

Miracles and Violations

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Abstract. The claim that a miracle is a violation of a law of nature has sometimes been used as part of an a priori argument against the possibility of miracle, on the grounds that a violation is conceptually impossible. I criticize these accounts but also suggest that alternative accounts, when phrased in terms of laws of nature, fail to provide adequate conceptual space for miracles. It is not clear what a ‘violation’ of a law of nature might be, but this is not relevant to the question of miracles. In practice accounts of miracle tend to be phrased in terms of God’s act not in terms of laws of nature. Finally I suggest that the a priori argument reflects an intellectual commitment that is widely held, though wrongly built into the argument itself.

Whilst the characterization of miracle as a ‘violation of a law of nature’ is not always liked, it seems to capture one of the intuitive ingredients in at least our pre-reflective concept of miracle. Paradigm miracles such as changing water into wine, or walking on water, are types of event that we do not associate with natural possibility. If the sorts of things that can naturally occur are consistent with ‘laws of nature’, this might suggest that a putative event that is not naturally possible – a naturally impossible event – is in some way inconsistent with the laws of nature, hence is a ‘violation’ of those laws.¹ Sometimes it is suggested that Hume was introducing a new definition of miracle when he spoke of a violation of laws of nature (Ward 2002; Nichols 2002), whereas Aquinas (for example) preferred to speak of miracle as ‘beyond’ rather than ‘against’ nature. However in the *Summa Contra Gentiles* (III, 103) Aquinas describes several grades of miracle, and the highest of these is something done by God which nature could never do (*quod natura nunquam facere potest*). This is at least suggestive of a type of event which involves a violation of a law of nature.

¹ This is only intended as an expression of an initial intuition. I will suggest later that this line of reasoning, from ‘natural impossibility’ to ‘violation of law of nature’, is not helpful.

One of the reasons for a dislike of the violation definition is because it is possible, using a particular approach to ‘laws of nature’, to construct an a priori argument against the possibility of miracle. Others though have argued that this type of argument is in part based on a poor understanding of what a law of nature is and that more adequate accounts of laws should be used.

In the following I consider various accounts of miracle and argue that whilst the a priori argument against miracle is not justified, alternative approaches to miracle, based on alternative approaches to laws of nature, do not in fact provide an adequate way to characterise miracles in terms of some sort of ‘exception to’ or ‘violation of’ a law of nature. In the light of this I suggest that the notion of a violation of a law of nature is not appropriate as a way of thinking about miracles and that we need to think instead in terms of God’s act. Finally I suggest what may be one of the underlying motivations for the a priori argument against miracle.

1. The a priori argument: laws as exceptionless regularities

The a priori argument starts by treating a law of nature as an ‘exceptionless regularity’, expressible by the universally quantified conditional $\forall x(Fx \rightarrow Gx)$, with the variable x ranging over actual objects in the world. A law of this form states that every object x that is F is also G . If there is some object x that is F and *not* G , then $\forall x(Fx \rightarrow Gx)$ is false and no law was expressed by it in the first place. Thus if a counter example to some apparent law L arises, the definition of law shows that this L is not a law after all. A law L cannot, on this approach, be broken without undermining the basis upon which it was called a law in the first place.

McKinnon (1967) gives a striking formulation of this approach. In modern science (he claims) natural laws ‘are simply highly generalized shorthand descriptions of how things do in fact happen’ (309). Thus to claim that an (actual) event suspends a law of nature is in effect to claim that this event did not happen - a miracle would be ‘an event involving the suspension of the actual course of events’ (ib.) A generalized shorthand for what actually happens cannot be violated by something that actually happens. If we insist that some event actually happened, yet it conflicts with our current formulations of the laws of nature, then by definition we must change our formulations of these laws until the new event can be accommodated by them. ‘One

cannot maintain both the reality of an event and the adequacy of the conception of nature with which it is in conflict' (312).

The argument seems too quick and is open to several responses. But irrespective of whether this is an adequate characterization of a law of nature, it is the direct use that McKinnon makes of this approach to rule out miracle that can be immediately criticized. For example consider the turning of water into wine and let us assume that it actually happened (McKinnon allows for this, explicitly stating that his argument against miracle is without prejudice as to the historicity of the said events, 312f.). On McKinnon's approach this is no longer a 'violation' of any law of nature, merely an indication that we need to rewrite those laws in order to take this 'actual' event into account. Technically this means that we would have to give up on defining a miracle as a violation, but apart from that nothing substantive has been said about miracles as such. If we can still have water changing into wine, or Jesus walking on the Sea of Galilee, the advocate of miracles need not be too concerned by McKinnon's treatment of laws of nature.

