MIRACLES, LAWS OF NATURE AND CAUSATION

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I

According to Hume, 'a miracle is a violation of the laws of nature' (*An Inquiry Concerning Human Understanding*, Ch. 10). By this, Hume presumably meant that all miracles are violations of the laws of nature. Moreover, Hume didn't think this was a contingent fact about miracles; he thought that, just in virtue of the kind of thing they are, miracles are violations of the laws of nature. Although he does not say so explicitly, Hume may also have thought that just in virtue of the kind of thing laws of nature are, only miracles are violations of the laws of nature. [1]

The latter claim is initially plausible. How could an event be an unmiraculous violation of the laws of nature? An unmiraculous event could take place whose occurrence was inconsistent with what we had supposed were the laws of nature. But if we were apprised of this fact, the right conclusion to draw, presumably, would not be that some law of nature had been unmiraculously broken, but rather that something we had taken to be a law of nature was not actually such. Nothing is a natural law unless it admits of

1 In the *Inquiry*, Ch. 10, Hume says: 'It is no miracle that a man, seemingly in good health, should die on a sudden: because such a kind of death, though more unusual than any other, has yet been frequently observed to happen. But it is a miracle, that a dead man should come to life; because that has never been observed in any age or country'. Taken out of context, this passage might suggest that for Hume, any event of a kind never before observed is miraculous. But this can't be what Hume meant, even if we replace 'of a kind never before observed' by 'of a kind which never happened before': Hume surely did not think that the world could end unmiraculously only if some event of the world-ending kind had already occurred. Presumably, what he has in mind is that a dead man's coming to life would be miraculous, because contrary to the laws of nature—where its contrariety to the laws of nature is evidenced by its never having been observed previously. If this is what he has in mind, he would seem to hold that being a law-violating event is a sufficient condition for being a miracle, as well as a necessary one.

no natural exceptions, that is, admits of at most supernatural exceptions. But, one might think, a natural law could admit of supernatural exceptions; in this respect natural laws appear to differ from the so-called 'laws of logic', and from supernatural laws, if such there be. (What would a supernatural law be like? One example might be the pseudo-Dionysian principle that (divine) goodness is by nature self-diffusive. This supernatural law might be appealed to in certain explanations—say, in offering an explanation of why God's nature is triune, or in offering an explanation of why God created this world, or any world at all.) [2]

There are at least two sorts of objections one might make to the idea that natural laws could have miraculous exceptions. The first rests on a necessitarian conception of physical laws. If nothing is a law of nature unless it holds in every possible world, then nothing could be a miraculous exception to a law of nature.

Although the necessitarian view of physical laws is still a minority one, it is more popular than it used to be. In an unpublished paper,[3] Dorothy Edgington has argued that we can see its plausibility, once we have taken Kripke's point that what is metaphysically necessary may not be knowable *a priori*. 'Gravity obeys the inverse square law' is, on her view, very like 'Gold has atomic number 79': no amount of *a priori* intellection will reveal its truth, and we can entertain the possibility that it might turn out to be false; but it is actually false or necessarily true.[4]

I agree that the contingency of the laws of nature does not follow from the fact that our knowledge of the laws of nature is *a posteriori*. But I remain disinclined to think that all the laws of nature are necessary. Ultimately, I can't do more to motivate this

2 For a discussion of how the pseudo-Dionysian principle might figure in such explanations, see Norman Kretzmann, 'A General Problem of Creation' (unpublished manuscript).

3 'Epistemic and Metaphysical Possibilities'.

4 Actually, it may be that what is necessarily true is not the proposition, gold has atomic number 79, but rather the conditional proposition, gold has atomic number 79, if it exists. If 'gold' is a singular term denoting something that exists only contingently (such as, for instance, the mereological aggregate of all things golden) then presumably only the conditional will be necessarily true. But 'gold' may be a singular term denoting a necessarily existing abstract entity, in which case there is no problem about its being necessary that gold has atomic number 79. Or, 'gold' may not be a singular term at all, even in sentences like 'Gold has atomic number 79'. I shall ignore these complications here.

idea than to say, in Kripkean fashion, that there seems to be an obvious element of contingency about what the laws of nature are. The point is not that we can entertain different hypotheses about what the laws of nature are, although we can. It is rather that there is apparently nothing wrong with statements like 'Even if gravity actually obeys the inverse square law, it might not have'. Suppose someone holds that it is contingent whether Hesperus is Phosphorus, or contingent whether gold has atomic number 79. There are well-known Kripkean arguments against this view. In each case, Kripke tries to show, one cannot describe a pair of possible worlds, in exactly one of which the proposition in question holds. The two distinct planets in another world called 'Hesperus' and 'Phosphorus' turn out to each be distinct from both Hesperus and Phosphorus; the element in another world with an atomic number different from 79 turns out to be a different element from gold. It is because I find these Kripkean arguments compelling that I believe that identity statements and what we might call 'constitution statements' are necessarily true, if true. [5] By contrast, I don't know of any compelling arguments to show that there couldn't be two worlds, in exactly one of which it is a law that gravity falls off in accordance with the inverse square. In the absence of such an argument, I want to hold on to the initially plausible idea that it is a contingent matter whether or not gravity obeys the inverse square law.

Someone may object that there are arguments, not dissimilar to Kripke's, to show that the laws of nature are necessary. Perhaps the attempt to describe a pair of worlds, in just one of which gravity obeys the inverse square law, will end in failure because the force which doesn't fall off in accordance with the inverse square law turns out not to be gravity, but some other force. Actually, I'm not sure there is a fact of the matter here. If we've got an otherworldly force which works almost exactly like gravity, but falls off at a slightly different rate, I don't know that much hangs on whether we call it 'gravity' or 'quasi-gravity'. Suppose, though, we reserve the

5 Similarly, I find Kripke's views on the necessity of origin uncompelling, because I don't think he succeeds in showing that the attempt to describe two worlds, in exactly one of which this table or this person has this origin, ends in failure: see my 'The Essentiality of Origin and the Individuation of Events' (hopefully forthcoming somewhere).

term 'gravity' for the force which works exactly like the actual force, and call the force which falls off at such-and-such a slightly different rate, quasi-gravity. It is, I take it, a law of nature that things with mass are gravitationally attracted to each other. Mightn't it have been the case that (massive) things were quasi-gravitationally, rather than gravitationally attracted to each other? It might be replied that things wouldn't have mass, but only quasi-mass, if they were quasi-gravitationally attracted to each other.[6] Again, I am unconvinced that we must say this; but suppose we do. How far can we push this line? Suppose it is a law of nature that nothing travels faster than c (the speed of light). It certainly looks as if there is a possible world in which things go faster than c. Why shouldn't there be one? Is it because nothing in the imagined world has a speed greater than c, but only a quasi-speed? Are speed and distance, space and time, all so bound up with the actual laws of nature as to leave no room for the possibility of something's traversing space at faster-than-light speed? It all looks too Bradleyan to me. Or consider a different example. If the laws of nature set a limit on how fast things can go, they might also set a limit on how big things can be. Suppose it is a law of nature that nothing has a size larger than S. Will it then be true that there couldn't have been anything with a size larger than S? Would a thing in another world whose (putative) size exceeded S have to have quasi-size, rather than size? Again, I don't see it. I find it hard to believe that there won't be some properties (like speed, size, and shape) which will or might figure in the laws of nature, without being so closely tied to those laws that we can't relocate those properties in worlds with different laws.

Suppose, though, that no property actually instantiated could have been instantiated, had the laws been any different. It doesn't follow in any obvious way that all the laws of nature are necessary: as long as different properties might have been instantiated, there could have been different laws. Our world is one with gravity, rather than quasi-gravity. So it is actually a law of nature, I take it, that no

6 Shoemaker holds that what makes mass, or any other (genuine) property, the property it is, is its potential for contributing to the causal powers of the things having that property (see his 'Causality and Properties', in Van Inwagen, ed., *Time and Cause*, p. 114). So he would deny that massive things could have been quasi-gravitationally rather than gravitationally attracted to each other.

two things are quasi-gravitationally attracted to each other (just as it is (presumably) a law of nature that no two things are such that the difference between the speed of the first and the speed of the second is greater than c). But it does not appear to be a necessary truth that no two things are quasi-gravitationally attracted to each other: if it were a necessary truth, quasi-gravitation would be an impossible force, and it is not.[7]

So the idea that the laws of nature are (all) necessary because they (always) follow from truths about the essences of the properties figuring in those laws does not persuade me. Of course, the just considered route to the necessity of natural laws is not the only possible one; it is not, for example, the one taken by Edgington. Rather than arguing from a certain conception of properties to the necessity of natural laws, she argues from the premiss that the laws are not true by accident, to the conclusion that they are metaphysically necessary. That is, she argues that (a) in order to explain how laws differ from mere accidental regularities, we must appeal to the idea that the laws of nature are necessary 'in some serious sense' and (b) what it is for the laws to be necessary in some serious sense is for them to be metaphysically necessary. I agree that we need an account of why physical necessity is an interesting or important sort of necessity—unlike, say, Lewis' fatalistic necessity. (Lewis facetiously calls a proposition *fatalistically necessary* at a world w just in case that proposition holds at every world accessible to w, where the accessibility relation is one according to which, for any world w, the set of worlds accessible to w is {w}.) Identifying physical necessity with metaphysical

7 Notice that Shoemaker, who thinks that none of the properties of our world could be instantiated in a world with different causal laws, does not conclude that there couldn't be worlds whose causal laws are different from our own ('Causality and Properties', p. 128). There appears to be a problem, though, about holding both that causal laws are contingent, and that no two worlds with different laws have any of the same (instantiated) properties. Won't there at least be disjunctive properties which are instantiated at each member of a pair of worlds with different laws? (One such property might be: *having mass or quasi-mass*, where quasi-mass is a mass-like property governed by different laws.) Although Shoemaker distinguishes between genuine and 'mere-Cambridge' properties, it does not appear open to him to say that disjunctive properties of the kind in question are not genuine. For he says that a property is genuine if and only if its acquisition or loss by a thing constitutes a genuine change in that thing (*Ibid.*, p. 110); and acquiring (or losing) the disjunctive property of having mass or quasi-mass would be no mere Cambridge change in a thing.

necessity would certainly be one way to explain why physical necessity is an interesting or important kind of necessity. But it is not the only way, and it might not be the best way, to provide such an explanation. An analogy: I think there is an interesting sense in which facts about the past are necessary. However, we certainly would not want to identify the necessity of the past with metaphysical necessity. After all, the past might have been different. But so might the laws of nature (I think).

To sum up: I don't think that a necessitarian conception of natural laws is without attractions: it would, among other things, allow us to explain how laws of nature differ from accidental regularities. On the other hand, I have strong and stubborn intuitions that (at least some of) the laws of nature are contingent. So I don't think one can demonstrate the impossibility of miraculous violations of the laws, by appeal to the necessity of those laws.

