

1

The Limits of Contingency

Gideon Rosen

1. What is Metaphysical Necessity?

There are two ways to understand the question. We might imagine it asked by an up-to-date philosopher who grasps the concept well enough but wants to know more about *what it is* for a proposition to hold of metaphysical necessity. Alternatively, we might imagine it asked by a neophyte who's never heard the phrase before and simply wants to know what philosophers have in mind by it.

My main interest in this paper is the first sort of question. But for several reasons it will help to begin with the second. Suppose it were your job to explain the concept of metaphysical necessity to a beginner. What might you say?

The task is not straightforward. The concepts of metaphysical possibility and necessity are technical concepts of philosophy. Not only is the phrase 'metaphysical necessity' a bit of jargon. No ordinary word or phrase means exactly what the technical phrase is supposed to mean. So you cannot say, 'Ah, it's really very simple: What we call "metaphysical necessity" is what you call. . .'. If you're going to explain the technical idiom to the neophyte you're going to have to introduce him to a novel concept. You're going to have to teach him how to make distinctions that he does not already know how to

An earlier version of this paper was presented at the Arché conference in St Andrews in June 2000. I am grateful to Scott Sturgeon for his exemplary comments on that occasion and for extensive correspondence. I have been unable to take many of his important suggestions into account.

14 / The Limits of Contingency

make. And so the question comes down to this: How is this novel concept to be explained?

The best sort of explanation would be an informative definition: an explicit specification, framed in ordinary terms, of what it means to say that P is metaphysically necessary. Unfortunately, no such definition is readily available. But we know in advance that it must be possible to get along without one. For the fact is that *no one* comes to master the concept of metaphysical necessity in this way. To the contrary, the project of definition and analysis in modal metaphysics invariably presupposes aprior grasp of the technical modal concepts. For up-to-date philosophers it always works like this: First we learn what it means to say that P is metaphysically necessary. Then we look for an account of what this comes to in other terms. We may or may not find one. It would not be surprising if the basic concepts of modal metaphysics were absolutely fundamental.¹ But even if we do, our capacity to recognize it as correct will depend on prior grasp of the metaphysical modal idiom. And it is this prior grasp that we are attempting to inculcate in our neophyte.

If we do not begin with a definition, we must offer some sort of informal elucidation. We all know roughly how this works in other parts of philosophy. The neophyte is presented with a battery of paradigms and foils, ordinary language paraphrases (with commentary), and bits and pieces of the inferential role of the target notion, and then somehow as a result of this barrage he cottons on. To ask how the concept of metaphysical necessity might be explained to the neophyte is to ask how this informal elucidation ought to go in the modal case. No doubt, there is more than one way to proceed. But here is one possibility.

2. An Informal Elucidation

The first thing to say is that metaphysical necessity is a kind of necessity. To say that P is metaphysically necessary is to say that P *must* be the case, that it *has* to be the case, that it *could not fail* to be the case, and so on. If the ordinary modal idioms were univocal, this would be enough. But it clearly isn't enough. When I drop an apple there is a sense in which it cannot fail to fall. When I promise to meet you there is a sense in which I have to keep the date. But these claims involve two very different modal notions, and neither is a claim

¹ For an argument to this effect, see Kit Fine (2002).

Gideon Rosen / 15

of metaphysical necessity. So granted, the metaphysical ‘must’ is a kind of ‘must’. The challenge remains to distinguish it from the many others.

Some distinctions are easy. Thus, unlike the various practical and ethical ‘musts’, the metaphysical ‘must’ is *alethic*. If P is metaphysically necessary, then it’s true. And unlike the various epistemic and doxastic musts (e.g., the ‘must’ in ‘She must be home by now. She left an hour ago.’) claims of metaphysical necessity are not in general claims about what is known or believed.

Other distinctions are less straightforward. Thus, some philosophers believe in something called *logical necessity*, and some believe in something called *analytic* or *conceptual* necessity, where a truth is logically necessary when some sentence that expresses it is true in all models of the language (or some such thing) and conceptually necessary when it is true in virtue of the concepts it contains (or some such thing). It is controversial whether these are genuine species of necessity. After all, it is one thing to say that P is necessary in some generic sense *because it is a truth of logic*. It is something else to say that P therefore enjoys a special sort of necessity. But if there is a distinctively logical or conceptual species of necessity, then it is (presumably) both alethic and non-epistemic, and in that case we must say something to distinguish metaphysical necessity from such notions.

At this point the usual procedure is to invoke an epistemological distinction along with certain crucial paradigms. One says: ‘Unlike the various logical and semantic species of necessity, metaphysically necessary propositions are sometimes *synthetic* and *aposteriori*. To a first approximation, the logicoconceptual necessities are accessible to ‘Humean reflection’. To suppose the falsity of a logical or a conceptual truth is to involve oneself in the sort of self-contradiction or incoherence that a sufficiently reflective thinker might detect in the armchair simply through the exercise of his logical and semantic capacities. By contrast, some metaphysically necessary truths can be rejected without such incoherence. The most famous examples are the Kripkean necessities: true identities flanked by rigid terms; truths about the essences of individuals, kinds, and stuffs. But one might also mention the claims of pure mathematics in this connection. Mathematical truths are among the paradigms of metaphysical necessity. But logicism notwithstanding, it is not self-contradictory to reject mathematical objects across the board, or to deny selected existential principles such as the axiom of infinity. So if substantive truths of these sorts can be necessary in the metaphysical sense, metaphysical necessity differs from logical or conceptual necessity. Indeed, the natural thing

16 / The Limits of Contingency

to say is that metaphysical necessity is a strictly weaker notion, in the sense that some metaphysical necessities are neither logical nor conceptual necessities, but not vice versa.

Let's call any modality that is alethic, non-epistemic, and sometimes substantive or synthetic a *real* modality. So far we have it that metaphysical modality is a real modality. But this is still not enough to pin the notion down. For the same might be said of the various causal or nomic modalities: physical necessity, historical inevitability, technical impossibility (as in: 'It's impossible to fabricate an artificial liver'), and so on. And here the natural thing to say is that among the real modalities, the metaphysical modalities are *absolute* or *unrestricted*. Metaphysical necessity is the strictest real necessity and metaphysical possibility is the least restrictive sort of real possibility in the following sense: If P is metaphysically necessary, it is necessary in every real sense: If P is really possible in any sense, then it's possible in the metaphysical sense. So if you can't square the circle because it's metaphysically impossible to square the circle, then it's certainly not physically or biologically possible for you to do so. But if you can't move faster than the speed of light because to do so would be to violate a law of nature, then it does not *follow* that superluminal velocities are metaphysically impossible. One has the palpable sense—though philosophy might correct it—that some of the laws of nature might have been otherwise. To say this is not just to say that these laws are not logical or conceptual truths. That is too obvious to be worth saying. And it's certainly not to say that the laws of nature amount to physical contingencies. No, to entertain the philosophical suggestion that the laws might have been otherwise is to presuppose that there exists a genuine species of contingency 'intermediate' between physical contingency on the one hand and conceptual contingency on the other. Focus on *this* sense of contingency, it might be said, and you are well on your way to knowing what 'metaphysical' modality is supposed to be. It is the sort of modality relative to which it is an interesting question whether the laws of nature are necessary or contingent.