McKinnon though doesn't treat his argument as merely a matter of definitions. He implies that this notion of a law of nature has substantive impact on the possibility of miracle as such, when (that is) 'miracle' is broadly taken as a divinely caused irregularity in the system. His article strongly suggests that anything that happens which is consistent with his definition of 'law of nature' – and this will be everything that happens - will also have a purely *natural* explanation, one in which God is not involved. Hence we appear to have an unsatisfactory combination of an a priori statement (a definition of what a law of nature is) with a substantive claim about how events are to be explained. The a priori element is clearly expressed:

[T]he idea of a suspension of natural law is self-contradictory. This follows from the meaning of the term (309).

The substantive point is implied without being made fully explicit:

There are no events which are discrepant with, or outside, the course of nature; this is because all events are part of nature and because the manner of their occurrence is necessarily a part of nature's natural course (312).

It is hard to read this in any other way than as saying that all events have purely natural explanation. McKinnon then immediately follows this quotation with a return to the definitional aspect:

There are no miracles or violations of natural law: this is because *natural law* is ... an expression for the way in which things actually happen (ib.).

One gets the impression that after having stipulated by definition that everything that ever happens falls under a law of nature, this in turn is taken as meaning that everything that ever happens has a purely natural explanation. Clearly though it is possible (for the sake of argument) to accept McKinnon's definition of a law of nature whilst not thereby giving up on the possibility that an event might be specially caused by God in a way that nature by itself could not accomplish. The fact that this God caused event would now technically come under the rubric of a law of nature is only a reflection on the definition of law of nature that we have introduced. If we allow for a God caused event then whilst (on McKinnon's approach) this event will be consistent with natural law, it won't have a purely natural explanation. If we stipulate that a natural law is a statement which expresses a generalization over whatever happens, that stipulation gives us no grounds for denying that God might part of the explanation of an event.

This same move from a definition to a rejection of miracle as such is replicated in Everitt (1987). His argument is very brief. If a law of nature is a true universal generalization then any exception implies it wasn't a law in the first place. Alternatively we can qualify the universal generalization by adding a *ceteris paribus* clause: for all x , if Fx then Gx *unless God intervenes*. This though has the consequence that we rule out the possibility of any divinely caused violation. The exception clause prevents the universal generalization from being falsified (and hence violated). Any God caused event is now entirely consistent with this formulation of the law. The *ceteris paribus* clause makes it impossible for there to be any God caused violation of a law. So we have two alternatives, neither of which gives us any room for miracle qua violation of a law of nature: either the said law was not a law, or else the said event was not a violation of a law. As with McKinnon's argument, this doesn't at first sight seem to pose any threat to the notion of miracle. It rules out the use of 'violation of law' but otherwise seems to leave the substantial possibility of miracle intact. All we are saying is that a miracle will (inevitably) be consistent with

any statement of natural law. This is not though to drop the idea of some event that is specially caused by God, one which needs God as the explanation. All we are dropping is, in this context, the use of the word ‘violation’. Everitt notes this response:

The theist may seek to evade the force of this argument by dropping from his definition of ‘miracle’ any reference to the violation or transgression of the laws of nature (349).

But he draws from this the following surprising conclusion:

[If] an alleged miracle does not violate the laws of nature, it will be explicable in terms of those laws. In that case, there is no explanatory work to be done by the hypothesis that the miraculous event was caused by God. After the natural scientist has done his work,² there is nothing left unexplained which requires the theistic hypothesis (ib.).²

This is a non sequitur. Not that the claim is necessarily false (it might be that nothing is left unexplained after the natural scientist has done his or her work), but this doesn’t follow as a convincing conclusion from this definition of a law of nature. The possibility of a natural explanation does not follow merely from the stipulation that everything that happens is consistent with natural law. This is implicit even in Everitt’s own argument given that he allows (for the sake of argument) a form of law which includes an exception clause ‘unless God intervenes’. Whilst this exception clause saves us from ‘violation’ it also introduces something that is not open to natural explanation. Everitt’s conclusion, ‘Necessarily ... there are no miracles’ (349), is far too strong on the basis of this argument, given that it seems to include the claim that everything has a natural explanation.