But, someone may say, even if the laws of nature are contingent, they can no more admit of supernatural exceptions than they can of natural ones: whatever else a law is, it is an exceptionless regularity.[8] If the objector accepts Hume's characterization of miracles as violations of the laws of nature, she will conclude that miracles are impossible: if nothing could be a miracle, without being an exception to some law of nature, and nothing could be a law of nature unless it is exceptionless, then nothing could be a miracle.

The argument, if sound, would make short work of this article. In fact, though, it seems too quick. Perhaps the notion of a miracle is at some deep level incoherent; but it is not trivially and evidently incoherent in the way the argument suggests. Someone who believes in miracles will start with an idea of what is and is not possible in the course of nature—that is, of what is and is not possible, without any intervention in nature on God's part. To take examples offered by Aquinas in his discussion of miracles, it is not possible in the course of nature that the sun stand still, or reverse its course; it is not possible in the course of nature that a human body be glorified, and so on.[9] We can think of natural possibility as physical

8 David Lewis says just this in the introduction to his *Philosophical Papers vol. 2* (Oxford: Oxford University Press, 1986), p. xi.

9 For Aquinas' discussion of miracles, see *Summa Contra Gentiles*, III, chs. 100–103, and *Summa Theologiae*, Ia, 105, 6–8. Though Aquinas does not use the term 'natural

possibility—but only so long as our notion of physical possibility allows that an actually occurring event may be physically impossible. The believer in miracles will hold that the distinction between the naturally possible and the naturally impossible is ultimately grounded in the divine will: it is because God made certain decisions in creating the world that it is naturally possible for a swallow to attain speeds of forty miles per hour, but naturally impossible for a swallow to attain superluminal speeds. If that is so, it stands to reason that what is naturally impossible can be theologically possible—that is, within God's power to bring about, by direct intervention in nature. An analogy: when God creates a world with certain laws, He does something like what a child does, when the child arranges the tracks of a model train set in a certain way. Once the tracks have been laid down in a given way, it becomes true that the train can't get from point A to point B except by following path P.[10] That is, it can't, as it were, 'in the course of nature': but nothing prevents the child from intervening in the micro-world of the model railroad to bring it about that the train gets from A to B without following path P (say, by lifting the train off the track at A, and putting it back at B). And if the relation of our universe to God is in relevant respects like that of the railroad micro-world to the child, nothing prevents God from intervening in the world to bring about outcomes which are naturally impossible.

Someone who believes in miracles supposes that among actual events there are some that are naturally impossible; and these events are miracles. For instance, Aquinas would say, it is not naturally possible for a quantity of water to turn into wine instantaneously. Nevertheless, he would say, on at least one occasion, some water did turn into wine instantaneously; this actual but naturally impossible event was a miracle.

Now whether or not there are actually any actual but naturally impossible events, there is no evident incoherence in supposing there are. Moreover, if there are such events, they clearly deserve

possibility' he clearly has the notion in mind: for instance, at *SCG*, III, 103 he says that among miracles, some are of higher rank than others, inasmuch as they are more removed from the capacity of nature. Thus in miracles of the highest rank, something is done by God which nature could never do (*quod natura nunquam facere potest*)—e.g., two bodies come to occupy the same space, or the sun stands still.

10 Assume the layout is one without switches.

the title of miracle. This suggests that the quick argument against the possibility of miracles set out above must be mistaken.[11] This is in any case, I think, plausible. Most philosophers—from Augustine's day to Hume's, at least—have thought that the definition of 'miracle' leaves open the question of whether there are any. (If it didn't, all of Hume's arguments against the rationality of belief in miracles would be beside the point). Moreover, someone who holds that miracles are impossible (because 'miracle' means 'exception to an exceptionless regularity') would have to say that, even if all the visible stars were instantaneously rearranged to spell out 'GOD MADE US', that would not—that could not—be a miracle. If such an event actually happened, wouldn't it be silly to insist that *ex vi terminorum* no miracle could possibly have taken place?

If miracles are possible, then either miracles are not violations of the laws of nature, or the laws of nature are not (necessarily) exceptionless. So if we think miracles are possible, and want to insist that exceptionlessness is a necessary condition of lawhood, we will have to say that a miracle does not violate any actual law of nature. There are various ways we could achieve this. One way would be to say that the laws of nature (at this world, and at all others) always have a 'get-out clause concerning supernatural intervention: for instance, the third law of thermodynamics is not that entropy always increases, but that entropy always increases, unless something miraculous happens. I don't find it particularly plausible that the laws of nature all come with provisos concerning divine intervention, although I don't have any argument against the idea that they do. Another way of ensuring that miracles don't violate the laws of nature is to say that when a miracle takes place,

11 There is a different quick argument against the possibility of miracles, which doesn't depend on the characterization of miracles as violations of some natural law. It goes like this: a miracle, whatever else it is, is a natural effect of a supernatural cause. So the concept of a miracle presupposes a distinction between the natural and the supernatural. But no sense can be made of this distinction, because whatever stands in causal or explanatory relations to the natural order is itself part of the natural order. (This is very like the argument that Cartesian dualism is incoherent because whatever stands in causal relations to anything physical is itself physical).I am not convinced by this reasoning, which is as inimical to (traditional, non-Spinozan) theism as it is to miracles. Why should we believe that necessarily, nature is a closed causal system, unless we already find it plausible that there couldn't be anything supernatural? But I won't pursue the matter further here.

rather than violating any actual law of nature, it violates the laws of nature as they would have been, if there hadn't been any miracles.[12] This has the (to my mind, not very attractive) consequence that two worlds can have different laws of nature, even though they are indiscernible with respect to facts concerning natural possibility and impossibility.

If we want to hold on to the idea that (some or all) miracles are violations of the laws of nature, we will have to say that the laws of nature could still have been the laws of nature, even if they had had miraculous exceptions. (This is of course consistent with the supposition that the laws of nature are actually exceptionless, because there aren't any miracles).

This option allows us to hold on to the (initially plausible) idea that laws of nature don't come with theological provisos built in, and allows us to say that two worlds which are indiscernible with respect to facts about natural possibility have the same laws.[13] Accordingly I prefer it to the options considered previously. If we take it, we shall have to say that finding out that a putative law of nature L is false does not establish that L is not a law of nature. (Suppose that L is a universal generalization which holds at all naturally possible worlds, but fails to hold at the actual world, because it has a miraculous exception. In that case, L may be a law of nature, in spite of being false.)

II

I have been arguing that our concept of a law of nature allows the possibility that a law of nature be miraculously violated. But is it

12 Someone who believes that miracles are possible, and likes the Mill-Ramsey-Lewis theory of laws, might find this line attractive. He might think that (a) in a world in which gravity sometime miraculously fails to obey the inverse square law, 'Gravity always obeys the inverse square law' is not a law, since a law is a true universal generalization which fits into a best system of scientific explanation (where goodness is a function of simplicity and strength); and (b) from the standpoint of the world in which gravity once miraculously failed to obey the inverse square law we could truly say: if there never had been any miracles, then 'Gravity always obeys the inverse square law' would have been a law of nature (since it would then have been a true universal generalization which was part of the or a best system).

13 See the characterization of laws of nature in terms of physical possibility considered by Van Inwagen at the end of his 'Laws and Counterfactuals', *Nous*, 13, 1979. Van Inwagen also suggests that, in virtue of the possibility of miracles, one should not require that the laws of nature be true.

the case, as Hume supposed, that a miracle just is 'a transgression of the laws of nature by a particular volition of the Deity'? Or could there be miracles which transgress no law of nature? R. F. Holland has argued that there could as follows: suppose that a child rides his toy motor-car onto a railroad crossing, and a wheel of the car gets stuck in the rails. Meanwhile a train is approaching at high speed, round the bend. The boy's mother sees the boy on the tracks, and hears the train approaching; but in spite of her efforts to get him to move, the child—intent on pedalling his way off the tracks—remains on the tracks. At the last moment, the train's brakes are applied, and the train stops within a few feet of the child. Holland says,

> The mother thanks God for the miracle, which she never ceases to think of as such, although, as she in due course learns, there was nothing supernatural about the manner in which the brakes of the train came to be applied. The driver had fainted. . .and the brakes were applied automatically. He fainted on this particular afternoon because his blood pressure had risen after an exceptionally heavy lunch ... and the change in blood pressure caused a clot of blood to dislodge and circulate. He fainted at the time when he did on the afternoon in question because this was the time at which the coagulation in his blood stream reached the brain.[14]

Holland's idea is that someone may regard a certain kind of (significant) coincidence as miraculous, even if she does not think of it as the result of any 'divine interference in the order of nature' (to use Holland's phrase). He does not explicitly say that a person could be right in so regarding it; but he does say that a conception of the miraculous which excludes someone's [correctly] so regarding it is 'unduly restrictive'.

I'm not convinced that Holland's example shows that the concept of a miracle does not involve divine interference (or, as I shall put it, intervention) in nature. To be sure, the woman might well, at the time the child was saved, believe that a miracle had taken place, and she might go on believing it, even after learning the facts about the driver's blood pressure, blood clots, and so on. But she might believe at the time of the incident that God had intervened in the

14 R. F. Holland, 'The Miraculous', *American Philosophical Quarterly*, 2 (1965).

course of nature to save her child; and she might go on believing it, even after learning of the causal role of the blood clot, etc., in the saving of her child. (The fact that the rise in blood pressure, the formation of the blood clot, and so on are all involved in the causal history of the child's being saved does not by itself entail that divine intervention was not also involved.)

But couldn't she (rationally) continue to maintain that a miracle had taken place, even if she came to believe that no divine intervention was involved, and all the causes of her child's being saved were of the ordinary sort? That's not at all clear to me. I think that if she did, we might well accuse her of using the word 'miracle' loosely. We might say: if the putatively miraculous event did not take place as a result of divine intervention, but was just as much the result of natural causes as any other event,[15] in virtue what is it miraculous? Well, the woman might reply that it was, as Holland puts it, 'impressive, significant', in that it involved a child's life being saved against all expectations. Or she might say that the event was providential. But would she really be prepared to classify every event that she regarded as significant, or contrary to expectations, or providential, as miraculous? Would she really think there are that many miracles in the world? If she did, I think she could be rightly accused of having an unacceptably loose concept of a miracle.

I think it is significant that in Holland's story, the woman comes to believe that a miracle has happened at a time when no natural explanation of the train's stopping is available to her. Suppose Holland had told the story differently, so that the woman knew in advance of the change in the driver's blood pressure, the formation of the blood clot, the rate at which it was moving towards the driver's brain, and so on. If he went on to say that the woman was convinced, at the time the child was saved, and ever after, that a miracle had taken place, we would find the woman's conviction hard to understand: it would be very strange for someone who possessed all that information about the natural causes of the child's

15 Notice that we cannot say, 'If the allegedly miraculous event was the result of purely natural causes ...', unless we have ruled out the possibility that God exists; if God exists, nothing is the result of purely natural causes. Resulting from purely natural causes is a sufficient, but not a necessary condition for unmiraculousness.

being saved to form and accept the hypothesis that a miracle had taken place.

There is a natural explanation of this, if a miracle must be the result of a divine intervention in nature. If you see from the start how an event could be explained without appeal to divine intervention, you're unlikely to believe that that event is miraculous, because you're unlikely to believe an explanation which involves more causes than seem explanatorily necessary.

So I am inclined to believe that in the theological sense of 'miracle', only those events which are the result of God's intervention in nature are miracles *proprie loquendo* (properly speaking); events like the child's being saved—even if they are the result of God's will as mediated by natural causes—are only miracles *improprie loquendo*.[16]

III

All the same, I am not convinced that Hume is right in supposing that a miracle is by definition a transgression of a law of nature. When Hume says that by definition, a miracle is a transgression of a law of nature, it is natural to suppose he means something like: an event e is a miracle only if the occurrence of e is inconsistent with some law of nature. This claim appears to presuppose a view about the essences of events uncongenial to Hume. Consider a case I've already mentioned, which might seem entirely unproblematic for the Humean understanding of miracles: God turns a quantity of water into wine instantaneously. We can imagine different ways for God to do this, but let us suppose that God instantaneously

16 Two claims should be distinguished, *viz*: (a) There is a (properly theological) sense of miracle according to which nothing could be a miracle unless it is the result of divine intervention in nature, and (b) There is a no (properly theological) sense of miracle according to which something could be a miracle without being the result of divine intervention in nature. I am inclined to believe both (a) and (b), but I am more confident of (a) than I am of (b). In support of (a), one may cite the first entry under 'miracle' in the O. E. D.: 'a marvellous event occurring within human experience, which cannot have been brought about by human power or by the operation of any natural agency, and must therefore be ascribed to the special intervention of the Deity or of some supernatural being'. Holland seems to accept something like (a), although he denies (b): he speaks of two concepts of a miracle—what he calls the contingency concept (the one involved in the train case) and the concept of the miraculous as a violation of natural law. Interestingly, I find no entry in the O. E. D. corresponding to what Holland calls 'the contingency concept' of a miracle.

rearranges the fundamental particles constituting the water in such a way that they come to constitute wine rather than water. Presumably, the laws of nature exclude this sort of instantaneous transformation, so the occurrence of the miracle involves a violation of some law of nature. But what is the miracle, and when does it happen? The miracle is the water's being instantaneously transformed into wine, and it doesn't happen until what was (i.e., constituted) water has become (i.e., come to constitute) wine. (As long as the stuff in the pitcher is still water, the miracle is yet to happen). Once we see this, it becomes less clear that the miracle is a violation of any law of nature. If we watched a (complete) movie of the part of the history of the world which began with the first instant that the stuff in the pitcher was wine, and went on as far as we liked into the future, there is no reason to suppose that the movie would reveal that anything contrary to the laws of nature had taken place. It would be different if the movie recorded (the relevant part of) some portion of the history of the world immediately preceding the instantaneous transformation of the water into wine: then we could tell from the movie (and a knowledge of the laws) that some law of nature had been violated. For the movie would reveal the occurrence of an event we may call *the stuff in the pitcher's first being water and then suddenly being wine*—an event whose occurrence is inconsistent with the laws of nature. Notice, though, that this event cannot be identified with the miracle, since it starts to happen before the miracle does.

Here someone may well object: the miracle is *the stuff in the pitcher's instantaneously changing from water into wine*. That event could not have occurred, unless immediately before, the stuff in the pitcher had been (that is, had constituted a bit of) water. So that event couldn't have happened, without violating the laws of nature.

Suppose it is true that the event which is the stuff's instantaneously changing from water into wine could not have occurred, unless the stuff in the pitcher had been water immediately beforehand. Then it is also true that the event which is the stuff's instantaneously changing from water into wine could not have occurred, without the occurrence of the event (or, if your prefer, state) which is the stuff in the pitcher's being water immediately before.

Is this last claim true? I'm inclined to think so, though I don't have the firmest of intuitions on the matter. On the one hand, it seems to me one could truly say of (the event which is) the instantaneous change of this stuff from water into wine: *that* couldn't have happened, unless there had been (this) water in this pitcher immediately before; unless the event or state, this stuff in the pitcher's being water immediately before, had occurred. On the other hand, at least in some moods, I find the following sort of metaphysical picture appealing: the basic events are temporally and spatially punctile; all other events are aggregates of the basic events. Moreover, all the basic events (the punctile ones) are logically independent of one another: there are no logically necessary connections between non-overlapping events. I don't have any arguments in favour of this metaphysical picture; but it sometimes seems attractive to me. That is because, sometimes, the idea of logically necessary connections between non-overlapping events seems strange to me: how could what is happening here and now be necessarily linked to what is happening there, or then? If, however, there are no necessary connections between disjoint events, then the event which is the instantaneous change of the stuff from water into wine must be such that it could have occurred without the occurrence of the event which is the stuff in the pitcher's being water immediately before. (It just wouldn't have been the instantaneous change of that water into wine, in those circumstances).

Whether or not the metaphysical picture of events just sketched is attractive, it certainly looks Humean. My impression, from my reading of Hume's treatment of causality in the *Treatise* and the *Enquiry*, is that his treatment is informed by the idea that there are no necessary connections between distinct existences—in particular, no necessary connections of any kind, in any direction, between earlier and later events.

So it appears that we can hold on to Hume's view that a miracle is an event whose occurrence is inconsistent with the laws of nature only if we give up his belief that there are no necessary connections between distinct existences. If the occurrence of the instantaneous change of water into wine is inconsistent with the laws of nature, that can only be because the occurrence of that event entails

something about what events took place in the past relative to that time.[17]

Even if we decide that this is a problem for Hume's metaphysic rather than for his conception of a miracle, the idea that miracles are (essentially) law-violating seems dubious. A miracle, whatever else it is, is an effect of God's intervention in nature. Now it looks as though no law-violating event can take place, unless there is some supernatural intervention in nature; but it does not seem, on the face of it, that no supernatural intervention in nature can take place, unless some law is violated. If the laws of a world are deterministic, God's intervening in nature and His bringing about some law-violating event will go hand in hand: when God intervenes in nature, to bring about an event which would not have happened otherwise, a law-violating event will take place.[18] But if the laws of a world are not deterministic the truth of the laws will not preclude God's intervening to make the future go in a way it would not otherwise have gone. Couldn't divine intervention of a non-law-violating sort be miraculous? I don't see why not.

17 Someone might say that Hume's claim that a miracle is a violation of the laws of nature should be understood in a way different from the one under discussion: what Hume means is not that an event is a miracle only if its occurrence is inconsistent with the laws of nature, but rather that an event is a miracle just in case it actually has a property such that its having that property is inconsistent with the laws of nature. Then the instantaneous change of water into wine will turn out to be a miracle, since it actually—even if contingently—has the property of being an instantaneous change of water into wine, which property it could not have, unless some law of nature was violated. The difficulty is that in any world in which a law-violating miracle occurs, every event will actually have a (relational) property such that its having that property is inconsistent with the laws of nature. If we try to get round this problem by replacing 'property' in the above characterization by 'intrinsic property', we are back to square one: *being an instantaneous change of water into wine* is not an intrinsic property of the event which has that property. If you think that there are no necessary connections between distinct existences, a natural move would be to revise Hume's account of miracles thus: instead of saying that an event is a miracle only if its occurrence is inconsistent with the laws of nature, we say an event is a miracle only if its occurrence is inconsistent with the laws together with the past. That way the instantaneous change of water into wine gets classified as a miracle.

18 When God intervenes to miraculously bring about an event which would not otherwise have come about, the history of the world diverges from what would have been its actual history, had God not intervened. But if the laws of a world are deterministic and all of them are true, divergence is impossible. (In a deterministic world, only one possible future is consistent with the laws and the past). So if divergence occurs, and the laws are deterministic, not all the laws are true. Moreover, some law-violating event occurs: for example, the divergence-producing event, and any event essentially containing the divergence-producing event as a temporal part.

Suppose a prophet is in jail, awaiting execution. He looks around, trying to find an avenue of escape; but there don't appear to be any. He prays, asking God to deliver him from his enemies, and in desperation throws himself against the wall of the cell. To his amazement, he goes right through it, coming out on the other side, and leaving it perfectly intact. Once outside the jail, he makes his escape.

The laws of the prophet's world allow for the possibility that events of this kind, though fantastically improbable, can happen. (I have been told that the laws of this world have this feature, though I don't know if it's true). Moreover, the laws of the prophet's world, together with all the truths about the past right up until the time the prophet hits the wall, are consistent with the prophet's interpenetrating it (though again, the laws plus the past make it very improbable that he will interpenetrate it). The laws plus the past are consistent with the prophet's interpenetrating the wall naturally—without any intervention on God's part—and what happened when the prophet went through the wall looked exactly like a case of the prophet's interpenetrating the wall naturally. But it wasn't. The prophet had asked God for help; in response, God directly caused the interpenetration which led to the prophet's escape. The prophet, we may suppose, believes afterward that God answered his prayer, and worked a miracle—*viz.*, the interpenetration of the wall which allowed the prophet to escape. Is he right to believe that? I think so. If God intervened in the course of nature, directly causing the prophet to go through the wall, then the prophet's going through the wall did not come about naturally, did not happen in the course of nature: it was a miracle. And if it was a miracle, there are miracles which violate no law of nature. The interpenetration of the wall by the prophet is an event whose occurrence is consistent with all the laws of nature in the prophet's world.

Someone might object here that that the event which is the prophet's interpenetrating the wall is one whose occurrence is inconsistent with the laws of nature in the prophet's world. After all, the objection would go, that interpenetration is essentially (directly) caused by God. And although the laws of the prophet's world allow for natural interpenetrations, they do not allow for interpenetrations caused directly by God. As will become clear in section IV, though,

I think that (in cases of overdetermination, for instance) an actually but not essentially miraculous event could be actually but not essentially directly caused by God. So, even if the laws of nature rule out direct intervention in nature by God, it will not follow that every miracle is an event whose occurrence is inconsistent with the laws of nature. Also, I don't see why it would have to be true that the laws of the prophet's world allow for natural interpenetrations, but exclude divinely caused interpenetrations. Why must the laws of nature rule out divine intervention in nature?[19]

It is interesting that, although Aquinas does not address the issue of whether miracles must violate natural laws, his characterization of miracles, unlike Hume's, seems to leave room for the possibility that not all of them do. To start with, he says that properly speaking, a miracle is something accomplished by God outside of the order commonly observed in things. [20] While this definition seems to make reference to divine intervention in the natural Order of causes, it doesn't on the face of it entail that a miracle must violate a natural law. Moreover, in the *Summa Contra Gentiles,* Aquinas distinguishes three types of miracles. The highest rank of miracle, he tells us, occurs when God brings something about which nature could never do (for instance, that two bodies come to occupy the same space at the same time). A lesser rank of miracle occurs when God brings about something which nature can do, but could not do in the order God does it. For example, God brings it about that a man lives, after he has died. (It can happen in the course of nature that a man lives, Aquinas says, but not after having died). A still lesser kind of miracle occurs when God brings about what is usually done by the workings of nature, without the operation of natural principles. For instance, God makes it rain, independently of the

19 Suppose, though, that (necessarily) the laws of nature rule out divine intervention in nature. Then it will after all be (trivially) true that a miracle must be a violation of a law of nature, since any miracle will at least violate the no-divine-intervention law. But it will still be true that resulting (directly) from divine intervention is a necessary and sufficient condition for being a miracle. And—as I am about to argue—it will still be true that being a violation of the laws of nature is an insufficient condition for being a miracle. So, it would seem, we shall still be better off defining miraculousness in terms of divine intervention, rather than in terms of the violation of a law of nature.

20 'Illa igitur proprie miracula dicenda sunt quae divinitus fiunt praeter ordinem communiter observatum in rebus.'—*SCG,* III, 101. A similar definition is provided at *Summa Theologiae,* Ia, 105, 7: '...Illa quae a Deo fiunt praeter causas nobis notas, miracula dicuntur'.

workings of the natural principles which usually lead to rain (or, as he puts it in his discussion of the same example in the *Summa Theologiae*, God makes it rain, without the natural causes that usually bring about rain).[21] Presumably neither the first nor the second sort of miracle Aquinas discusses could take place, unless the laws of nature are violated—since in each case God's intervention results in the occurrence of a naturally impossible event. (In Aquinas' example of a miracle of the first rank, the event would be *these two bodies' occupying the same place at the same time;* in his example of a miracle of the second rank, it would be the event, *this man's being first dead and then alive*). However, it looks as though the third category of miracle—in which God by-passes the normal working of nature, but brings about an effect of a naturally possible kind—allows for miracles which violate no law of nature.

If violating the laws of nature is not a necessary condition of an event's being a miracle, is it sufficient? At the start of this article, I said that it seemed to be: but we can see now that it is not. If a quantity of water's miraculously and instantaneously turning into wine violates the laws, then any event which essentially contains that instantaneous event as a temporal part will violate the laws (that is, be such that its occurrence is inconsistent with the laws). But, for the reasons already discussed, an event which (essentially) has a miraculous temporal part need not itself be a miracle: it may start happening before any miracle does, or stop happening after any miracle does.

If it isn't true that law-breaking events must be miracles, is it at least true that law-breaking events must have a temporal part that is a miracle? That's not clear to me. To start with, there may be non-miraculous events which essentially have among their causes some (law-violating) miracle: any event of that kind will be one whose occurrence is inconsistent with the laws of nature. Also, suppose that at a certain world all the following are laws of nature about a certain kind of sub-atomic particle: (a) no particle of that

21 'Tertius autem gradum miraculorum est cum Deus facit quod consuetum est fieri operatione naturae, tamen absque principiis naturae operantibus: sicut cum aliquis a febre curabili per naturam, divina virtue curatur; et cum pluit sine operatione principiorum naturae.' (SCG, III, 101)

kind has always existed; (b) particles of that kind are always formed in pairs; and (c) particles of that kind—call them endurons—are indestructible. Suppose further that, on a certain occasion, God miraculously brings it about that, on a particular occasion, three endurons rather than two are produced. Also, suppose that, after producing the extra particle miraculously, He does not miraculously destroy it (so law (c), unlike law (b) is never violated.) A thousand years after the miraculous production of the extra enduron, there will still be an odd number of endurons. The then existing event, *there being an odd number of endurons (then)* will be one whose occurrence is inconsistent with the laws of nature; but will it be a miracle? I don't think it is related in the right sort of way to divine intervention to be a miracle. It is the natural result of God's miraculous intervention in nature, together with natural facts and natural laws: and we don't in general want to say that the results of miracles are themselves miracles.

This doesn't mean that there is no connection between the violation of laws and the occurrence of miracles. The (somewhat indirect) connection is this: for the reasons touched upon at the beginning of this paper, it can be true that the laws are violated, only if some miracle takes place. To summarize the argument of this section: a violation of the laws of nature cannot come about, unless a miracle happens; but miracles can happen, even if no laws of nature are violated.

IV

A characterization of miracles rather different from Hume's is provided by Paul Dietl. He maintains that

> to call an event a miracle is to attribute it to the will of a supernatural agent and to claim that if the supernatural agent had not intervened, that event would not have taken place ... [22]

Is it (necessarily) true that a miracle is an event which would not have taken place, but for the intervention of a supernatural agent? I'm unconvinced, and will try to motivate my unconviction by considering three arguments for the claim under consideration.

22 Paul Dietl, 'On Miracles', *American Philosophical Quarterly*, 5 (1968), pp. 130–34.

One way to argue for the claim that miracles are events which wouldn't have happened without supernatural intervention is by appeal to Hume's characterization of miracles, together with certain views about counterfactuals and laws of nature. The argument would go along these lines: suppose a miracle takes place. Then an event occurs whose occurrence is inconsistent with the laws of nature. But surely, if God hadn't intervened, and had let nature run her course, no event whose occurrence is inconsistent with the (actual) laws of nature would have occurred. So a miracle is an event which wouldn't have happened, but for the intervention of a supernatural agent. Since I don't accept the Humean characterization of miracles, I don't find this argument cogent.

Someone who accepts the Thomistic idea that only God could work miracles might offer a quite different argument for the claim under discussion, turning on the nature of God, rather than the nature of miracles. The argument would go: like nature, God does nothing *frustra*. (Moreover, God necessarily does nothing *frustra*). But it would be *frustra* for God to intervene in nature to bring about an event which was going to happen anyway in the course of nature. So, necessarily, if something is a miracle, it wouldn't have taken place without the intervention of a supernatural agent.

This line of reasoning seems to overlook the possibility that an event may be postponed or 'preponed'. If one and the same event can happen earlier or later, why couldn't God intervene to miraculously bring about an event which would—or at any rate, might—have happened anyway, a bit later, even if He hadn't intervened?[23]

23 David Lewis has argued (in 'Events') that one and the same event could happen, not just at different times, but also in different manners. (For instance, a particular firing of a neuron might have been feebler than it was). If this is right, God might also pointfully intervene to bring it about that an event—which would in the course of nature have happened anyway at that very time it actually happened—occurs in a manner in which it would or might otherwise not have occurred. It's not even clear to me that God couldn't pointfully intervene to directly cause an event which would have happened anyway in the course of nature, at the very time it actually happened, and in the same manner. For example, He might want to show a creature that causal overdetermination may pop up in unexpected places: one way to do that would be to first provide a creature with an example of an event which apparently comes about in the usual way, but is actually overdetermined by the usual causes and direct divine intervention; and then inform the creature of the overdetermination. The intervention would then have a (didactic) point; it would help God teach a creature something.

'But if God intervenes to bring about a certain event, the event is caused by, and essentially caused by, that intervention; *that* event couldn't have happened in the course of nature, even if a similar one—or a duplicate one—would or might have happened in the course of nature. Miracles are events, and events are individuated by their causes. So it isn't true of any miracle that it might have happened, had God not intervened.'

This way of defending Dietl's characterization of miracles is presumably not one which he would endorse. If you thought that the causes of an event were always essential to it, it would be odd to build into your characterization of miracle that it counterfactually depends on one of its causes (*viz.*, divine intervention). Still, I don't know of any other way of defending Dietl's claim, so we may as well ask whether this one works.

I think not. For reasons I have set out in more detail elsewhere,[24] I think that some events, at least, have some of their causes accidentally. Briefly: we can say of a certain event—a battle, or a wedding, or the like—that it would have been delayed, had things been different in a certain way. Suppose that a certain battle actually started at 9:00, when a general looked at his watch and gave the signal to his troops to attack. The general's watch, which was in fact accurate, might have been running slow. If it had been running a minute slow, the general would have given the signal to attack at 9:01 (in the mistaken belief that it was 9.00). And if the general's watch had been running a minute slow, the battle would have been delayed by a minute. If the battle would have been delayed in those circumstances, it would have occurred in those circumstances: what it is for an event to be delayed is for it to occur later than it otherwise would have.

Now if the general's watch had been running a minute slow, then the general's heartbeats between 9:00 and 9:01, would have been causes of the battle that started at 9:01. But those heartbeat are not among the actual causes of the battle, because those heartbeats didn't actually take place until the battle was under way. So we know that the battle that takes place in the (closest) world where the general's watch runs a minute slow is the battle which actually

24 See my 'The Essentiality of Origin and the Individuation of Events'.

took place at 9:00 (because in those circumstances, the actual battle was delayed, not cancelled) and we know that the battle that takes place in that world does not have all the same causes as the actual battle actually has.[25] From this it follows that the battle has some of its causes accidentally.

Of course, someone might suppose that although it isn't in general true that events have their causes essentially, it is true that miracles are essentially the result of divine intervention. But why should one think that? If one and the same event could come about in a variety of ways, why couldn't one and the same event be brought about by God both miraculously and non-miraculously? (This could happen, for example in the sorts of cases discussed in Note 23). Because I see no reason to rule out this possibility, I don't think we should accept Dietl's characterization of miracles.

V

So what is a miracle? A particular kind of event, I take it. 'Event' here should be understood in the idiosyncratically broad philosopher's sense, rather than the ordinary one: a miracle could just as well be an unchange as a change. (Suppose it is a law of nature that a certain kind of subatomic particle decays in a nanosecond. God could intervene to keep the particle from decaying within that period of time; the resulting unchange would be a miracle.)[26]

But what sort of event is a miracle? Clearly, nothing can be a miracle unless it has supernatural causes. Indeed, it has sometimes

25 I assume here Stalnaker's semantics for counterfactuals, on which a counterfactual is (substantively) true just in case at the closest world to the actual one in which the antecedent is true, so too is the consequent.

26 There is a question about whether every miracle is an event, even in the philosopher's sense. It will depend partly on whether we countenance events that are unhappenings, as well as events that are unchanges. Suppose God creates a world in which it is a law of nature that every n seconds, a pair of particles of a certain kind is generated. At some point, He intervenes in the course of nature to prevent the generation of any pair of such particles. It was a miracle that no particles of such and such a kind were generated throughout this interval. But is this sort of unhappening a genuine event? At least some of the considerations that tell in favour of recognizing unchanges as events seem to tell against counting unhappenings. If we think of events as the relata of the causal relation, then we'll want to recognize events that are unchanges, otherwise we won't have enough causes to provide all the explanations we want. But if we recognize events that are unhappenings, we may get too many causes, since there appear to be any number of unhappenings without which a given event would not have occurred. (For a discussion of these points, see Lewis, 'Events' and Postscript D to 'Causation' in *Philosophical*

been suggested that a miracle is an event with only supernatural causes.[27] But it is no more necessary that miracles lack natural causes, than it is necessary that non-miracles lack supernatural causes (see note 15). If God works a miracle to answer a prayer, or to chastise the wicked, there seems no reason to exclude the possibility that the prayer or the wickedness are among the causes of the miracle.[28]

The intuitive idea of a miracle, as we have seen, is that of an event (immediately) resulting from God's direct intervention in nature.[29, 30] The notion of direct intervention should, I think, be understood in terms of direct causation. Suppose that at Cana a certain amount of water is miraculously transformed into wine. A particular event—the water's turning into wine—is directly caused by a supernatural event—namely, God's willing that this water turn into wine. That act of will causes the water to become wine, and not by causing any other event which causes the water to become wine. Compare this to God's creating the world. God's creating the world is a cause of the water's turning into wine, but only because it is a cause of some event which is a cause of some event ... which is a cause of the water's turning into wine.[31] It is different with God's willing that the water turns into wine: there is, as it were, direct causal contact between God's willing that the water turn into wine, and its turning into wine. And it is in virtue of this causal contact that the event is a miracle. The same holds for non-law-violating

Papers vol. 2). For these reasons, it may turn out to be overly restrictive to say that miracle is a certain kind of event, unless we construe 'event' broadly enough to cover what we might call 'Cambridge events' as well as 'genuine events' (the ones which cause and get caused).

27 *Cf.* for instance, Brody, in *Readings in the Philosophy of Religion*, p. 433, where he suggests that it is at least a necessary condition of a miracle that it have no natural cause.

28 The supposition that miracles have natural causes may make troubles for the (scholastic) view that God is never at the far end of the causal relation; if it does, I would argue, so much the worse for that view.

29 My Italian dictionary in fact uses the very phrase, 'diretto intervento' in specifying one sense of the term 'miracle'.

30 Strictly speaking, I suppose, the concept of a miracle is the concept of an event caused in a certain way by a supernatural agent or agents, rather than the concept of an event caused in a certain way by God. For brevity, though, I shall avoid the cumbersome phrase 'caused by a supernatural agent or agents'.

31 Here, as elsewhere in this article, I assume that the causal relation is transitive, because it seems right to me that, for example, the causes of my writing this paper go back at least as far as the Big Bang. But as far as the characterization of miracles offered here goes, it doesn't matter whether or not we identify the causal relation with its ancestral.

miracles. The prophet's interpenetration of the wall is a miracle, because it is directly caused by God's willing that the prophet go through the wall. A miracle is a point of contact between God's will and the world.

For an event to be a miracle, the contact must be maintained throughout the event. Consider the event which is *this water's changing (miraculously) into wine and then (naturally) into vinegar*. That event isn't a miracle, although it is caused, and not indirectly caused, by God's willing that this water change into wine. That's because it has temporal parts which are not directly caused by any divine act of will. Suppose, on the other hand, God miraculously turns a quantity of water into wine, by first transforming this drop of water into wine, and then that drop, and then that drop ... until all of the water had become wine. The transformation of the water into wine is a miracle, because each temporal part of the transformation is directly caused by God.[32]

I have been suggesting that a miracle is an event directly caused by God. But not every event directly caused by God will be a miracle. The world's coming into existence is caused directly by God's creative will, but Aquinas holds—correctly, I think—that it is not a miracle (cf. *ST*, Ia, 105, 7, ad 1). It is not a miracle, because it is not an intervention within nature: nature can not be intervened with, unless it is already up and running. Similarly, if God is temporal, and if earlier (internal) states of God are direct causes of later (internal) states of God, we would not want to count those later states as miraculous. We can get round these problems by saying that a miracle is an event occurring in (an up and running) nature which is directly caused by God.

Now someone might object to this way of understanding miracles as follows:

> Jonathan Edwards thought that every event was directly caused by God, and no event was (directly or indirectly) caused by anything else. Whether or not he was right, there is no contradiction in

32 In using locutions like 'caused by God' I don't mean to endorse anything like the idea of agent causation. An event is caused by God if it is caused by an event which involves God in the right way. For example, the water's turning into wine is caused by God in virtue of its being caused by the event which is God's willing that the water turn into wine.

> maintaining that Edwards was right, and denying that every event—or every event occurring after the start of the universe—is a miracle. In that case, it cannot be that a miracle just is a (non-initial) natural event caused directly by God.

An Edwardian world—where every event is caused directly by God, and no event is caused by anything else—is, I take it, very remote. It is a presupposition of our ordinary thinking about miracles, and about the difference between non-miraculous events and miraculous ones, that the world isn't like that. For this reason, I have no firm intuitions about what sort of events are or aren't miracles at an Edwardian world, and I'm not sure there are determinate facts about what sort of events are or aren't miracles at an Edwardian world. But there are at least two ways of responding to the objection just sketched. First, it might be argued that Edwardian worlds really are packed with miracles. Suppose that at midnight tomorrow, a star appeared from nowhere in a previously unoccupied region of space, and that the star's genesis had no natural causes at all, but was caused directly by a divine act of will. That would clearly be a miracle. Now suppose that at midnight tomorrow, there was a star in a region of space which had just before been occupied by a star; but the presence at midnight of the star then occupying that region of space had no natural causes at all, but was caused directly by a divine act of will. That would just as clearly be a miracle. But at an Edwardian world, there are any number of events like the second sort of miracle. (At an Edwardian world, what looks like the lifetime of an enduring object is really a sequence of events of the same kind as of the second type as miracle). So, one might say, an Edwardian world is crammed with miracles; it's just that in such a world (unlike in our own) *being a miracle* is not a distinctive or interesting property.

Suppose, though, that you are reluctant to say that miracles are thick on the ground in Edwardian worlds. You can reconcile this reluctance with the account of miracles under consideration by glossing that account as follows: we conceive of nature as a system of beings with causal powers, causally interacting with each other. And this way of conceiving nature is built into our concept of a miracle. That is, a miracle is an event directly caused by God occurring in an (up and running) nature, where 'nature' must be understood as a system of beings with causal powers, causallv

interacting with each other. If that is so, Edwardian worlds, far from being miracle-packed, are miracle-free.

Whichever way we go, we will not be able to say that some (non-initial) events at an Edwardian world are miraculous, while others are not. This seems right: in an Edwardian world, there is no room for the sort of distinction we ordinarily make between those events which come about miraculously, and those events which come about 'naturally', or 'in the course of nature'.

So much for Edwardian worlds. But there are presumably worlds in which God directly causes every event, without having a monopoly on causation. Consider a world in which every event is directly caused by God, and all non-initial events are also caused indirectly by God, via secondary natural causes. On the account of miracles offered here, every non-initial event at such a world will be a miracle.

This consequence doesn't seem untoward to me. The inhabitants of the sort of world under discussion might well not be aware of the occurrence of any miracles. It might look to them just as if things were happening in a thoroughly unmiraculous, course-of-nature-ish way.[33] But, however things looked, each non-initial event in that world would in fact be a miracle, because each one would have a causal history similar, in the relevant respects, to the causal history of the prophet's interpenetrating the wall—which is a miracle.[34]

VI

I have been arguing that Hume was right to characterize miracles in terms of 'the interposition of an invisible [i.e. supernatural] agent', but wrong to characterize them in terms of the violation of natural law. If this is correct, it raises a number of interesting issues concerning Hume's argument for the rationality of disbelief in

33 Indeed, it might appear to the inhabitants of such a world as though they could give perfectly good naturalistic explanations of why things happen—explanations that involved no supernatural events, or at least no supernatural events this side of the Big Bang.

34 If there are worlds in which almost all natural events are miracles, then miracles needn't be any way unusual or extraordinary. This seems right to me: whether or not something is a miracle depends on how it came about, and not on how unusual it is. (If whether or not something was a miracle did depend on how unusual it was, whether or not an event was a miracle could depend on what happened long after the event took place).

miracles. That argument is at best incomplete, if there are non-law-violating miracles: and it might be asked whether there is any way of plausibly extending Hume's arguments against the rationality of disbelief in law-violating miracles, to cover miracles whose occurrence is consistent with the laws of nature. I don't think there is, partly because I think there are important epistemological differences between law-violating and non-law-violating miracles, and partly because I think Hume's argument for the rationality of disbelief in law-violating miracles is confused.[35] But I leave these issues—together with more general issues about the rationality of belief or disbelief in miracles—to another time and place.

35 Hume writes: 'A miracle is a violation of the laws of nature; and as a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can possibly be imagined ... There must be ... a uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as a uniform experience amounts to a proof, there is here a direct and full *proof*, from the nature of the fact, against the existence of any miracle ...'

It almost looks as though Hume is saying it could never be rational to believe that a certain event e occurred, if we know the occurrence of e is inconsistent with (what we take to be) the laws of nature. But if Hume's view has the consequence that we cannot rationally revise our beliefs about the laws of nature on empirical grounds, it is clearly unacceptable. There surely are circumstances under which we could, on the basis of experience, (rationally) come to believe that something we had taken to be a law of nature was not a law of nature after all. If that is so, why couldn't there be circumstances under which we could, on the basis of experience, (rationally) come to believe that what we had taken to be a true law of nature wasn't true, because it had a miraculous exception? To establish the rationality of disbelief in (law-violating) miracles, Hume would need to show that it is always more rational to believe the disjunction, 'e did not occur, or e is not an event whose occurrence is inconsistent with L, or L is not a law of nature' than to believe 'e is a miraculous exception to the law of nature L'. To establish the rationality of non-belief in miracles, he would need to show that it is always as rational to believe the disjunction in question, as it is to believe the claim that e is a miraculous exception to L. In arguing for the rationality of disbelief or non-belief in (law-violating) miracles, one might appeal to the following idea: to be justified in believing that a law-violating miracle occurred is to be justified in believing that L is a law, but L is not true (since L is a universal generalization, and e is a miraculous exception to it). However, it's not easy to see how we could have evidence for L's being an untrue law: won't any evidence for L's untruth at the same time be evidence for L's not being a law? It would be interesting to see whether this idea could be developed into a good argument for the rationality of disbelief (or more weakly, non-belief) in miracles. In any case, it is an argument not provided by Hume, who doesn't explicitly discuss the difference between L's being a law of nature, and L's being true.'

MIRACLES, LAWS OF NATURE AND CAUSATION

Christopher Hughes and Robert Merrihew Adams

II—Robert Merrihew Adams

I quite agree with one of Christopher Hughes's main theses: namely, that miracles need not be violations of laws of nature; and his arguments for that thesis seem to me very largely sound and persuasive, as well as illuminating. I am less content, however, with his positive thesis that 'a miracle is an event directly caused by God'. I am not prepared to argue that Hughes is mistaken about that; his definition of miracle fits well enough with his more general views about causal relations between God and the world. But it is the metaphysics of that more general issue that is and should be controlling in this area. Other views, besides Hughes's, of the general causal relation between God and creatures have a claim on the attention of philosophical theologians. And I think there are alternative definitions of miracle as suitable to those views as Hughes's definition is to his view on the more general issue.

I

I begin, however, with some less metaphysical considerations about the intent of religious discourse about miracles. The Bible uses words commonly translated as 'sign', 'wonder', 'power', and 'mighty work', as well as 'miracle', to refer to events as diverse as normal rainfall (counted among the 'wonders [*niphla'oth*]' in Job 5:9–10) and the sudden transformation of water into wine (a 'sign [*semeîon*]' in John 2:1–11).[1] In the Biblical contexts of these expressions the emphasis usually falls on the amazement or wonder these events evoke in humans,[2] and on what the events show and

1 I have been helped on this subject by S. V. McCasland's article on 'Miracle' in *The Interpreter's Dictionary of the Bible* (New York and Nashville: Abingdon Press, 1962), pp. 392–402.

2 For a philosophical theologian's acknowledgement of this, see, e.g., Thomas Aquinas,

signify about God's power or purposes or other matters of religious concern. If someone of a metaphysical turn of mind accepts the claim that some events of this sort show something about God's power and its exercise, she will doubtless want a metaphysical account of the divine causality involved. But the Bible is a rather unmetaphysical body of literature, and I think there is no particular metaphysics of the miraculous implied in the Biblical texts, though various metaphysical theories may be consistent with the texts, or with a theology reasonably grounded in them from one or another religious point of view. Insofar as dominant conceptions of the miraculous in our culture are shaped by the Bible, I believe we should therefore not expect a metaphysics of the miraculous to be derivable from 'the ordinary' meaning of the word 'miracle'. We must rather look to wider theoretical considerations pertaining to the metaphysics of causation as well as the religious function of miracles.

One tendency of much modern religious thought about this subject is starkly expressed in Schleiermacher's statement that 'Miracle is simply the religious name for event'. Schleiermacher emphasizes the importance of the idea of 'signs' in the conception of the miraculous. 'Every finite thing, however, is a sign of the Infinite'—from which Schleiermacher thinks it follows that 'every event, even the most natural and usual, becomes a miracle, as soon as the religious view of it can be the dominant. ... The more religious you are, the more miracle would you see everywhere'.[3]

Much religious thought would agree with Schleiermacher's view that every event is a sign of and from the divine, if only we had eyes to see it so. Indeed that view is not entirely alien to Biblical religion. But something more is suggested by most of the Biblical texts that speak of 'signs', 'wonders', 'miracles'. Clearly the events so described are usually thought of as special in some way that pertains to their causation or explanation. Does this mean that God is seen as a more direct or proximate cause of these events than of others, as Hughes implies?

Summa Contra Gentiles III,101.

3 Friedrich Schleiermacher, *On Religion: Speeches to Its Cultured Despisers*, third edition, translated by John Oman (New York: Harper Torchbooks, 1958), p. 88.

Not necessarily, I think. Consider the passage of the children of Israel through the 'Red Sea', now commonly identified as the shallower Sea of Reeds. Source critics have discerned two different stories in the Biblical text. One is the Cecil B. De Mille version, in which 'the people of Israel went into the midst of the sea on dry ground, the waters being a wall to them on their right hand and their left'. The other is a somewhat less dramatic version in which 'the Lord drove the sea back by a strong east wind all night, and made the sea dry land' (Exodus 14:21–22, RSV). The second version is the one I want to consider. Suppose, for the sake of argument, that a wind could naturally have that effect. Experiencing such an unexpected deliverance in the course of a religiously inspired journey, the Israelites view the event as a miracle, a dramatic *sign* of their God's power and care for them.

There are at least two different theological frameworks, however, in which the event might be explained. (1) The Israelites might believe, as they probably did, that God directly caused a wind that would not have occurred naturally. Alternatively, (2) a theology of *providence* might be invoked. On this view, the proximate causes of the wind were as natural as those of any other phenomenon, but there *is* a theological explanation of the coincidence, remarkable from a religious point of view, that the sea-bed was laid bare just when the children of Israel needed it to be. The explanation is that God created the world in such a way that it was physically predetermined from the beginning that the wind would lay bare the sea-bottom at precisely the time at which God foresaw that the Israelites would have need of it.

Well-known issues about determinism and free will attend the theology of providence invoked in the second explanation. But such views of providence have certainly been held by many theists. And the point I want to make here is just that adoption of such a view of the crossing of the 'Red Sea' need not undermine the Biblical view of that event as a miracle. For on the providential interpretation the event remains a *wonder*, a striking and unusual *sign* or manifestation of God's power and care for Israel—assuming that God did indeed plan it and bring it about *on purpose* through the workings of nature. Only a being of immense power could, and only one who cared for Israel would set up the universe so that everything in it conspired from the very beginning to bring about

that remarkable coincidence. In this matter, *what* God accomplishes is more important religiously than *how* God does it.[4]

I grant, however, that a providential, but otherwise perfectly natural, explanation would not be plausible for *all* of the miracles reported in the Bible and other religious texts (if they did indeed happen as reported). And much of the religious interest of miracles lies in hopes for divine assistance that cannot be expected from the workings of nature, however providentially ordered. This is especially true of modern theists who believe in life after death, or at least hope for it, although they do not share their medieval and early modern predecessors' conviction that immortality is an attribute natural to human beings. When W. H. Auden writes, 'Nothing can save us that is possible: we who must die demand a miracle', the miracle he has in mind is surely something more than a providential ordering of natural processes.[5]

In other words, the idea of miracles that are *supernatural* plays an important part in religious thought. A supernatural event is one that is not produced by the workings of nature. It is also part of the concept of a supernatural event, of course, that it is caused by a spirit or force superior to nature; but here I mean to exclude from the realm of the supernatural any events in which God's causal contribution is as remote as it is in events that God produces on purpose, but through natural processes, in accordance with a providential plan. From a secular point of view, anything involving God is sometimes characterized as supernatural. But such a broad conception of the supernatural makes a distinction of little use to theists, since they recognize no events as not depending in one way or another on God as (first) cause. From a theistic point of view,

4 In this philosophical treatment of the Exodus narrative I am influenced by ideas I heard presented many years ago by John Hick. Spinoza also appealed to the wind version of the story in Exodus 14 as a basis for naturalistic interpretation. See his *Tractatus Theologico-Politicus*, ch. 6 = Spinoza, *Opera*, ed. Carl Gebhardt, vol. 3 (Heidelberg: Winters, 1925), p. 90. Of course Spinoza did not believe in divine providence in the sense in which it figures in the theological interpretation I have suggested here, and his reading of the Biblical miracles may be counted as subversive; but he is certainly a philosophical advocate of the view that miracles need not be supernatural.

5 In the context of his 'Christmas Oratorio', it is in fact an incarnation—but more broadly, something supernatural. See *The Collected Poetry of W. H. Auden* (New York: Random House, 1945), p. 411.

indeed, there is nothing more *natural* to creatures than depending on God.

Having argued that events that are not supernatural could nonetheless count as miracles from important religious points of view, I ought perhaps to treat the main issues before us in terms of the supernatural rather than the miraculous; and I shall do so in part. In *philosophical* usage, however, 'miracle' normally signifies only supernatural events; and it will often be simplest to use it, in that sense, in what follows, inasmuch as it has been so used by philosophers that I shall be discussing. Clearly I have not given, thus far, a very complete account of what would be involved in a supernatural event. That is the main subject of the rest of this paper.

II

I have stated that I largely agree with Hughes's refusal to define miracles as violations of laws of nature; but I want to return to that subject from another angle. Why do laws of nature loom so large in discussions of miracles and the supernatural? And more fundamentally, what are laws of nature? Inasmuch as our concern is with the *metaphysics* of the supernatural, it will not help us to relate the supernatural to laws of nature unless we can say something about the metaphysics of laws of nature.

On Humean views it is plausible to define the supernatural in terms of laws of nature because supernaturalness (if there is any) is a causal property, and lawlike regularities are the essence of causality. To make a long story short, suppose we say, in broadly Humean fashion, that laws of nature are just true (or perhaps approximately true) universal generalizations satisfying whatever (broadly empirical) conditions are necessary to fit them for a predictive and organizing role in natural science. A naturally caused event, for Humeans, is just an actual event whose occurrence follows logically from a conjunction of laws of nature with one or more previously occurring actual events. Perhaps then a Humean theologian, if there be any such, could say that a supernaturally caused event is one that satisfies two conditions: (1) it is not naturally caused, and (2) it follows logically from the conjunction of an actual previous volition of God and the true universal generalization that whatever God (fully, unconditionally) wills

occurs. (We need not bother here with the modifications that would be necessary to allow for supernatural events caused by spirits of stature less than full Deity.) An event supernaturally caused in this sense need not involve any violation of a law of nature, unless the laws of nature are such as to entail a complete natural determinism. But if we require laws of nature only to be *approximately* true, we can allow that supernaturally caused violations of laws of nature are possible.

Propitious as a Humean metaphysics of causation may thus be for a sort of possibility of the supernatural, theists have not generally been Humeans about causation. Probably it does not fit very well with theistic intuitions of God as first cause to suppose that causation means no more, metaphysically, than it does to Humeans. For that reason, and because I myself find more 'realistic' views of causation much more plausible, I shall leave the Humean approach to the supernatural at this point.

On a more realistic approach, laws of nature should be something more, metaphysically, than true (or approximately true) generalizations. But what more should they be? Are we to think of identical copies of a lawbook, kept in safes aboard the space cruisers of a cosmic police force, arresting unruly neutrinos and in general faithfully enforcing the laws in every corner of the universe? Surely not. What then?

Perhaps the 'reality' of laws of nature can be understood in terms of the powers and liabilities, or the natural tendencies, of substances or things. The reality of laws of motion, for example, might consist in real forces in each particle of matter, by virtue of which they tend to move in accordance with the laws. I assume that this is indeed a possible approach to the metaphysics of laws of nature. But it may lack something desired by the causal realist. For if the 'real force' of the law is identified with forces in each particle of matter considered individually, its universality, its applicability to *all* particles of matter, remains merely a generalization, so far as this account of the subject goes.[6]

6 Whether this lack could be remedied by some sort of physical cosmology, is a speculative question that goes far beyond my competence in the philosophy of physics.

For this or for other reasons one might wish to assert the metaphysical priority of laws of nature, to ascribe to them an explanatory reality independent of the powers and liabilities of natural objects. But this may be difficult to understand if we believe, as both Hughes and I do, that the laws, or at least some of them, are contingent. It seems counterintuitive to suppose that contingent laws can have explanatory reality apart from agents acting in accordance with them. Of course the notion of laws of nature was not originally intended, for the most part, to be understood apart from agents acting in accordance with the laws. It was developed mainly by people who conceived of the laws as expressing decisions, intentions, or more broadly volitions, of God; and on that conception, the reality of the laws seems fairly easily understood. It has been suggested (controversially, of course) that a law theory of ethics is implausible as a form of ethical realism apart from belief in a law-giving God. It may equally be suggested that a law theory of the order of nature is implausible as a form of causal realism apart from belief in a law-giving God. Perhaps non-theistic causal realists would be wise to ground their metaphysics of causation in powers and liabilities of particular natural objects, despite whatever difficulties that approach may carry with it.

III

But what of theists? What consequences follow if they take the path I have just suggested, and ground the explanatory reality of laws of nature in God's volitions? At this point we can hardly fail to consider an idea, of medieval origin, that exercised a powerful influence on early modern philosophy. I refer, of course, to *occasionalism*, and I wish to consider it in a stark and sweeping form.[7]

According to this doctrine, the only metaphysically real power is the divine omnipotence, and God's will is the sole direct, immediate, or proximate cause of all events. God's will operates in

7 I believe this is close to a form advocated by Nicolas Malebranche, the leading early modern occasionalist; but I do not wish to get involved in exegetical issues here, nor to deal with the apparent qualifications Malebranche introduced into the theory to avoid saddling God with the authorship of human sins.

two different ways, however. Most events God causes by *general volitions*. In such a volition God wills the truth of a universal generalization of conditional form—for instance, 'If any human being wills to move one of her limbs, that volition will be followed by certain electrical discharges in her nervous system [according to a correlation better known to God than to us]'.[8] Because of its conditional form, this general volition would not of itself cause any electrical discharge if no human volition occurred. But when someone wills a movement of her limb, the correlated electrical discharge in her nervous system follows. In this case, occasionalists will say, God's general volition is the only *real* cause of the electrical discharge because God's omnipotence is the only real power, but the human volition may be considered an *occasional* cause of the electrical event. An occasional cause is in general an event or state of affairs in the created world which instantiates the antecedent of one of God's general volitions, thereby constituting the 'occasion' for an instance of the consequent to be caused by the power of God in accordance with the general volition.

Discussing Jonathan Edwards, Hughes holds that if every event is directly caused by God, then either all events are miraculous or none are. But historic occasionalism suggests ways of distinguishing between natural and supernatural events. God's general volitions can be identified with *laws of nature*, especially if we assume that they are well suited in form to play a predictive and organizing role in natural science. And events can be said to be *naturally caused* if they are caused by God through such laws of nature on the occasion of events or states of affairs in the created world. (Note that events naturally caused in this sense will satisfy the definition of naturally caused events that I offered on behalf of the Humean theologian. That is, their occurrence follows logically from a conjunction of laws of nature with one or more previously occurring actual events.)

8 Cf. Malebranche, *The Search after Truth*, the Last Elucidation, § 25. Malebranche did not speak of electrical discharges, of course, but of movements of animal spirits. The account I give of God's general volitions is suggested by much in Malebranche. Some of his statements, however, suggest an alternative view, according to which God's general volitions are not efficacious of themselves, but are merely intentions which God (voluntarily) follows in efficacious action.

There are at least two ways in which occasionalists can understand an event as being *supernaturally caused*. One is if God causes it by a *particular volition*. In a particular volition God wills a particular event or state of affairs in the created world—for instance that in these particular jars in Cana of Galilee, at this time, water shall be instantly turned into wine. God's particular volitions are unconditional in form, and efficacious of themselves; so their working involves no 'occasional cause'. It is chiefly events caused in this way that are classified as miracles by Malebranche, the leading early modern occasionalist.[9]

Whether every miracle of this sort would necessarily involve a violation of a 'law of nature', or of one of God's general volitions, depends on how completely events are determined by God's general volitions. But occasionalists have certainly envisaged a possibility that general and particular volitions of God might conflict, and have supposed that the particular volition would prevail. Malebranche claims that this does not involve a 'change' in the laws of nature.[10] Perhaps we should think rather of God as 'suspending' the operation of the laws in a particular case.[11] And perhaps occasionalists would best attain consistency by thinking of God's general volitions as incorporating the proviso, 'unless I decide to suspend this rule in a particular case'.

Another way in which occasionalists might understand events as being supernaturally caused is in terms of divine laws that fall outside the scope of what we would generally think of as natural science. A general volition of God would not necessarily constitute a law of *nature*. Malebranche speaks also of general laws of Grace—notable among them a general volition of God to the effect that interior graces shall be distributed to human souls in accordance with the will of the human soul of Jesus. Another general volition of God that plays an important part in

9 See, e.g., Malebranche, *Traité de la Nature et de la Grace*, I,59.

10 Malebranche, *Traité de la Nature et de la Grace*, I,21.

11 Cf. the famous idea of the 'teleological suspension of the ethical' (that is, of God's general ethical legislation) in Kierkegaard's *Fear and Trembling*. Both Malebranche and Kierkegaard seem to envisage a suspension that is 'teleological' in the sense that the general rule is suspended in the particular case in order to serve better the ends for the sake of which the general rule was instituted. For Malebranche the end is to express better the divine perfection.

Malebranche's thought is a law that certain corporeal effects shall follow the volitions of angels. In relation to these laws the volitions of angels, and of the human soul of Jesus, play the part of occasional causes, but one might still regard them as supernatural agents. I am not sure to what extent Malebranche did so regard them; he seems to imply sometimes that some effects of which Angels are occasional causes are 'miracles', and sometimes that they are not.[12]

I am not an occasionalist, but I am not ready to dismiss occasionalism so curtly as Hughes seems implicitly to do when he says that a world in which only God directly causes any event is 'very remote' and contrary to 'a presupposition of our ordinary thinking about miracles'. In particular, I see no good reason for me or for Hughes to take occasionalism any less seriously than Humeanism about causation. No such reason can be found in what occasionalism *denies* about causes; for what occasionalism denies about natural causes is also denied, substantively if not verbally, by Humeanism. Occasionalism limits the efficacy of natural causes to their satisfying the antecedents of true universal generalizations in conditional form; so does Hume. This is no accident; Hume borrowed important arguments from Malebranche.

Occasionalism does *affirm* something about causality that Hume denies. It affirms that there is a causal efficacy that is objectively more than just a constant conjunction of types of event, and it ascribes this 'true' causality to God alone. Hume's attitude toward this affirmation was dismissive. 'We are got into fairy land', he says 'long ere we have reached the last steps of [the occasionalist] theory'. More substantively, he argues that experience provides us with no richer idea of the causal efficacy of God's will than of that of our own wills.[13] I don't have Hume's reasons for dismissing occasionalism, however, and I doubt that Hughes does; for I take it

12 On these topics, see Malebranche, *Dialogues on Metaphysics and Religion*, XIII,9, and the last *éclaircissement* of the *Traité de la Nature et de la Grace*. In I,59 and the Additions to I,20 of the *Traité*, he seems not to count the angelic effects as 'miracles'.

13 David Hume, *An Enquiry Concerning Human Understanding* (Indianapolis: Hackett Publishing Company, 1977), p. 48 (Section VII, Part i). In *The Search after Truth*, VI,ii,3, Malebranche claimed that our mind perceives a necessary connection, stronger than constant conjunction, in one case only—between God's will and the events willed by it. Later, however, in the *Méditations Chrétiennes*, IX,2, he denied that we understand God's will well enough to perceive a necessary connection between it and its effects—thus apparently conceding a premise of one of Hume's objections.

we both are prepared at least to take seriously the view that God is a cause in a strongly non-Humean sense. So why should we not take occasionalism as seriously as Humeanism, which virtually all philosophers at least take seriously?[14]

IV

Most theists, however, have held views of causation that are neither Humean nor occasionalist. They have not believed that the will of God is the only real cause, but have supposed that there is in creatures something of real causal efficacy that is more than constant conjunction of types of event. It seems to me that such theists have as much reason as atheists to understand the reality of causal efficacy in creatures in terms of powers and liabilities rather than of laws. For if we are thinking of a reality of causes distinct from the will of God, it is as difficult for theists as for atheists to conceive what the reality of laws of nature would be, over and above occurrent regularities, or constant conjunctions, and the powers and liabilities of created things.

So let us suppose that creatures have real causal efficacy grounded in real powers and liabilities that they possess. On this account the efficacy by which the laws of nature apply in particular cases will be explained, at least partly, in terms of the real powers and liabilities of the natural agents involved in those cases, while the universality of the laws, their applicability to *all* natural objects, will be explained in terms of planning, decisions, and actions by which God has ordered the world, endowing natural objects with powers and liabilities in accordance with the laws. On this basis one could distinguish between natural and supernatural causation in a way that agrees with Hughes's definition of miracle. An event would be supernaturally caused, and a miracle, if it is directly caused by God. The direct or proximate causes of naturally caused events would be exclusively creatures or natural objects, acting by their own powers and liabilities. God would still be among the

14 For a recent, rich and interesting treatment that does not endorse occasionalism but insists on taking it seriously, see Alfred J. Freddoso, 'Medieval Aristotelianism and the Case against Secondary Causation in Nature', in Thomas V. Morris, ed., *Divine and Human Action: Essays in the Metaphysics of Theism* (Ithaca and London: Cornell University Press, 1988), pp. 74–118.

causes of all events, but would be only a remote cause of naturally caused events, which God would cause only by creating natural objects and endowing them with powers and liabilities by which the events would be produced.

This is not the only way, however, in which God has been seen as related to real inherent powers of creatures. A strong, perhaps even dominant current in scholastic philosophical theology insisted that God is more intimately involved in the production of natural effects.[15] In his *Summa Contra Gentiles*, for example, Thomas Aquinas held that in natural causation 'the same effect [is] produced by an inferior agent and by God, by both *immediately*, though in different ways'.[16] On this view natural objects are real causes of natural effects, by virtue of real and efficacious powers of their own, but God is also an immediate or direct, and not only a remote, cause of every effect.

How this can be is a serious problem. We can sum up Aquinas's view, perhaps, by saying that what God immediately causes is neither simply the existence and powers of the natural cause, nor the natural effect apart from its relation to its natural cause, but the whole complex: the-natural-cause-causing-the-natural-effect.[17] Aquinas compares God's operation in such cases to that of an artisan using an instrument to make something. The action of the instrument depends on the power of the artisan, which St. Thomas claims is therefore 'found to be immediate in producing the effect'. The power in the pressure of the tool on the wood is the power of the artisan. God's operation, moreover, differs from the artisan's in

15 According to Freddoso ('Medieval Aristotelianism and the Case against Secondary Causation in Nature', p. 77f.), 'the claim that God's non-miraculous causal activity in nature is exhausted by His creating and conserving material substances and their causal powers' was 'regarded as too weak by almost all medieval Aristotelians as well as by the occasionalists. (Its main medieval spokesman was William Durandus, ... who, as far as I know, is the only theologian whose name is explicitly associated with this doctrine by sixteenth-century writers.)' Durandus's view was still rejected by Leibniz, at the end of the seventeenth century; see Robert C. Sleigh, Jr., *Leibniz and Arnauld* (New Haven and London: Yale University Press, 1990), pp. 183–85.

16 *S.C.G.*, III,70, emphasis added. In his *Summa Theologiae* Aquinas is more hesitant to describe God as causing all natural effects 'immediately' (*S.T.* I,103,6 and 104,2), but still insists that God 'operates intimately' in every creature that operates (S.T. I,105,5).

17 Cf. Friedrich Schleiermacher, *The Christian Faith*, translated by H. R. McIntosh and J. S. Stewart (Edinburgh: T. & T. Clark, 1928), pp. 12–18 (§ 4), where the famous 'feeling of absolute dependence' is precisely a feeling of being dependent *in our activity* as well as in our passivity.

ways that may be thought to enhance the immediacy of the divine causality. As Aquinas notes, the artisan 'does not give the form by which the instrument acts, and does not conserve it, but gives it only motion' (*S.C.G.* III,70); whereas God both creates and conserves the form (and the matter) of the natural cause (*S.T.*, I,105,5). God causes its existence at every instant of time. And, as Aquinas could have added, God similarly creates and conserves the matter in which the effect is wrought by the natural cause. Indeed there is no created reality involved in the whole transaction that does not depend at every time on God for its existence, and for its powers and their operation (cf. *S.C.G.* III,65 and 67). Being thus intimately involved in every stage and aspect of natural causation, God is said to 'concur' with natural causes in all their operations, and to be an immediate cause of every natural effect.

A view of this type faces very serious difficulties on two sides. On the one hand, it may be suspected of depriving created causes of any real efficacy, contrary to the intentions of its authors. This difficulty has formed the basis of one of the historic arguments for occasionalism.[18] But its ramifications are wider than that. Reflection on such topics as grace, inspiration, and spiritual union with God makes it very clear that theology has a large stake in the attainment of some subtlety about possibilities of an event being caused both by God and by a creature. This is too big a subject, indeed, to be folded into a discussion of miracles; I will not pursue it further here.

On the other hand, it may be suspected that the causal immediacy constituted by God's 'concurrence' in the production of the natural effect, according to the Thomistic theory, is somehow less close than that which constitutes miracles according to Hughes, inasmuch as it remains the case, on Thomas's view, that God's causing of the natural effect is a causing of its production *by* natural causes, which Thomas sometimes speaks of as 'mediating' between God and the natural effects (*S.T.* I,104,2). This difficulty also need not be pursued here. It might be thought important to an account of the miraculous, because a difference in degrees of immediacy might

18 As noted by Freddoso, op. cit., p. 78. Cf. *Oeuvres de Malebranche*, vol. VII, ed. André Robinet (Paris: Vrin, 1966), p. 513.

provide an opening to insert a wedge for Hughes's account of the nature of miracles. But this is unnecessary, for the Thomistic theory offers another account of the miraculous.

St. Thomas defines miracles as 'everything that God does apart from [*praeter*] the natural order of things' (*S.T.* I,105,7; cf. *S.C.G.*, III,101). As Hughes notes in discussing it, Aquinas's definition seems to mean that miracles are effects that God causes *without* natural causes. Thus this definition is negative rather than positive; it turns, not on the directness of the divine causality in miracles, but on the absence of natural causes there. In this it resembles the definitions of supernatural causation that I have offered on behalf of Humean and occasionalist theists. The negative form of the definition is important if (contrary to Hughes's view) God may cause an effect to be caused by natural causes and still be a direct or immediate cause of it. And the negative definition would be sufficient to distinguish miraculous or supernaturally caused events from naturally caused events.

Aquinas does not count as miraculous everything that some might be inclined to count as supernaturally caused. He holds that the creation of the world, for example, is not something God does apart from (*praeter*) the order of nature, and is not a miracle, because 'the order of nature does not pertain to' it (*S.T.* I,105,7,ad 1), although it is of course something that God does without natural causes. This assigns a rather special sense to '*praeter*' or '*apart from*', and seems to be motivated by the consideration that the creation is not normally *called* a miracle (ibid., first objection). In any event I think we need not scruple to classify God's creating the world as an instance of 'supernatural' causation.

Aquinas insists, however, that anything a creature causes by its own power is naturally caused, because it is not 'above' but 'under the order that God has established in things' (*S.C.G.* III,102). The will of an angel is in principle just as much a natural cause as our wills are. For this reason nothing that angels can do by moving bodies by their own power counts as a miracle for Aquinas, though he acknowledges such effects may be 'marvels [*mirabilia*]' due to our inability to understand them (*S.C.G.* III,103). Presumably he also would not wish to classify such marvels as 'supernatural'; he places the causal role of angels more on a par with our own than

Malebranche seems to in some of his statements mentioned in section III above.

V

We have now reviewed several different conceptions of miraculous or supernatural causation. They are based, appropriately I think, on different conceptions of natural causation and its relation to God. I have doubtless not discussed all the available conceptions, but these may suffice for the present occasion. On all of these conceptions I believe Hughes's thesis holds good, that miracles need not be violations of laws of nature. Nevertheless, many of the miracles that have been objects of belief in the major theistic religious traditions do seem to involve violations of laws of nature, as I take it Hughes agrees. For a theory that regards laws of nature as grounded in real powers and liabilities of creatures, this will imply that in many miracles God obstructs or prevents some powers and liabilities of creatures from operating as they naturally would. That God can thus interfere with natural powers and liabilities of creatures is an important part of traditional doctrines of divine omnipotence.

I want to conclude by discussing what may be the most serious objection to the possibility of such interference, though I will raise more questions than I answer here. The following pair of assumptions seem to me plausible; or at least they go naturally with the idea of real powers and liabilities constituting the natures of things. (1) The existence of any natural thing consists at least largely in its acting (and being acted on) in accordance with its inherent powers and liabilities. (2) The identity of any natural thing at different times consists at least partly in the states of the thing at later times flowing in some way from its inherent powers and liabilities at earlier times. Both these assumptions are broadly Leibnizian, though the argument I am developing is not fully explicit in Leibniz, and I think their appeal is not exclusively Leibnizian. They seem to imply that God's preventing a natural thing from acting (or being acted on) in accordance with its natural powers and liabilities could threaten the very existence of the thing.

Suppose God totally obstructed the natural operation of the inherent powers and liabilities of some creature, so that for an hour, perhaps, the creature did not act (and was not affected) on the basis

of its (past or present) natural powers and liabilities. Two questions arise:

(1) In what would the existence of the creature, during that hour, consist? Shall we say that the existence of the creature then would consist in its possession of those properties with which God supernaturally or miraculously endows it? The trouble with this is that it is only God, and not the creature itself, that operates in the creature to endow it with these properties. In possessing these properties the creature is a mere substratum in which they inhere. And not only in Leibnizian, but more generally in Aristotelian views, no complete thing is constituted as a mere substratum; it takes a nature, comprising powers and (perhaps) liabilities, to constitute a complete thing. Shall we say then that the existence of a creature whose natural operations were totally obstructed would consist in its totally latent possession of natural powers and liabilities that were, for the time, not exercised in any action or affection? Certainly there are temporarily unexercised powers and liabilities; but things normally possess them at any time by virtue of natural powers and liabilities that are then in operation. It is not so clear that a thing could have no natural powers and liabilities except latent ones.

(2) The other question may be even more difficult. How would a creature whose natural powers and liabilities were totally out of operation for an hour be the same being it had been before? According to my second assumption, a being's trans-temporal identity must consist at least partly in its present states flowing in some way from its previous natural powers and liabilities. But we are trying to imagine a creature in a period in which nothing of its present state is produced by its own natural powers and liabilities, past or present. Such a state, we may think, would be causally too discontinuous with the previous states to be a state of the same being. If that is right, the total obstruction of the natural operation of a creature's inherent powers and liabilities, for any period of time, would amount to the destruction of the creature, or at least its nonexistence during that period of time.

The assumptions generating this problem can of course be questioned. And even if they are accepted, it is not likely to follow that God cannot in *any* way obstruct the natural operation of a creature's inherent powers and liabilities. It is commonplace that

things exist, and retain their identity, while the natural operation of *some* of their powers and liabilities is obstructed. Water exists, and remains water, even when its natural liability to vaporize rapidly at 100°C is obstructed by abnormally high air pressure. Human beings exist, and remain themselves, when their natural power to move their limbs is obstructed as a result of a stroke, and even when the normal influence of their past on their present states is somewhat diminished by loss of short-term memory. It will be noted, of course, that these natural objects have a *natural* liability to these obstructions of the operation of their natural powers and liabilities. Theists may add, however, that it is equally part of the natural dependence of creatures on God that they are liable to have the operation of some of their natural powers and liabilities obstructed by God.

If too large a part of the natural faculties of a creature is prevented from operating, however, then it is more plausible to see the integrity, or even the identity and existence, of the creature as threatened. Some major core of my natural powers and liabilities must be allowed to operate, and my earlier states must influence my later states in some natural way, it may be thought, if I am to be myself. This view might be of advantage to philosophical theologians in the construction of a theodicy, inasmuch as it might provide God with a reason for not creating the kind of utopia that depends on a plethora of miracles. On the other hand, the view might be found an unwelcome constraint on beliefs about life after death, some of which seem to involve a sudden and miraculous transition in which the influence of a person's earlier states on her later states is not exactly natural.

Many philosophical theologians have held, at any rate, that it belongs to the omnipotence of God to be able to obstruct the operations of a creature's natural powers and liabilities practically without limit, and without destroying the creature. A suggestion for reconciling this view with the conception of created beings as constituted by their natural powers and liabilities may be derived from Aquinas's claim that 'although God sometimes performs something apart from [*praeter*] the order implanted in things, still he does nothing contrary to [*contra*] nature'. Behind this claim lies the thought that 'it is not contrary to nature when created things are moved in any way whatever by God; for they were set up in such

a way as to serve him' (*S.C.G.* III,100). This suggests that the most fundamental natural faculty of any created substance is its liability to be affected by God. This would be the one faculty of the creature whose operation cannot be obstructed by God, since it is in operation whenever the creature is affected by God. And by virtue of this faculty, the nature of the creature, in the deepest sense, persists and continues to operate, even if the operation of all its other natural powers and liabilities is obstructed by God. Whether this solution coheres with the generally Aristotelian framework of Aquinas's thought, I will not try to determine here.