3. A Question about the Informal Elucidation

Informal explanations of this sort are the indispensable starting point for modal metaphysics. In the end we may hope for more: an account of *what it is for a proposition to be metaphysically necessary*; an account of *what in reality makes it the case that P*

Gideon Rosen / 17

is metaphysically necessary when it is. But before we can ask these profound questions, we must identify our topic. We must distinguish metaphysical possibility and necessity from the various other species of possibility and necessity. And it is natural to suppose that for this restricted purpose something like the informal explanation sketched above should be sufficient.

In fact, this is almost universally supposed. A small handful of philosophers reject the notions of metaphysical possibility and necessity altogether.² But among those who accept them, it is universally assumed that a question about the metaphysical modal status of any given proposition is clear and unambiguous, at least as regards the predicate. We may not be able to say what metaphysical necessity really *is* in its inner most nature. But thanks to the informal elucidation sketched above or something like it, we know enough about it to ask unambiguous questions about its nature and its extension. Our questions may be hard to answer. In some cases we may not even know where to begin. But even so, it is perfectly clear what is being asked when we ask whether *P* holds as a matter of a metaphysical necessity.

One of my aims in this paper is to reconsider this supposition. I shall suggest that the informal explanation sketched above is consistent with two distinct conceptions of necessity and possibility; or better, since no single conception is fully consistent with the sketch, that two relatively natural conceptions fit the elucidation equally well. If this is right then our working conception of metaphysical necessity is confused in the sense in which the Newtonian conception of mass is supposed to have been confused.³ Questions about metaphysical necessity are ambiguous, and where divergent resolutions of the ambiguity yield different answers, the modal question as we normally understand it has no answer. Indeed, I shall suggest that this is just what we should think about an interesting (though largely neglected) class of questions.

4. The Standard Conception and the Differential Class

If there are two conceptions of metaphysical necessity, they must overlap considerably in extension. The informal explanation functions as a constraint

² Dummett (1993: 453) calls it 'misbegotten', though he is elsewhere moderately sympathetic to a closely related notion of 'ontic necessity' (cf. Dummett 1973: 117; 1981: 30). Field (1989: esp. 235 ff.) expresses general skepticism about the notion.

³ Field (1974).

18 / The Limits of Contingency

on both, and it includes a list of paradigms, a significant number of which must count as ‘metaphysically necessary’ on any modal conception worth the name. On the account I propose to consider, the (non-indexical) logical truths and the conceptual truths more generally will count as necessary on both conceptions, as will the uncontroversial Kripkean necessities: (propositions expressed by) true identities flanked by rigid terms and essential predications: propositions of the form Fa , where a is essentially F . The two conceptions will diverge in application to certain claims of fundamental ontology, which do not slot easily into any of these categories.

For an example of the sort of claim I have in mind, consider the axioms of standard set theory. At least one is plausibly analytic—the axiom of extensionality, according to which sets are identical if and only if they have just the same members. Insofar as this axiom is uncontroversial, it does not entail that sets exist. It says that *if* sets exist, they are extensional collections. And since this is presumably part of what it is to be a set—or if you prefer, part of what the word ‘set’ means—the axiom of extensionality will count as metaphysically necessary on any reasonable conception of the notion.⁴

The same cannot be said for the remaining axioms. Consider the simplest: the pair set axiom:

(Pairing) For any things x and y , there exists a set containing just x and y .

In conjunction with Extensionality, Pairing entails that given a single non-set, infinitely many sets exist. The truth of Pairing is not guaranteed by what it is to be a set, or by what the word ‘set’ means. It may lie in the nature of the sets to satisfy the principle, but only in the sense that *if* there are any sets, then it lies in their collective nature to conform to pairing. (That is part of what makes them *the sets*, it might be said.) It may be that no relation deserves the name ‘ \in ’ unless it satisfies the pairing axiom, just as nothing deserves the name ‘bachelor’ unless it is male. But it is not in the nature of *bachelorhood* to be instantiated; and likewise, it is not in the nature of the epsilon relation that something should bear it to something else. You can know full well what set membership *is supposed to be*—what it is to be a set, what the word ‘set’ means—without knowing whether any sets exist, and hence without knowing whether Pairing is true.

⁴ But see Frankel, Bar Hillel, and Levy (1973: 27–8). For discussion of the analyticity of extensionality, see Maddy (1997: 39).

Gideon Rosen / 19

What is the modal status of the Pairing axiom? Suppose it's true. Is it a metaphysically necessary truth or a contingent one? As we have said, it is traditional to regard the truths of pure mathematics as paradigms of metaphysical necessity. On this view, while there may be room for dispute about whether sets exist, and if so, which principles they satisfy, there is no room for dispute about the modal status of those principles. If sets exist and satisfy Pairing, then Pairing holds of necessity. If sets do not exist (or if they do exist and somehow fail to satisfy the principle) then not only is Pairing false; it could not possibly have been true.

What I call the **Standard Conception** of metaphysical necessity extends this familiar thought to a range of synthetic claims in metaphysics. As another example, consider classical mereology. Once again, some of the axioms are plausibly analytic. 'A is part of A'; 'If A is part of B and B of C, then A is part of C'. But the 'analytic core' of the theory does not entail that composite things exist, or that they must exist given the existence of at least objects. It says (in effect) that a relation counts as the mereological part-whole relation only if it is transitive and reflexive. But it does not say whether two things ever manage to stand in this relation.

By way of contrast, consider the axiom that gives the theory its teeth.

UMC: Whenever there are some things, there is something that they compose (where the *Fs* compose *X* iff every *F* is part of *X* and every part of *X* overlaps an *F*).

UMC is not a conceptual truth. Given any dyne input it delivers an entity composed of my head and your body, Cleopatra's arms and Nixon's legs. And whatever one thinks of such scattered monstrosities, it is not a sign of logicolinguistic confusion to reject them.⁵ Nor is it true in virtue of the nature of the part-whole relation. Once again, a conditional version of the principle might be accorded such a status, viz.: *If there are mereological aggregates, then whenever there are some things, there is something they compose*. But you can know perfectly well what a mereological aggregate is supposed to be (as the opponents of classical mereology clearly do) without being in a position to assert the unconditional version of UMC.

UMC and pairing have at least this much in common. (a) They are substantive principles. They can be rejected without self-contradiction or

⁵ For more on the epistemological status of UMC, see Dorr and Rosen (2001).

20 / The Limits of Contingency

absurdity. (b) They entail the existence of a distinctive sort of object (perhaps conditionally on the existence of things of some other, more basic, sort). (c) Their epistemological status is uncertain, but they are palpably more *apriori* than *aposteriori*. If they are empirical truths they are empirical truths of a peculiar sort, since it is hard to imagine a course of experience that would bear differentially upon their acceptability. (d) They concern matters of basic ontology. Unlike the principles of ornithology, for example, they are not concerned with what exists hereabouts. To put the point somewhat grandly, they concern the structure of the world, not just its inventory. (e) They are *standardly* regarded as metaphysically non-contingent. Philosophers have questioned the existence of sets and mereological aggregates. But hardly anyone has suggested that the basic principles governing such things might have been other than they are.

These are some central features of what I shall call the **Differential Class**: the class of claims with respect to which the two conceptions of metaphysical necessity will diverge. On the Standard Conception, the synthetic *apriori* truths of basic ontology are always necessary. On the **Non-Standard Conception**, as I shall call it, they are sometimes contingent.

This characterization of the Differential Class leaves much to be desired. Matters will improve somewhat as we proceed. But for now it may help to list some further examples.

Existence claims elsewhere in mathematics, e.g., the existential principles of arithmetic and analysis.

Neo-Fregean abstraction principles of the form ' $F(a) = F(b)$ iff a and b are equivalent in some respect', e.g., 'The temperature of $a =$ the temperature of b iff a and b are in thermal equilibrium'.

Meinongian abstraction principles to the effect that for any (suitably restricted) class of properties, there exists an abstract entity (arbitrary object, subsistent entity) that possesses just those properties.

Accounts of the ontological underpinnings of genuine similarity; e.g., the neo-Aristotelian claim that whenever a and b are genuinely similar, they have an immanent universal part in common.

Accounts of the ontological underpinnings of persistence through time, e.g., the claim that whenever a persisting object exists at a time it has a momentary part that exists wholly at that time.

Gideon Rosen / 21

In each of these domains we are concerned with synthetic, seemingly non-empirical facts of metaphysics. The Standard Conception does not say which claims are true in these areas. But it does say that the truth, whatever it is, could not be otherwise. If Peter van Inwagen (1990) is right that a plurality of material things constitute a single thing only whether their activity constitutes the life of an organism, then the Standard Conception says this is so of necessity. If Hartry Field (1989) is right that abstract objects do not exist, then according to the Standard Conception, this sort of nominalism is a necessary truth.⁶

5. The Non-Standard Conception

The Standard Conception is familiar. Insofar as you have any use for the concept of metaphysical necessity, it is probably your conception. The Differential Class is a class of metaphysical principles *par excellence*, and we normally take it for granted that metaphysics has a metaphysically non-contingent subject matter.⁷

That's what we think. But consider the Others: a tribe of outwardly competent philosophers whose contact with the mainstream has been intermittent over the past (say) thirty years. The Others share our tradition and they are concerned with many of the same problems. In particular, they take themselves to have absorbed the main lessons of the modal revolution of the 1960s. Metaphysical modality is the modality that mainly interests them, and they do not confuse it with analyticity and the other semantico-epistemological modalities. When they introduce the notion to their students their informal gloss is much like ours. In particular, they agree that the Kripkean '*aposteriori*' necessities are paradigm cases of metaphysical necessity, along with the truths of logic and the analytic truths more generally.

You've been looking in on the Others, reading their journals, attending their conferences; and so far as you can tell they might as well be some of

⁶ See also Field (1993). As noted above, Field himself rejects the notion of metaphysical necessity. For him, modal questions about abstract objects can only be questions about the conceptual modalities. Since Field himself regards both nominalism and its negation as non-self-contradictory in the relevant sense, he regards the existence of mathematical objects as a contingent matter.

⁷ With some exceptions. It is widely acknowledged, for example, that the debate over materialism (or physicalism) concerns a contingent proposition. (See Lewis 1983.) The suggestion to follow is that much of what passes under the name 'ontology' might be understood in a similar spirit.

22 / The Limits of Contingency

● Q1 Us. But now you see something that makes you wonder. In the philosophy of mathematics seminar, Professors P● and N disagree about whether sets exist. According to P, the utility of set-theoretic mathematics gives us reason to believe the standard axioms. N agrees that set theory is useful, but points out that it is just as useful in worlds without sets as it is in worlds that have them, and so maintains, on grounds of economy, that set theory is best regarded as a useful fiction. You've heard most of this before, but you are struck by the suggestion that sets might exist in some worlds but not in others.⁸ You know that we sometimes indulge in loose talk of this sort amongst ourselves. But you want to know whether N takes the idea seriously. So you ask, and she answers:

'I meant exactly what I said. Platonism may be profligate, but it is not incoherent or self-contradictory. I can conceive a world in which sets exist. I can conceive a world in which they don't. Each view thus corresponds to a metaphysical possibility. There might have been sets, but then again, there might not have been. The only question is which sort of world we inhabit. That's what my colleague and I disagree about.'

You are flabbergasted—not simply by the suggestion that the truths of mathematics might be contingent, but by the blithe transition from a claim of conceivability to a claim of metaphysical possibility. You point out that we've known for years that the inference from conceivability to possibility is no good. 'There is no incoherence in the supposition that water is an element,' you say. 'But even so, we know that water could not possibly have been an element. You agree about this. So how can you be so blasé about the corresponding inference in the case of sets?'

'Ah, but the cases are very different,' says N. 'The ancients could see no incoherence in the supposition that water is an element. Indeed, insofar as they had reason to believe that water *was* an element, they had reason to believe that there was no such incoherence. Perhaps this gives a sense in which it was *conceivable for the ancients* that water should have been an element. And if so, we agree: *that* sort of conceivability does not entail possibility. But when I say that a world containing sets is conceivable, I have in mind a somewhat different sort of conceivability. I'm talking about what we call **informed** or **correct conceivability**. Here's the idea:'

'If the ancients could conceive a world in which water is an element, this is only because they were ignorant of certain facts about the natures of things.

⁸ See van Fraassen (1977).

Gideon Rosen / 23

In particular, it is because they did not know *what it is to be water*. They did not know that to be water *just is* to be a certain compound of hydrogen and oxygen—that to be a sample of water *just is* to be a quantity of matter predominantly composed of molecules of H₂O. This is not to say that they did not understand their word for water. But it’s one thing to understand a word, another to know the nature of its referent. The ancients could *see* no contradiction in the supposition that water is an element because they did not know that water is a compound by its very nature. But we know this; and given that we do, we can see that to suppose a world in which water is an element is to suppose a world in which a substance that is by nature a compound is not a compound. And that’s absurd.’

‘In one sense of the phrase, *P* is conceivable for *X* if and only if that *X* can see no absurdity or incoherence in the supposition of a world in which *P* is true. Correct conceivability begins life as an idealization of this notion of relative conceivability. To a first approximation, *P* is correctly conceivable iff it would be conceivable for a logically omniscient being who was fully informed about the natures of the things. The mind boggles at this sort of counterfactual, to be sure. But once we see what it amounts to, we can see that it is merely heuristic. If it’s true that an ideally informed conceiver would see no absurdity in the supposition of a *P*-world, this is because there is no such absurdity to be seen. The ideally informed conceiver is simply an infallible detector of latent absurdity. And once we see this we can drop the reference to the ideal conceiver altogether.’

● 02 ‘As we understand the notion, metaphysical possibility is, as it were, the default status for propositions. When the question arises, “Is *P* metaphysically possible?” the first question we ask is “Why shouldn’t it be possible?” According to us, *P* is metaphysically possible unless there is some reason why it should not be—unless there is, as we say, some sort of *obstacle* to its possibility. Moreover, the only such obstacle we recognize is latent absurdity or contradiction.⁹ If the

⁹ What is an ‘absurdity’ in the relevant sense? For present purposes, it will suffice to take an absurdity to be a *formal contradiction*: a proposition of the form *P* & not-*P*, or *a* ≠ *a*. [This assumes that propositions, as distinct from the sentences that express them, may be said to have a ‘form’.] A complication arises from the fact that not everyone agrees that contradictions are absurd in the relevant sense. Dialethists maintain that some contradictions are not manifestly absurd. Nearly everyone else disagrees. This proponent of the Non-Standard Conception may remain neutral on this point. His fundamental contention is that a proposition is metaphysically impossible when it entails a *manifest absurdity* or impossibility. For the purposes of exposition, I assume that this

24 / The Limits of Contingency

question arises, “Why shouldn’t there be a world at which P is true?” the only answer cogent response is a demonstration that the supposition that there is such a world involves a contradiction or some other manifest absurdity. (This is tantamount to a principle of plenitude. It has the effect that the space of possible worlds is as large as it can coherently be said to be.) Now, whether P harbors an absurdity is not in general an *a priori* matter. To say that it does is to say that P logically entails an absurdity given a full specification of the natures of the items it concerns. And since these natures are often available only *aposteriori*, it is often an *aposteriori* matter whether P is correctly conceivable. That’s why it is often an *aposteriori* matter whether P is metaphysically possible.¹⁰

The Others have adopted the Non-Standard Conception of the metaphysical modalities. According to this conception, correct conceivability—logical consistency with propositions that express the natures of things—is both necessary and sufficient for metaphysical possibility. This need not be construed as a reductive analysis. It may be that the full account of correct conceivability must make use of metaphysical modal notions.¹¹ But even if the equivalence is not reductive, it may nonetheless be true. And if it is then it would appear to yield a series of deviant verdict about the Differential truths.

Consider the Pairing axiom once again. The axiom and its denial are both logically consistent. Moreover, it is plausible that both are correctly conceivable. To be sure, we have no adequate conception of *what it is to be a set*. But even in the absence of a fully explicit such conception, we can

amounts to entailing a contradiction. But this is not strictly speaking a commitment of the view. A complete account of the Non-Standard Conception would involve an account of the more fundamental notion.

¹⁰ The Non-Standard Conception presented here is inspired by some remarks of Kit Fine. Fine (1994) defines metaphysical necessity as truth in virtue of the natures of things. However, Fine would not agree that the account is revisionary in the ways I have suggested. In particular, he would not agree that the account entails that the existential truths of mathematics and metaphysics are uniformly contingent. The question would seem to come down to whether natures are to be construed as ‘conditional’ or ‘Anti-Anselmian’ (see below): whether it can lie in the nature of some thing that it exist, or whether it can lie in the nature of some kind that it have instances whenever some more basic kind has instances. I am grateful to Fine for conversation on these questions and for his eye-opening seminar at Princeton in 1999. But he would certainly resist my abuse of his ideas in the present context.

¹¹ The account of correct conceivability involves three ingredients: the notion of a *proposition*, the notion of *logical entailment among propositions*, and the notion of an *absurdity or contradiction*. It may well be that a correct account of some or all of these notions presupposes the notion of metaphysical necessity.

Gideon Rosen / 25

consider the alternatives. It is hardly plausible that it lies in the nature of the set-membership relation to *violate* the Pairing axiom.¹² So either the nature of the relation is silent on whether Pairing is true, or it lies in the nature of the relation to satisfy the principle. In the former case it is automatic that both the axiom and its negation are correctly conceivable. So the relevant case is the latter. Here is what the Others have to say about it.

‘If it lies in the nature of the sets (or the relation of set-membership) to conform to Pairing, then it is indeed incoherent to suppose a world in which *sets exist and Pairing is false*. But that is not the negation of Pairing. The negation of the principle amounts to the claim that *either there are no sets, or sets exist and some things X and Y lack a pair set*. Our claim that the negation of the axiom is correctly conceivable depends on the thought that no contradiction follows from the supposition that sets do not exist. Because we can see no such absurdity, and we can’t see how more information about the natures of the items in question could make a difference, we conclude that the Pairing axiom and its negation both correspond to genuine possibilities.’

This little speech brings out an important feature of the Others’ talk of natures and essences. For the Others, all natures are *conditional* or *Kantian* or perhaps *Anti-Anselmian*. To say that it lies in the nature of the F s to be G is to articulate a condition that a thing must satisfy if it is be an F . It is to give a (partial) account of *that in virtue of which* the F s are F . It is not obviously incompatible with this interpretation that existence (or existence given the existence of things of some more basic kind) should be part of the nature of a thing or kind. But even when it is, it will not be incoherent to deny the existence of that thing or kind (or to deny it when the alleged condition has been satisfied). As Kant says in a somewhat different context:

If, in an identical proposition, I reject the predicate while retaining the subject, contradiction results . . . But if we reject subject and predicate alike, there is no contradiction; for nothing is then left that can be contradicted. To posit a triangle and yet to reject its three angles is contradictory; but there is no contradiction in rejecting the triangle together with its three angles. (*Critique of Pure Reason*, A 595/B623)

¹² Properly formulated. If it lies in the nature of set-membership that if sets exist then von Neumann-style proper classes exist as well, then the unrestricted version of Pairing given in the text will be ruled out by the nature of the membership relation.

26 / The Limits of Contingency

In a similar spirit the Others say: If it lies in the nature of God to exist (or to exist necessarily), then to posit God and yet to reject his (necessary) existence is absurd. But there is no contradiction in rejecting God altogether. And similarly, if it lies in the nature of the sets to satisfy Pairing, then to posit a system of sets and yet to reject Pairing is absurd; but there is no contradiction in rejecting the sets along with Pairing. So even if Pairing is somehow constitutive of what it is to be a set, its negation is nonetheless correctly conceivable and therefore possible.

Let's consider one more application of the Non-Standard Conception, this time to a thesis about the constitution of ordinary particulars. D. M. Armstrong has long maintained that whenever two particulars resemble one another, this is because they share an immanent universal as a common part (Armstrong 1978). Let us grant the coherence of the very idea of an immanent universal, wholly located in distinct particulars. In fact, let us grant that *in the actual world* similarity works as Armstrong says it does. The question will then be whether it is absurd to suppose a world in which qualitative similarity is secured by some other mechanism: e.g., a world in which similar particulars are similar because they contain exactly resembling tropes, or because they instantiate one or another primitive similarity relation. For the sake of argument, we may suppose that these alternative theories are not conceptually confused or self-contradictory.¹³ On the Non-Standard Conception, the suggestion that they are nonetheless impossible must then amount to the claim that they are incompatible with the *nature* of qualitative similarity or some other item. But is that plausible?

We have assumed that in the actual world qualitative similarity works as Armstrong says it does. And in light of this, someone might say, 'So that is what qualitative similarity turns out to *be*. This is not an analytic matter; and it is not exactly an empirical matter either. But it is nonetheless the case that for two particulars to be similar *just is* for them to share an

¹³ Once again, it is hard to know whether this is the case. The alternatives have not been developed in sufficient detail. However, the arguments typically brought against these and other proposals do not purport to show that the accounts are straightforwardly contradictory or incoherent. They purport to show that they are uneconomical, or implausible, or less explanatory than the alternatives, and so on. It is just barely possible that in the theory of universals there is in the end exactly one coherent (non-self-contradictory) position. If so, then the Standard Conception and the Non-Standard Conception will concur in calling it necessary. If not, then the two conceptions will diverge. The true account will be necessary in the Standard sense but contingent in the Non-Standard sense.

Gideon Rosen / 27

immanent universal as a common part.’ If this were correct, then in this case the Non-Standard Conception would support the orthodox verdict that the correct metaphysical account of similarity in the actual world amounts to a metaphysically necessary truth.

We cannot rule this out without further investigation. But it is implausible on its face. Note that nothing in the story rules out worlds in which *something like* the trope theory or the primitive resemblance theory is correct: worlds in which there are no immanent universals wholly present in their instances, but in which particulars stand in relations of (let us say) *quasi*-similarity by virtue of satisfying one of these alternative theories. These quasi-similar particulars may look (quasi-)similar to observers. They may behave in (quasi-)similar ways in response to stimuli. They may be subject to (quasi-)similar laws. The proposal under consideration nonetheless entails that they are not *really* similar: that quasi-similarity stands to genuine similarity as fool’s gold stands to gold, or as Putnam’s XYZ stands to water. But on reflection this seems preposterous. If it walks like similarity and quacks like similarity then it is (a form of) similarity. If you were deposited in such a world (or if you could view it through your Julesvernoscope) and were fully informed both about its structure and about the structure of the actual world, would you be at all tempted to conclude that over there nothing resembles anything else? Surely not.

Suppose that’s right. Then the various metaphysical accounts are all compatible with the *nature* of the similarity relation. The true theory (namely, Armstrong’s) tells us how similarity *happens* to be grounded. It describes the *mechanism* by which similarity is secured in the actual world, much as the atomic theory of fluids describes how fluidity happens to be realized in this world. But it goes well beyond a specification of the underlying nature of similarity. And if that’s right—if the nature of similarity is in this sense *thin*—then the alternatives may be correctly conceivable, in which case they represent genuine possibilities according to the Others.

We should pause to note a peculiar consequence of the Non-Standard Conception. The view suggests that many of the synthetic propositions of fundamental metaphysics are metaphysically contingent. But it does not say that these propositions are unknowable, or that they can only be known empirically. To the contrary, nothing in the view is incompatible with the thought that the powerful methods of analytic metaphysics supply an altogether reasonable canon for fixing opinion on such matters. Now analytic methodology is for the most part an *apriori* matter. If the doctrine of immanent

28 / **The Limits of Contingency**

universals is to be preferred as an account of qualitative similarity, this is because it is elegant, intrinsically plausible, philosophically fruitful, immune to compelling counterexample, and so on. All of these features are presumably available to *apriori* philosophical reflection insofar as they are available at all. The view therefore yields a new species of the so-called ‘contingent *apriori*’. One need not appeal to claims involving indexicals (‘I am here now’) or stipulative reference fixing (‘Julius invented the zip’). According to the Others, the claims of basic ontology (including the existential claims of mathematics), are both contingent and *apriori* (insofar as they are knowable); but in this case the mechanism has nothing to do with indexicality.¹⁴

6. The Two Conceptions and the Informal Explanation

Let us suppose—just for a moment—that the Non-Standard Conception is tolerably clear, in the sense that there might a coherent practice in which propositions are classified as ‘necessary’ or not depending on whether their negations are correctly conceivable. One might object that a notion of this sort, however interesting, does not deserve the name ‘metaphysical necessity’. After all, the main controls on this notion are supplied by the informal elucidation with which we began. A modal notion deserves to be called ‘metaphysical’ only to the extent that it conforms to this account. And the Non-Standard Conception falls short in one obvious respect. We explain what we mean by ‘metaphysical necessity’ in part by holding up the truths of mathematics and fundamental ontology and saying, ‘You want to know what metaphysical necessity is supposed to be? It’s the sort of necessity that attaches to claims like *that*.’ Since the Non-Standard Conception threatens to classify many of these paradigms as ‘contingent’, this counts against regarding it as a conception of metaphysical necessity.

¹⁴ Note that if these mathematical and metaphysical truths are indeed both *apriori* and contingent, then the warrant for them (whatever it comes to) will presumably be available even in worlds where they are false. *Apriori* warrant is therefore fallible: an interesting result, but not a problem. Compare the force of considerations of simplicity in the empirical case. We are supposed to have reason to believe the simplest theory simply in virtue of its simplicity; but there are deceptive worlds in which the simplest empirically adequate theory is wildly false. This does not show that simplicity is not a reason for empirical belief; it just shows that in deceptive worlds a belief can be both false and justified. The present picture supports a similar conception of (one sort of) *apriori* warrant. Thanks to a referee for Oxford University Press on this point.

Gideon Rosen / 29

The charge is one of terminological impropriety, and as such it is ultimately inconsequential. But it seems to me that the Others have a telling response nonetheless. They may say, ‘*Tu quoque*. Our notion may not fit your informal explanation to the letter. But neither does yours. We think we know what you mean by “metaphysical necessity”. At any rate, we can construct a modal notion much like yours, relative to which the Differential truths are clearly necessary. But it is a *restricted* necessity, on a par with physical necessity. As we normally think, the laws of physics are metaphysically contingent: true in some genuinely possible worlds, false in others. But they are also necessary in a sense: true in each of a distinguished subclass of worlds. By our lights, what you call “metaphysical necessity” has a similar status. It does not amount to truth in every genuinely possible world, but rather to truth in each of a distinguished subclass of worlds: the worlds compatible with the basic facts—or perhaps one should say *laws*—of metaphysics: the most fundamental facts about “what there is and how it hangs together”. This hypothesis squares brilliantly with your taxonomic practice. But it is at odds with the idea that the metaphysical modalities differ from the physical modalities in being unrestricted.’

The informal elucidation includes the claim that the metaphysical modalities are absolute among the real modalities. The Non-Standard Conception appears to satisfy the condition. It is certainly *less* restrictive than the Standard Conception, and it is hard to think of a natural modal conception of the relevant sort that is less restrictive.¹⁵ So if the Non-Standard Conception sins against the informal elucidation by reclassifying some of the paradigms, the Standard Conception sins against the absoluteness clause. This is the basis for my suggestion that while neither conception fits the informal explanation to the letter, both conceptions fit it well enough, and so bear roughly equal title to the name ‘metaphysical modality’.

7. Is the Non-Standard Conception Coherent?

All of this assumes, of course, that the two conception are genuinely tenable. There are questions on both sides. Let’s begin with objections to the Non-Standard Conception.

¹⁵ It is easy to construct gerrymandered up real modalities that are less restrictive.

30 / The Limits of Contingency

The Others claim that apart from its heterodox classification of claims in the Differential Class, the Non-Standard Conception amounts to a recognizable conception of metaphysical modality. But there are reasons to doubt this, some of which are quite familiar. Consider the following exemplary challenge.

Let God be Anselm's God—a necessarily existing perfect spirit—and consider the proposition that God exists. It is not incoherent to suppose there is a God; and *pace* Anselm, it is not incoherent to suppose there is not. The Non-Standard Conception therefore entails that Anselm's God is a contingent being. But that's absurd. If Anselm's God exists at some world, He exists at all worlds *by His very nature*. So the Non-Standard Conception is incoherent. It entails that God's existence is both necessary and contingent.

There are several ways to approach the problem, some of which would require substantial modification in the Non-Standard Conception. These modifications may be independently motivated. But it seems to me that the view has the resources to evade this particular problem as it stands.

Let's begin with a question. Anselm's God is supposed to be a necessary being. But necessary in what sense? If he is supposed to be necessary in the *Standard* sense, there is no problem. It might well be a contingent matter in the Non-Standard sense whether the basic laws of metaphysics require the existence of a perfect spirit, just as it may be metaphysically contingent in the Standard sense whether the laws of physics require the existence of (say) gravitons.

But it's not very Anselmian to suppose that God's perfection involves only *Standard* necessary existence. Surely, 'tis greater to exist in *every* genuinely possible world than merely to exist in every world that resembles actuality in basic respects. So if we admit the Non-Standard Conception, it will be natural to suppose that God's existence is supposed to be *Non-standardly* necessary. But in that case we can afford to be less ecumenical. What would a necessary being in the Non-Standard sense have to be like? It would have to be a being whose non-existence is not correctly conceivable, which is to say: a being whose non-existence together with a complete specification of the (conditional, Kantian, anti-Anselmian) natures of things logically entails a contradiction or some similar absurdity. But upon reflection it seems clear that there can be no

Gideon Rosen / 31

such thing. The Anti-Anselmian natures of things are given by formulae of the form:

To be an F is to be . . .
 To be A is to be . . .

But it seems clear that no collection of such formulae can yield a contradiction when conjoined with a negative existential proposition of the form

There are no F s, or,
 A does not exist

The proposition that a *Non-Standard* necessary being sense exists is thus incoherent; it is not correctly conceivable. The proponent of the Non-Standard Conception may therefore resist the objection.

The same response applies to non-theological versions of the objection. It is sometimes said, for example, that the idea of Number includes the idea of necessary existence, so that nothing counts as a number unless it exists necessarily. (Of course, the textbook definitions tend to omit this condition, just as they omit to mention that numbers do not exist in space and time. But still it might be said that our 'full conception' of the natural numbers entails that numbers exist necessarily if they exist at all.¹⁶) The worry is that the Non-Standard theorist will be forced to concede that is coherent to suppose that numbers so-conceived exist, and also that it is coherent to deny their existence, in which case it will follow, absurdly, that numbers are both necessary and contingent.

The response is to distinguish two senses in which numbers might be said to be necessary. If the claim is that numbers, if they exist, must be necessary in the Standard sense, then once again there is no problem. It might be contingent in the Non-Standard sense whether some Standardly Necessary Being exists. On the other hand, if the claim is that numbers must be necessary in the *Non-Standard* sense, then we may conclude straight away that numbers so-conceived are impossible, since it is not correctly conceivable to suppose that they exist.

As a final example, consider the claim that there exists an actual golden mountain. Since there is no golden mountain in the actual world, we know that this proposition is not possibly true. But is the proponent of the Non-Standard Conception entitled to this verdict? Is the supposition of a world in which

¹⁶ Balaguer (1998).

32 / The Limits of Contingency

there exists an actually existing golden mountain logically incompatible with the natures of things? Couldn't you know all there was to know about what it is to be gold, what it is to be a mountain, and what it is to be actual without being in a position to rule out the existence of an actual golden mountain?

No. For there to be an actual golden mountain is for there to be a golden mountain in the actual world. And in the relevant sense, the actual world has its complete intrinsic nature essentially. To be the actual world is to be a world such that P, Q, \dots where these are all the contingently true propositions. Propositions of the form 'Actually P ' are singular propositions about *this* world and will thus be true (or false) in virtue of the nature of the actual world. It follows that for propositions of this sort, the Non-Standard Conception agrees with the Standard one. All such propositions are metaphysically non-contingent.

8. Objections to the Standard Conception

There is much more to say about whether the Non-Standard Conception represents a tenable conception of the metaphysical modalities.¹⁷ But if we suppose that it does, then our critical focus naturally shifts to the Standard Conception. For once we have the Non-Standard Conception clearly in focus, it is no longer obvious that the Standard Conception represents a genuine alternative. A skeptic might suggest that it was just thoughtless acquiescence in tradition that led us to regard the substantive principles of fundamental ontology as metaphysically necessary according to our usual understanding of the notion. After all, if there really is no obstacle to the possibility of a world in which (say) mereological aggregates do not exist, is it really so obvious that such worlds should be deemed impossible? Presumably, we have never faced

¹⁷ In his very useful comments on an earlier version of this paper, Scott Sturgeon objected to the Non-Standard Conception on the ground that David Lewis's theory of possibility—his version of modal realism—and its negation are both correctly conceivable, whereas it is absurd to suppose that a modal account of this sort might be a contingent truth. In response, I am inclined to say that Lewis's metaphysics of many worlds, shorn of its modal gloss, is indeed contingent in the Non-Standard sense, and that no contradiction follows from this concession. On the other hand, Lewis's package includes account of *what it is* for a truth to be necessary, and that account is either compatible with the nature of necessity (in which case the negation of Lewis's theory is an impossibility) or incompatible with it (in which case Lewis's theory itself is an impossibility).

Gideon Rosen / 33

the question directly. And it is tempting to suppose that when we do, our reaction should be not to reaffirm the Standard verdict, but rather to conclude that what I have been calling the Non-Standard conception really is *our own* conception and that we have been systematically misapplying it in such cases.

To be sure, even given the tenability of the Non-Standard Conception, we still know how to classify truths as necessary or contingent in the Standard sense. We still know how to identify the truths (or putative truths) of fundamental ontology, along with the uncontroversial metaphysical necessities. That is, we know how to apply the Standard Conception in practice. So never mind what we would say if we were to confront the question sketched above. Is there any reason to doubt that the Standard Conception as I have described it tracks a perfectly genuine modal distinction (even if it is not the only such distinction in the neighborhood?)

Let's not deny that it tracks a distinction. The question is whether that distinction amounts to a distinction in *modal* status. Let me explain.

As we have seen, from the standpoint of the Non-Standard Conception, Standard metaphysical necessity is best seen as a restricted modality. To be necessary in the Standard sense is to hold, not in every genuinely possible world, but rather in every world that meets certain conditions. Now it is sometimes supposed that restricted modalities are cheap. After all, given any proposition, ϕ we can always introduce a 'restricted necessity operator' by means of a formula of the form

$$\Box_{\phi}(P) =_{\text{df}} \Box(\phi \rightarrow P).$$

And in that case, there can be no objection to the Standard Conception. The trouble is that most such 'restricted necessity operators' do not correspond to genuine species of necessity. Let NJ be the complete intrinsic truth about the State of New Jersey, and say that P is NJ -necessary just in case NJ strictly implies P . It will then be NJ -necessary that Rosen is in Princeton, but NJ -contingent that Blair is in London. But of course we know full well that there is *no sense whatsoever* in which I have my location of necessity while Blair has his only contingently. So NJ -necessity is not a species of necessity.

The moral is that one cannot in general infer, from the fact that a certain *consequence* ($\phi \rightarrow P$) holds of necessity, that there is *any* sense in which the *consequent* (P) holds of necessity. (If there were then *every* proposition would be necessary in a sense, even the contradictions.)

34 / The Limits of Contingency

Now, metaphysical necessity on the Standard Conception is supposed to be a restriction of Non-Standard metaphysical necessity for which the restricting proposition ϕ is the conjunction of what we have been calling the ‘laws’ of metaphysics. The challenge is thus to show that Standard necessity so conceived amounts to a genuine species of necessity—that it is more like physical necessity than it is like *NJ*-necessity.

It is unclear what it would take to meet this challenge. There is some temptation to say that ϕ -necessity amounts to a genuine species of necessity only when the restricting proposition ϕ has *independent modal force*—only when there is *already* some sense in which it must be true. But what could this mean? Consider the Mill-Ramsey-Lewis (MRL) account of the laws of nature, according to which a generalization L is a law just in case L is a theorem of every true account of the actual world that achieves the best overall balance of simplicity and strength (Lewis 1973). Let us grant that this standard picks out a tolerably well-defined class of truths. Still, one might ask, ‘Why should propositions incompatible with the laws so conceived be called *impossible*?’ Consider a related class of truths: those propositions that would figure in every true account of the State of New Jersey that achieves the best overall balance of simplicity and strength. If the *Encyclopedia Britannica* is any guide, one such truth is the proposition that New Jersey is a haven for organized crime. But one needs a dark view of things to suppose that this proposition is in some sense necessary. It certainly doesn’t follow from the fact that it is important enough to be worth mentioning in a brief account of New Jersey that it enjoys a distinctive modal status. So why is it that when the MRL-theory in question is a theory about the entire world, we *are* inclined to credit its general theorems with some sort of necessity?

One way with this sort of question is a sort of nominalism. There are no objective constraints on which restricted necessities we recognize. We take an interest in some but not in others. We hold their associated restricting propositions fixed in counterfactual reasoning for certain purposes. And in these cases we dignify the operator in question with a modal name. But our purposes might have been otherwise, and if they had been then we might have singled out a different set of operators. On this sort of view there can be no principled objection to the Standard Conception. The worst one can say is that the restricted necessity upon which it fastens is not particularly interesting or useful. But one cannot say that it fails to mark a genuine modal distinction,

Gideon Rosen / 35

for on the view in question any modal distinction we see fit to mark as such is *ipso facto* genuine.

If we set this sort of nominalism to one side, then one natural thing to say is that a putative restricted necessity counts as genuine only when the boundary it draws between the necessary and the contingent is non-arbitrary or non-*ad hoc* from a metaphysical point of view. (Note that this is at best a necessary condition.) The truths about NJ are not a natural class from the standpoint of general metaphysics; nor are the Mill-Ramsey-Lewis generalizations about New Jersey. On the other hand, the most important general facts about nature as a whole may well be thought to constitute a metaphysically significant class of facts. And if so, there would be no objection on this score to the idea that *physical necessity* defined in Lewis's way amounts to a genuine species of necessity.

The Standard Conception of metaphysical necessity conditionalizes upon what we have been calling the basic laws or facts of fundamental ontology. Just as the Mill-Ramsey-Lewis laws of nature are supposed to represent the goal of one sort of natural science, the metaphysical laws are supposed to represent the goal of one sort of metaphysics: nuts and bolts systematic ontology. Clearly, there is no worry that these truths might constitute an arbitrary class from the standpoint of metaphysics. But it might still be wondered whether anything substantial can be said about what unifies them, and in particular, about what fits them to serve in the specification of a restricted modality.

I have a conjecture (and some rhetoric) to offer on this point. Consider the true propositions in the Differential class: the truths in the theory of universals and the metaphysics of material constitution; the truths about how abstract entities of various sorts are 'generated' from concrete things and from one another. To know these truths would not be to know which particulars there are or how they happen to be disposed in space and time. But it would be to know what might be called the *form* of the world: the principles governing how objects in general are put together. If the world is a text then these principles constitute its syntax. They specify the categories of basic constituents and the rules for their combination. They determine how non-basic entities are generated from or 'grounded in' the basic array. Worlds that agree with the actual world in these respects, though they may differ widely in their 'matter', are nonetheless palpably of a piece. They are constructed according to the same rules, albeit in different ways, and perhaps even from different ultimate ingredients. In this sense, they are like sentences in a single language. The metaphysically necessary truths on the Standard Conception may not be

36 / The Limits of Contingency

absolutely necessary. But they hold in any world that shares the form of the actual world in this sense.

Combinatorial theories of possibility typically take it for granted that the combinatorial principles characterize absolutely every possibility: that possible worlds in general share a syntax, as it were, differing only in the constituents from which they are generated or in the particular manner or their arrangement. The Non-Standard Conception is not strictly combinatorial *in this sense*, since it allows that the fundamental principles of composition—the syntax—may vary massively from world to world. The actual grammar is not privileged. Any coherent grammar will do. But the Standard Conception carves out an inner sphere within this larger domain: the sphere of worlds that share the combinatorial essence of actuality. As I have stressed, it is unclear what it takes to show that a class of truths is sufficiently distinguished to count as a legitimate basis for a restricted modality. Nonetheless, the foregoing may be taken to suggest that if *any* restricted modality is to be reckoned genuine, the restricted modality marked out by Standard Conception should be so reckoned.

9. Physical Necessity Reconsidered

This way of thinking raises a question about the boundary between physical necessity and Standard metaphysical necessity. Some physical necessities will presumably be Standardly contingent. Suppose the laws of nature involve particular numerical constants that determine the strengths of the fundamental forces or the charges or masses of the fundamental particles. It will then be natural to suppose that the precise values of these constants are not aspects of the general combinatorial structure of the world and that they are therefore contingent in the Standard sense. But other claims that might feature in the Mill-Ramsey-Lewis theory of the natural world might be candidates for metaphysical necessity in the standard sense: that the laws of nature all assume a certain mathematical form (e.g., that they are quantum mechanical); that the space-time manifold has certain geometrical features, e.g.: that it has only one ‘time’ dimension; that the ultimate particles are excitation states of one-dimensional strings; and so on. It is not inconceivable that such physical features should be sufficiently basic to count as aspects of the underlying form or structure of the world: that any world in which such

Gideon Rosen / 37

physical features failed to be manifest, would fail to share a syntax with the actual world. And insofar as this is so, these physical truths should be reckoned metaphysically necessary on the Standard conception for the same reason that the facts of fundamental ontology are to be reckoned necessary on that conception.

The point I wish to stress, however, is that on the present conception it is to be expected that the border between Standard metaphysical necessity and physical necessity should be *vague*—not simply because the notion of physical necessity (or a law of nature) is vague, but also because it is vague when a truth is ‘fundamental’ or ‘structural’ enough to count as part of the combinatorial essence of the world. This is not the prevailing view on this matter. Most writers take it for granted that the question whether a certain law of nature is also metaphysically necessary is a well-defined question whose answer is in no way up for stipulation. On the present conception, that is unlikely to be the case. If the question is whether some given law of nature is a *Non-Standard* necessity, then indeed, for all we have said, it may be sharp. However hard it may be to find the answer, the question then is whether the negation of the law is ruled out by the natures of the properties and relations it concerns, and we have seen no reason to believe that this question is a vague one. (There may be such reasons, but we have not seen them.¹⁸) On the other hand, if the question is whether the law is a *Standard* metaphysical necessity, then we should expect that in some cases it will have no answer, since the boundary between structural or formal truths and mere ‘material’ truths has only been vaguely specified.

10. Conclusion

We have distinguished two conceptions of metaphysical necessity, both of which cohere well enough with the usual informal explications to deserve the name. According to the Non-Standard Conception, *P* is metaphysically necessary when its negation is logically incompatible with the natures of things. According to the Standard Conception, *P* is metaphysically necessary when

• Q3 ¹⁸ For example, it might turn out to be a vague matter whether $P \bullet$ holds in virtue of the nature
 • Q4 of things. This is immensely plausible when $P \bullet$ is a proposition about a particular organism or a
 biological species.

38 / **The Limits of Contingency**

it holds in every (Non-Standard) possible world in which the actual laws of metaphysics also hold, where the basic laws of metaphysics are the truths about the form or structure of the actual world. Neither conception has received a fully adequate explanation. But if both are tenable, then our discourse about necessity is shot through with ambiguity. The ambiguity only matters when we are discussing the modal status of metaphysical propositions—or perhaps the modal status of certain laws of nature. But when it does matter, we ignore it at our peril. We are inclined to believe that questions about the modal status of the claims of mathematics and metaphysics are unambiguous. But if I'm right, that is not so. In particular, it may be metaphysically necessary in one sense that sets or universals or mereological aggregates exist, while in another sense existence is always a contingent matter.

References

- ARMSTRONG, D. M. (1978), *Universals and Scientific Realism*, 2 vols. (Cambridge: CUP).
- BALAGUER, MARK (1998), *Platonism and Anti-Platonism in Mathematics* (Oxford: OUP)
- DORR, CIAN, and ROSEN, GIDEON (2001), 'Composition as a Fiction', in R. Gale (ed.), *Blackwell's Guide to Metaphysics* (Oxford: Blackwell), 151–74.
- DUMMETT, MICHAEL (1973), *Frege: Philosophy of Language* (2nd edn.: Cambridge, Mass.: Harvard University Press).
- (1981), *The Interpretation of Frege's Philosophy* (Cambridge, Mass.: Harvard University Press).
- (1993), 'Wittgenstein on Necessity: Some Reflections', repr. in his *The Seas of Language* (Oxford: OUP), 446–61.
- Field, Hartry (1974), 'Quine and the Correspondence Theory', *Philosophical Review* 83: 200–28.
- (1989), *Realism, Mathematics and Modality* (Oxford: Blackwell).
- (1993), 'The Conceptual Contingency of Mathematical Objects', *Mind*, 102: 285–99.
- FINE, KIT (1994), 'Essence and Modality', in J. E. Tomberlin (ed.), *Philosophical Perspectives 8: Logic and Language* (Atascadero, Calif.: Ridgeview), 1–16.
- (2002), 'The Varieties of Necessity', in J. Hawthorne and T. Gendler (eds.), *Conceivability and Possibility* (Oxford: OUP), 253–81.
- FRANKEL, ABRAHAM, BAR HILLEL YEHOSHUA, and LEVY, AZRIEL (1973), *Foundations of Set Theory* (2nd edn., Amsterdam: North Holland).
- LEWIS, DAVID (1973), *Counterfactuals* (Cambridge, Mass.: Harvard University Press).

Gideon Rosen / 39

____ (1983), 'New Work for a Theory of Universals', *Australasian Journal of Philosophy*, 61: 343–77.

MADDY, PENELOPE (1997), *Naturalism in Mathematics* (Oxford: OUP).

VAN FRAASSEN, BAS (1977), 'Platonism's Pyrrhic Victory', in Marcus et al (eds.), *The Logical Enterprise* (New Haven: Yale University Press), 39–50.

VAN INWAGEN, PETER (1990), *Material Beings* (Ithaca, NY: Cornell University Press).

Queries in Chapter 1

- Q1. We have matched the variables as per CE MSS. Kindly confirm.
- Q2. We have matched the variables as per CE MSS. Kindly confirm.
- Q3. We have matched the variables as per CE MSS. Kindly confirm.
- Q4. We have matched the variables as per CE MSS. Kindly confirm.