In this respect the treatment by Ahern (1977) is better crafted. He allows that all ‘laws’ have an implicit *ceteris paribus* clause. This clause is not designed specifically with supernatural intervention in mind but with the more general idea of any intervening force which may prevent the operation of some law. The *ceteris paribus* clause expresses the presupposition that no other forces are present. Under

² Smart (1964, 35) also makes this connection between a redefinition of miracle and natural explanation: if we redefine miracle so as not to be a violation, Smart claims that a miracle is reduced to being either a bizarre event open to scientific explanation, or a subjectively appreciated sign.

the law of gravity two heavy bodies will accelerate towards each other *unless* restrained by other forces. The light bulb in my room does not violate the law of gravity even though it stubbornly refuses to depart from its mid air position. There are (natural) reasons why the law of gravity is counteracted in this case. The law of gravity is not ‘violated’ because such counteracting forces are taken account of in the implicit *ceteris paribus* clause.

Because Ahern is still treating laws under the ‘universal generalization’ approach we once again run into the logical problem for a potential violation. If in our *ceteris paribus* clause we include an implicit reference to a supernatural interfering force, then no ‘miracle’ will be a violation. The law will not be violated because it allows for this kind of interference, in just the same way as the law of gravity implicitly allows for any natural force which interferes with the light bulb’s ambition to plummet downwards. But if we do not cater for supernatural interfering force in our *ceteris paribus* clause, and yet want to uphold the truth of natural laws, we are forced to rule out the possibility of a supernatural force. Otherwise, in the presence of such a force, the natural laws become false: ‘They would be false in virtue of the fact that they would support or entail false counterfactuals about what would happen when no other natural forces were present’ (1977, 74). So to maintain the truth of natural laws we would be forced to deny the possibility of supernatural force. Ahern notes that this is just to beg the question of miracles.

Given this logical problem Ahern concludes that we cannot frame the notion of miracle purely in terms of ‘violation of law’. We need to have some reference to ‘supernatural force’. Walker (1982) covers the same ground and comes to the same conclusion: ‘the idea of miracles ... can be explained only by reference to supernatural forces rather than to what is or is not logically inconsistent with the laws of nature’ (108). The weakness of the argument found in McKinnon and Everitt is that apparently from a purely definitional stance on ‘law’ they are able to come to the conclusion that a ‘supernatural intervention’ is necessarily ruled out. But it is more reasonable to treat supernatural intervention as a separate issue, whether or not we choose to describe what happens from such divine action as consistent with natural law or not. If we take ‘natural law’ as by definition covering everything that happens, the link between the ‘naturalness’ of a law and the naturalness of an explanation is potentially broken once we allow for supernatural agency.

2. Alternative accounts of laws of nature

A weakness in the above approaches is the treatment of law as a post hoc generalizing summary of observed events, which in turn guarantees a law's status as an exceptionless regularity. We are supposed to imagine the history of the world, tot up every event, and then describe all events as falling under some law or other. Smart (1964) and Swinburne (1970) respond to this aspect of the account and believe that a more satisfactory treatment of laws gives conceptual room for a violation. Both start from an epistemological perspective on how laws are actually constructed. Swinburne says that the scientist 'seeks the most natural generalization' of events that happen, and where certain events are just too irregular no attempt is made to construct a law under which they fall. Smart notes that when a scientist gets an experimental result contrary to some law, the immediate response is not to discard the law but to check the experiment. The formulation of the law is only changed if the contrary result is repeatable. But from this epistemological perspective Smart and Swinburne seem to make a quite illegitimate jump to a somewhat stronger conclusion, viz. the notion that we can in principle have an actual (correctly reported) counter-instance which does not falsify a law. The 'counter-instance' envisaged is not simply an 'irregular' event which has not been incorporated into any law (which is Swinburne's starting point), nor an experimental result which arises from bad observation (Smart's starting point), but a correctly reported event which is a counter-instance of some (on-going) law.

Swinburne, for example, from allowing that some events are just too irregular to be subsumed under any law, sees this as licensing the suggestion that in principle some events could be 'physically impossible':

If, as seems natural, we understand by the physically impossible what is ruled out by a law of nature, then our account of laws of nature suggests that it makes sense to suppose that on occasion the physically impossible occurs (1970, 28).

Swinburne wants to say that a genuine 'violation' of a law of nature, meaning a counter-instance to a law which still stands, is a possibility. Clearly though all that he has established is that some events have been too irregular to be subsumable under some law, but this need only register our incomplete grasp of everything that is going on. He follows Smart in describing a violation as 'a non-repeatable counter-instance

to a law of nature' (ib., 26). This formulation has curious consequences. It suggests that if a result *was* repeatable we would not have a counter-instance to a law (because the 'law' has been shown not to be a law), whereas if a result is *not* repeatable then it could be a real counter-instance to a law that still stands. There seems clearly to be a confusion of perspectives here. Non-repeatability is normally associated with experimental error and this would clearly undermine the claim to have a genuine counter-instance to a law. But if it *is* possible (let us suppose) to have a genuine 'law-violating' instance (where the law still stands in spite of this instance) then the repeatability or otherwise of that instance should be irrelevant. If it is a genuine law-violating instance when it first occurs this genuineness should not be contingent upon what happens in the future. The same shifting of perspectives is found in Smart. He uses the terminology of 'negative' counter-instances to register that type of instance which negates a law and which therefore is not a 'violation' given that it shows that the law was not a law in the first place: 'the negative counter-instance is not a single event but a repeatable event' (1964, 37). By implication a 'positive' counter-instance (one that does not falsify a law) can only be a single event. But whilst we can agree that a 'repeatable' result will naturally be taken as a 'negative' counter-instance (viz. a correctly reported instance which shows that a law was wrongly formulated), the 'non-repeatable' result is naturally taken not as a correctly reported instance but merely as some sort of measurement error. If we knew that it *was* correctly reported (this being the epistemic assurance that repeatability tends to give us) we would likewise treat it as a 'negative' counter-instance. Smart though implicitly shifts perspective, seeing his account as justifying the possibility, in principle, of a *genuine* non-repeatable and non-law-falsifying counter-instance. When we combine this with the common practice of not incorporating rogue individual results into laws (precisely because we assume measurement error), we get the result that a genuine (by hypothesis) counter-instance is allowed to stand yet without being subsumed under any law. This is the result that Smart wants given his belief that if something *does* fall under a law it is susceptible to natural explanation (see above n. 2), so it is important for the possibility of miracle that there can be an event which falls under no law.

Arguably though his account doesn't justify this conclusion. Both Smart and Swinburne shift confusingly between epistemic and metaphysical perspectives. The epistemic perspective clearly provides us with a type of result which need not be taken as necessarily falsifying a law (for example the result could be due to

measurement error). But Smart and Swinburne then take this as licensing the possibility that in this set of (spurious?) results there could be genuine results which *still* do not falsify a law (because they fall under the rubric of those results which need not be seen as falsifying a law). It is clear though that they have not produced any argument for this possibility.

Suppose we do allow, following Smart and Swinburne, for the possibility of a genuine counter-instance which does not falsify a law, viz. a miracle. There is nothing to prevent us from supposing that this miracle could be repeated. Both Smart and Swinburne though have to assume that repeatability entails natural explanation (this deriving from the normal criterion of how we discern genuine experimental results). But it is possible, at least as a thought experiment, to construct a counter example to this. Rein (1986) describes a scenario where a healer repeatedly cures the blind by touch, in each case this being utterly beyond the power of science to explain (assume, for example, that the optic nerves had perished). This plausibly gives us an example of a predictable 'miracle'. The inadequacy of Smart and Swinburne's position is in part revealed in that they seem to have to rule out in principle a position that is evidently coherent. On the other hand, as a matter of rationality, there are surely grounds for claiming that if a result *is* experimentally repeatable this will be due to natural reasons. As Robinson (1967, 158) notes: 'If water were to start turning into wine fairly regularly this would soon cease to be considered a miracle. It would just be the way things are, a natural fact about water and wine'. Irrespective of thought experiments about predictable/repeatable miracles, the judgment that Robinson describes is I think one that is very natural to subscribe to. Whilst an observed regularity does not (for the sake of the thought experiment) entail that the regularity is a 'natural' fact, the bare conceptual possibility of setting up a miraculously ordained regularity is hardly grounds for placing any weight on that possibility. To this extent Smart and Swinburne's emphasis on the non-repeatability of miracle agrees with common sense and this might obscure the invalid form that their argument takes.

Thus I do not think that Smart and Swinburne's attempt to establish the coherence of 'violation' is successful. This I think derives ultimately from the fact that they attempt to do this without explicit reference to a supernatural agent. With such a reference it no longer matters if we define a law in such a way (e.g. with a *ceteris paribus* clause) that no law is violated, because this does not entail that our

putative miracle has merely a natural explanation. An alternative approach to articulating miracles in terms of laws (and violations of laws) is found in Lowe (1980; 1987) and Mumford (1998; 2000; 2001), who reject the ‘universal generalization’ approach to laws of nature. Independently of the question of miracle, there are two standard objections to a universal generalization approach to laws of nature: ