1986); Chihara (1998); Della Rocca (1996); Sarkar (1982); Noonan (1983); and Kripke (1980, 43, 46).

<sup>19</sup>Teresa Roberston emphasized the need for this point.

one another, they are compossible because nothing prevents both from occurring together in some world. One way of understanding this reasoning would invoke a sufficiency principle for processes. If one thought that the process which actually leads from  $H_1$  to  $T_1$  would inevitably lead to  $T_1$ 's emergence, then any world containing this unaltered process alongside some other such process is a world containing  $T_1$  and some other table.

I have emphasized that, while one may reason in this fashion, one need not. Securing the truth of independence for a pair of non-interfering processes, say those which take  $H_1$  into  $T_1$  and  $H_2$  into  $T_2$ , requires only that there be some world in which we can run them both with these results. It is a matter of indifference whether there are some other worlds in which running these processes leads to tables other than  $T_1$  and  $T_2$ . It is for this reason that I claim only that running the process which actually leads from  $H_1$  to  $T_1$  in the presence of another process which doesn't locally infringe *can* lead to  $T_1$ , not that it *must*. Once again, sufficiency reasoning turns out to be stronger than is required for the argument. Also note that questions about the necessary features of processes are bypassed on this approach, for it is again a matter of indifference whether, say, the process which actually led from  $H_1$  to  $T_1$  could have run differently with the same result or, if so, how differently it could have run. Given a pair of hunk-to-table processes, all that matters is the possibility of running them unaltered and getting those same

tables in at least one world. Hence, the Locality of Prevention is much less committal than it might seem at first glance. Its weakness turns out to be a source of strength for the argument, however, since objections to sufficiency principles turn out to be beside the point.

## 5.4 Overlapping origins

(T-IND), as stated, will not generalize. Generalizations turn out to be counter-intuitive when hunks have much of their material in common. If one hunk is made into a table in such a case, then there may not be enough of the other left to craft some table we might have otherwise obtained; the two tables compete for raw materials. Such cases are also ones in which a necessity of origin thesis is implausible. Couldn't this table have been made from slightly different matter? Couldn't it therefore have been made from a hunk distinct from  $H_1$ , but sharing much material in common? If our claim that independence principles ground origin theses is correct, then it is no coincidence that origin theses seem implausible in cases where independence fails. Such cases also suggest that we may amend generalizations of (T-IND) by restricting them, from distinct hunks, to non-overlapping hunks.

**(RT-IND)** Necessarily, given any two *non-overlapping* hunks,  $H_1$  and  $H_2$ , and a table,  $T_1$ , made from  $H_1$ , for any table,  $T_2$ , that might be made from  $H_2$ , it is also possible that both  $T_1$  is a table made from  $H_1$  and  $T_2$  is a table made from  $H_2$ .

Such a restricted independence principle would support a similarly restricted and more plausible origin thesis, like that defended by Kripke, Salmon, and others, that no table could have been constructed from a hunk entirely disjoint from that table's actual originating hunk.

A second sort of case appears to be a counter-example to even this restricted form of independence. Suppose that  $H_1$  is a block of petrified wood which comes from  $H_2$  by petrification, a process in which all the organic matter of  $H_2$  is replaced by minerals. (This case is due to James Forrester.) Once again, making a table from  $H_2$  will preclude our making any tables from  $H_1$ , despite the fact that the two hunks share no matter. Making some  $T_2$  from  $H_2$  and allowing  $H_2$  to petrify into  $H_1$  compete for raw materials.  $H_2$  cannot both be made into the table  $T_2$  and remain available for petrification into the hunk  $H_1$ . So (RT-IND) is evidently false in this situation.

Even though  $H_1$  and  $H_2$  do not overlap in the sense of sharing matter in Forrester's case, it is clear from the perspective of the locality of prevention principle what is going on. The processes which lead from  $H_2$  to  $T_2$  and from  $H_2$  through  $H_1$  to  $T_1$  overlap in their causal histories and necessarily interfere with one another. This suggests that (RT-IND) does not exhaust the content of the locality of prevention principle and that one could develop a notion of 'non-overlap' other than 'disjointness of matter' which would validate independence principles.

I will not, however, attempt to formulate such a principle here. My intention here is not to determine exactly how to formulate a general independence principle that covers all of the cases exactly correctly. I am confident that, in the case of this table  $T_1$ , its source hunk  $H_1$ , and the Australian hunk  $H_2$ , the independence principle (T-IND) is true. As the cases show, the situation is more complex with respect to hunks which are entangled, either by overlap or by some more complicated relation. The point was not to arrive at some set of general principles which accurately predict which origin theses are true in every single case. The point was to arrive at an argument for the origin thesis in the particular test case which is our focus. Of course, I think other cases in which origin theses obtain will go similarly to the case which has been our focus, but it is not my aim to formulate true general principles which accurately predict exactly which origin theses are true.

## 5.5 Skepticism again?

Now the locality-based argument, though valid when spelled out in detail, is no proof of the origin thesis. No contradiction is entailed by the denial of our origin thesis, so someone determined to deny the origin thesis can follow the argument back, and pick the premise he wants to deny. The obvious candidate is the Locality of Prevention. So someone determined to deny the origin thesis might conclude, “contrary to our expectations, there is a way to prevent

the production of this table here from its Carolinian hunk without any local interference: just make it from that Australian hunk first.” That means that it remains open to someone determined to take the skeptical line to defending conceptualism by denying the Locality of Prevention.

I have claimed that there is some reason for skepticism about our origin thesis, on the basis of a metaphysical intuition of irrelevance. Nothing about  $T_1$ , its past history, or its future career seems to require that it be connected as a matter of necessity to a particular original source hunk. Notice that a similar metaphysical intuition of irrelevance was invoked to motivate the Locality of Prevention. Suppose there are lots of divergences from actuality elsewhere, but no effects on elements of the actual productive process from  $H_1$ . Then the divergences are irrelevant to the possibility of producing  $T_1$  from those elements. Nothing about  $H_1$ , the tools, workers, or facilities requires as a matter of necessity that they *not* produce  $T_1$ , despite the divergences elsewhere. Running the process which actually leads from  $H_1$  to  $T_1$  in the presence of factors which do not locally infringe can still lead to  $T_1$ .

Hence, the reasons for initial skepticism about our origin thesis turn out also to motivate a principle which implies it. Whatever its other merits and deficiencies, then, the argument from the Locality of Prevention may serve as a warning not to base one’s skepticism about origin theses on the initial impression that nothing about

$T_1$  requires its connection to  $H_1$ . As we have seen, intuitions of the same sort will also serve as the basis of an argument in favor of such a connection. If our discussion is on target, then those concerned to deny origin theses should find other intuitive grounds for their denial. Speaking personally, one of the reasons why I find the argument from the Locality of Prevention so appealing is that I do not believe that there are other grounds for skepticism about origin theses that are as compelling as irrelevance skepticism.

What intuitive grounds are left for skepticism about the origin thesis? If one is committed to conceptualism, and convinced that no accomodationist line can work, then one may object to the origin thesis on the grounds that it is inconsistent with conceptualism. Such a defender of conceptualism will presumably deny even the Weak Locality of Prevention, perhaps arguing that the intuitions only justify an even weaker principle, to the effect that factors that do not affect the locale of  $T_1$ 's production do not prevent the production of some table or other from  $H_1$ . As I have said, our argument will not show that there is some internal incoherence or inconsistency in this skeptical position.

Nevertheless, in the absence of a compelling argument for or against conceptualism, I am disinclined to rely either on that view or its falsity in considering whether our origin thesis is true. I do not reason down, from an overarching thesis about how modal facts are to be grounded to implications for the particular cases. Instead

I am reasoning up, from how things seem in the particular cases to what implications there might be for overarching theses about the nature of modal facts. Hence, I am inclined to consider the case for or against our origin thesis on its own merit, independently of what position one takes on conceptualism. Indeed, the issues raised by our argument for the origin thesis seem unrelated at first glance to the question of whether any particular brand of anti-primitivism is true. Anti-primitivism, and even conceptualism, by themselves do not require any particular position on the argument for the origin thesis. The argument for the origin thesis is relevant in the present circumstance only because it provides an answer to the conceptualist's skeptical line of defense.

Hence, I seek grounds for accepting or rejecting our origin thesis that are independent of the debate over conceptualism. And, speaking personally, the intuitive cost of denying the origin thesis strikes me as too high. While I admit that there are reasons for skepticism about our origin thesis, the Locality of Prevention seems to me both more intuitive than the denial of the origin thesis, and motivated by the very reasons that seemed to cast doubt on the origin thesis. Hence the skeptical response to the argument from the Locality of Prevention strikes me, at least, as unconvincing.

## 5.6 Accommodationism again?

The argument shows that we should accept our origin thesis. So our discussion recommends that we accept the impossibility of producing this table  $T_1$  from the Australian hunk  $H_1$ . Our motivation for the Independence principle tells us why  $T_1$  could not have come from  $H_2$ . Prevention of table-productions must be local. Since table productions separated in space and time need not affect one another, they need not interfere with one another. The argument shows how this result yields the origin thesis.

We could summarize the argument thus: it is impossible to prevent the production of this table here from that Carolinian hunk except by local effects; if it were possible for this table to have been made from that *Australian* hunk, then it would be possible for a factor that has no local effects to prevent the production of this table from the *Carolinian* hunk – just produce it from that Australian hunk first; hence, it is not possible for this table to have been made from that Australian hunk.

But what is the status of the considerations deployed in the argument? Suppose our independence principle were a conceptual truth. Our independence principle is ostensibly about a particular table and two particular hunks,  $T_1$ ,  $H_1$ , and  $H_2$ . This makes it hard to see how it could be a basic, underived conceptual truth. A better candidate is the modal closure of a generalization of this principle. The stronger claim would govern all possible material object pro-

ductions. It would say that, if it is possible for there to be a table  $T_1$  and a hunk  $H_1$  such that  $T_1$  is made from  $H_1$ , then, for any hunk  $H_2$  numerically distinct from  $H_1$ , any table that might be made from  $H_2$  can be made in the presence of the production of  $T_1$  from  $H_1$ . Call this stronger principle *generalized independence*. We have already suggested how conceptual truths might in principle lead to the origin thesis. Perhaps the argument of the last section gives us a compelling example. That is, perhaps the correct response to the argument is to embrace generalized independence as a conceptual truth. If this is correct, and the ancillary premises turn out also to derive from conceptual truths,<sup>20</sup> then it seems we have the ingredients required to accommodate the origin thesis with conceptualism. What is there to say, then, against the view that the origin thesis is grounded in these conceptual truths?

Such an approach is an application of the mixed conceptualist strategy. The argument purports to establish something like a necessitation principle, that if a table  $T_1$  originates from a hunk  $H_1$ , then it is necessary that  $T_1$  not originate from any other hunk. If we were somehow given that  $T_1$  had to originate from some hunk or other,<sup>21</sup> we could derive a straightforward necessitation premise:

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<sup>20</sup>The necessity of distinctness seems already to be a good candidate for a conceptual or logical truth. The principle of origin uniqueness is as well, given our simplifying assumption to the effect that the originating hunk provide exactly enough material to construct the product. Our discussion will focus on the plausibility of the claim that Independence principles are conceptual truths, ignoring the multitude of issues raised by the ancillary premises.

<sup>21</sup>Perhaps an argument from the Locality of Prevention could be mounted for this claim as well. For suppose that  $T_1$  could exist without having originated from  $H_1$ . Then, supposing this possibility were realized, the attempt to run the production of  $T_1$  from  $H_1$  is doomed to failure:  $T_1$  could not *both* originate from  $H_1$  *and* fail to originate from any hunk whatsoever. But isn't this a form of non-local prevention of the production of  $T_1$  from  $H_1$ ?

if a table  $T_1$  originates from a hunk  $H_1$ , then  $T_1$  had to originate from  $H_1$ . On this view we rely on ordinary empirical information to discover which hunk was used to produce this or that particular table, but we get the necessitation of this production relation (the conclusion of our argument) by conceptual means.

The claim that the Locality of Prevention is a conceptual truth may have some initial plausibility. The principle can be summarized in a pithy slogan, “all prevention of material-object production is local”. It carries a great deal of immediate intuitive plausibility. But the mixed conceptualist position sketched above cannot rest content with the claim that the Locality of Prevention is a conceptual truth. The argument for the origin thesis goes through generalized independence. Our mixed conceptualist also must claim that generalized independence is a conceptual truth. This second claim is more vexed. Generalized independence is not helpfully sloganized. Let me assure you that it does not command assent as readily as the Locality of Prevention.

I think there are more substantial reasons to be pessimistic about the prospects for claiming that generalized independence or anything like it is to be established on purely conceptual grounds. In order to be a conceptual truth, the principle needs to be a truth in the first place. Unfortunately, despite its intuitive motivation, there are compelling counter-examples to it in its full generality. We have just seen that this claim turns out to be counter-intuitive when  $H_1$

and  $H_2$  overlap sufficiently. If  $H_1$  is made into a table in such a case, then there may not be enough of  $H_2$  left to craft some table we might have otherwise obtained; the two tables compete for raw materials.

We could restrict the independence principle so that it only says that table-productions are compossible when their source hunks share no material in common. That would allow the conceptualist to avoid the counter-example at hand. More complicated counter-examples, such as the James Forrester's petrification case, discussed in section 5.4 above, have been proposed. The conceptualist's response will either be to complicate the statement of the independence-style principle to exclude the counter-example, or to deny the counter-example. Rather than chase her down that road, we should pause here to notice something about her *modus operandi*.

The mixed conceptualist seeks some general independence-style principle which applies to all individuals in virtue of falling under this concept or that. She claims that the plausibility of independence-style principles for any choice of particular source hunks stems from some connection between the concepts under which these hunks fall, *e.g.*, *non-overlapping hunks of wood*. The more complicated her principle becomes — the more concepts that get into the act — the less evident it will be that she is articulating some important standing relation between concepts.

This generalizing strategy is radically opposed to the approach

we have been taking. We have generally been choosing and working with particular cases, *e.g.* the production of this very table here from its supposed North Carolinian source hunk. We have noticed that table-productions from some other hunk, *e.g.* from a certain one in Australia, are independent of this table's production. In *this* instance, the independence principle seems intuitively well-motivated. We have seen that other choices of hunks raise special problems. That's no problem, so far as the argument for the origin thesis was concerned. A skeptic claims that  $H_1$  could have been produced from  $H_2$ . The argument shows that this claim (given the ancillary premises) requires the falsity of independence in *this* instance.

Perhaps the conceptualist can, with ingenuity, provide special solutions for the special problem cases. But what is driving what? The conceptualist claims that we are responding to a connection among the concepts we are using to describe and think about the situations. The connection is expressible by a complicated principle obtained by inserting the relevant qualifications into the statement of generalized independence. But what seems to be true is that, rather than our reactions in the particular cases being attuned to some general connection among concepts expressed by this principle, the principle is being attuned to our reactions in particular cases. Perhaps there is some hidden conceptual connection which explains our reactions in all the disparate cases. It would not be terrible if this turned out to be so. But it seems to me that prospects seem

dim.

## 5.7 Primitivism and the origin thesis

I have discussed our origin thesis in a consideration of semantically-oriented anti-primitivist proposals, like mixed conceptualism. But right now I want instead to do something a little more positive. I want to suggest why one might think that the locality-based argument for the origin thesis might serve as the grounds for the origin thesis. Then I will contrast the primitivist and anti-primitivist perspectives on this little bit of modal metaphysics. This won't be an argument in favor of primitivism; I only hope to illustrate the charms of the primitivist view of modality.

First, however, it will be useful to note that our argument for our origin thesis also rebuts another charge that might be made against primitivism. If modal facts are primitive, it might seem as if proponents of our origin thesis can say nothing more by way of grounding this alleged modal fact than that it is primitive. And its opponents seem able to say no more to ground the alleged possibility that the table originate from the Australian hunk than that it is primitive. One anti-primitivist author (Lewis, 1973, p. 85) has even charged that modal primitivism “is not an alternative theory at all, but abstinence from theorizing.”

The argument shows, however, that we may theorize about our origin thesis without “going anti-primitivist”. The argument reveals

an interesting hidden link between two modal claims: the Locality of Prevention and the origin thesis. This theoretical deliverance does not, of course, depend on the endorsement of anti-primitivism. Hence, a primitivist can help herself to a little bit of theorizing about the origin thesis, despite her primitivism.

Suppose the argument is convincing. The Locality of Prevention will help us distinguish between hunks from which this table might have been produced, and hunks from which it could not have been produced. The argument classifies that Australian hunk as one of those from which this table could not have emerged. Consider now a hunk that shares most of its material with this table's actual, Carolinian source-hunk. This overlapping hunk was just a millimeter or two higher up in the tree, let's suppose. We have already noted that it is overwhelmingly plausible to claim that our very table here might have been produced from that overlapping hunk. Indeed, few in the literature on origin theses have ever, to the best of my knowledge, maintained otherwise.<sup>22</sup> The Locality of Prevention makes clear why this should be: a table-production from the overlapping hunk *does* have effects in the locale of the the actual production, since most of the original Carolinian hunk will get used in that production. This table's production from the overlapping hunk implies no violation of the Locality of Prevention. Hence we have no similar argument from Locality to the impossibility of this

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<sup>22</sup>Roderick Chisholm (Chisholm, 1976) has maintained that this table could not have been made from a hunk which does not have exactly the actual material in  $H_1$ , but he concedes that this doctrine is counter-intuitive.

table's production from that overlapping hunk. Thus, the Locality of Prevention seems to play an explanatory role: it provides a basis for the distinction between hunks from which this table might have been produced, and hunks from which it could not have been produced.

The locality-based argument provides a good reason to believe our origin thesis. Does it also show how the origin thesis can be grounded? Certainly the argument reveals the unexpected relevance of constraints on how one might prevent the production of a particular table from a particular hunk to the question of whether  $T_1$  might have been made from  $H_2$ . So the argument supplies the relevance and coincidence effects. Of course, the relevance and coincidence effects are only necessary conditions for grounding, and so this does not conclusively establish that the Locality of Prevention is part of the grounds for our origin thesis. At this point, the fact that it sheds additional light on the origin thesis seems relevant. The Locality of Prevention provides a basis for distinguishing between hunks from which  $T_1$  might have been made, and hunks from which it could not have been made. The explanatory power of the Locality of Prevention strongly suggests that it is among the grounds for our origin thesis.

If one is a primitivist, one can, at this point, rest content with the conclusion that this is how the world is. If one is convinced by the argument, then one might think that the modal fact reported

by the Locality of Prevention states a fundamental feature of modal reality, in need of no further grounding. As I have already said, anti-primitivism by itself does not require any particular position on the argument for the origin thesis. But the argument does require the anti-primitivist to take up one of two explanatory burdens. If the anti-primitivist resists the conclusion, then he must explain in ultimately non-modal terms why something that happened in Australia prevents as a matter of necessity the Carolinian hunk from producing our table here. If, on the other hand, he embraces the conclusion, then he must explain the origin thesis in ultimately non-modal terms. And his explanation, if it competes with the Locality-based explanation I have been offering, should shed as much light on origin theses as Locality does. I'm not saying it can't be done, though both tasks look difficult to me. Perhaps anti-primitivism is true, so that, like Adam, we are doomed to such toil. But it would be nice if one could pursue modal metaphysics without ever, even in the longest of long runs, having to worry about how to ground everything non-modally.

## **5.8 Primitivism's prospects**

What have we accomplished? We have articulated and illustrated a strategy for defending primitivism. We have encountered in detail three brands of anti-primitivism: the metaphysically oriented possible worlds and essentialist anti-primitivist views, and the se-

mentally oriented conceptualist view. On the positive side, we have articulated an argument for a controversial modal claim, our origin thesis. We also argued that a primitivist may offer this argument, indulging in some interesting theorizing regarding a controversial modal fact without grounding that fact in non-modal facts. We have even found that such a grounding has some explanatory “oomph”. Hence, we have seen examples of proposed groundings for modal facts on both sides of the debate about modal primitivism. I have suggested that we should pursue the second kind of grounding, rather than the first. What difference would it make if we did so?

We would pursue different questions. When we address questions in modal metaphysics by pursuing, for example, David Lewis’s parallel spaces metaphysics, we soon find ourselves asking such questions as: Is there a space which contains minds, but no bodies? Is there a space containing medium-sized, extended, solid, space-occupying objects which are made of atomless gunk instead of atoms? If we confine ourselves to Lewis’s modal metaphysics, then we will naturally come to such questions as: How many spaces are there? Are there two indiscernible spaces? Is there some upper bound on the size of the spaces? According to the primitivist view here urged, we should leave such questions to natural science.

Instead, when we address issues in modal metaphysics, our questions will retain their modal character. For instance, we will ask such questions as we addressed in our discussion of origin theses:

How might one prevent the production of a particular table from a particular hunk? Might this table  $T_1$  have been produced from the Australian hunk  $H_2$ ? I hope to have shown that questions of this sort can be meaningfully addressed without “going anti-primitivist.”

Modal primitivism also allows us to frame interesting questions when we look beyond the narrow purview of the modal properties of things to more general questions of philosophical interest. Primitivism requires that there are some modal facts not grounded in non-modal facts. Are there some modal facts which are grounded in non-modal facts? How can modal facts be grounded? Are there *non-modal* facts which are grounded in *modal* facts?

If modal primitivism is correct, then the distinction between modal and non-modal facts is not tracked by any further interesting metaphysical distinction. Is the distinction between modal and non-modal facts tracked by any philosophically interesting distinction at all? For instance, is there some deep epistemological difference between modal and non-modal facts? I hope to have at least laid out the bare bones of a metaphysical framework within which such questions may fruitfully be addressed.

# Bibliography

Robert Merrihew Adams. Theories of actuality. *Nous*, 8(3):211–31, September 1974.

Ross Cameron. A note on kripke’s footnote 56 argument for the essentiality of origin. *Ratio*, XVIII(3), 2005.

Rudolf Carnap. *Meaning and Necessity: A Study in Semantics and Modal Logic*. The University of Chicago Press, Chicago and London, second edition, 1947.

Charles Chihara. *The Worlds of Possibility*. Clarendon Press, Oxford, 1998.

Roderick Chisholm. *Person and Object: A Metaphysical Study*. G. Allen and Unwin, London, 1976.

Alonzo Church. Review of [(Quine, 1943)]. *Journal of Symbolic Logic*, 8:45–47, 1943.

Michael Della Rocca. Essentialism: Part 2. *Philosophical Books*, 37: 81–9, 1996.

- Kit Fine. Essence and modality. In James Tomberlin, editor, *Philosophical Perspectives: Logic and Language*, number 8, pages 229–294. Ridgeview, Atascadero, 1994.
- Kit Fine. Things and their parts. *Midwest Studies in Philosophy*, 23:61–74, 1999.
- Graeme Forbes. On the philosophical basis of essentialist theories. *Journal of Philosophical Logic*, 10:73–99, 1981.
- Graeme Forbes. *The Metaphysics of Modality*. Oxford University Press, Oxford, 1985.
- John Hawthorne and Tamar Szabó Gendler. Origin essentialism: The arguments reconsidered. *Mind*, 109:285–98, April 2000.
- Allen Hazen. Counterpart-theoretic semantics for modal logic. *The Journal of Philosophy*, 76(6):319–38, June 1979.
- Terence Horgan. From supervenience to superdupervenience: Meeting the demands of a material world. *Mind*, 102:555–86, 1993.
- Patricia Johnston. Origin and necessity. *Philosophical Studies*, 32:412–18, 1977.
- David Kaplan. Opacity. In Lewis Edwin Hahn and Paul-Arthur Schlipp, editors, *The Philosophy of W V Quine*, pages 229–294. Open Court, 1986.
- David Kaplan. Demonstratives. In John Perry Joseph Almog and

- Howard Wettstein, editors, *Themes From Kaplan*, pages 481–563. Oxford University Press, New York, 1989.
- Saul Kripke. Identity and necessity. In Milton K. Munitz, editor, *Identity and Individuation*, pages 135–64. New York University Press, 1971.
- Saul Kripke. *Naming and Necessity*. Harvard University Press, Cambridge, 1980.
- David Lewis. Counterpart theory and quantified modal logic. *Journal of Philosophy*, 65:113–126, 1968.
- David Lewis. *Counterfactuals*. Harvard University Press, Cambridge, MA, 1973.
- David Lewis. Postscripts to "Counterpart Theory and Quantified Modal Logic". In *Philosophical Papers*, volume 1, pages 39–46. Oxford University Press, Oxford, 1983.
- David Lewis. *On the Plurality of Worlds*. Blackwell, Oxford, 1986.
- Bernard Linsky and Edward N. Zalta. In defense of the simplest quantified modal logic. In James Tomberlin, editor, *Philosophical Perspectives: Logic and Language*, number 8, pages 431–58. Ridgeview, Atascadero, 1994.
- Thomas MacKay. Against constitutional sufficiency principles. In Peter French, Theodore Uehling, Jr., and Howard Wettstein, ed-

- itors, *Studies in Essentialism*, number XI in Midwest Studies in Philosophy, pages 295–304. University of Minnesota Press, 1986.
- J. L. Mackie. De what re is de re modality? *Journal of Philosophy*, LXXX:551–61, 1974.
- Kris McDaniel. Modal realism with overlap. *Australasian Journal of Philosophy*, 82(1):137–52, March 2004.
- Colin McGinn. On the necessity of origin. *Journal of Philosophy*, LXXI:127–35, 1976.
- G. E. Moore. *Principia Ethica*. Cambridge University Press, Cambridge, 1903.
- Harold Noonan. The necessity of origin. *Mind*, 92:1–20, 1983.
- Alvin Plantinga. Transworld identity or worldbound individuals? In Milton Munitz, editor, *Logic and Ontology*, pages 193–212. New York University Press, 1973.
- A. N. Prior. Modality and quantification in S5. *The Journal of Symbolic Logic*, 21:60–2, 1956.
- W. V. Quine. Notes on existence and necessity. *Journal of Philosophy*, 40:113–126, 1943.
- W. V. Quine. The problem of interpreting modal logic. *Journal of Symbolic Logic*, 12:43–48, 1947.
- W. V. Quine. Quantifiers and propositional attitudes. *Journal of Philosophy*, 53:177–186, 1956.

- W. V. Quine. *Word and Object*. MIT Press, Cambridge, MA, 1960.
- Teresa Robertson. Possibilities and the arguments for origin essentialism. *Mind*, 107:716–25, October 1998.
- Nathan Salmon. How not to derive essentialism from the theory of reference. *Journal of Philosophy*, LXXVI:703–25, 1979.
- Nathan Salmon. *Reference and Essence*. Princeton University Press, Princeton, NJ, 1981.
- Nathan Salmon. Review of [(Lewis, 1986)]. *The Philosophical Review*, 97(2):237–44, 1988.
- Husain Sarkar. Origins and identities. *Australasian Journal of Philosophy*, 60:140–51, 1982.
- Theodore Sider. Reductive theories of modality. In Michael J. Loux and Dean W. Zimmerman, editors, *The Oxford Handbook of Metaphysics*, pages 180–208. Oxford University Press, 2003.
- Brian Skyrms. Possible worlds, physics and metaphysics. *Philosophical Studies*, 30:323–32, 1976.
- Arthur Smullyan. Review of [(Quine, 1947)]. *Journal of Symbolic Logic*, 12:139–141, 1947.
- Scott Soames. *Beyond Rigidity*. Oxford University Press, New York, 2002.
- Robert Stalnaker. Possible worlds. *Nous*, 10(1):65–75, March 1976.

David Wiggins. *Sameness and Substance*. Harvard University Press,  
Cambridge, MA, 1980.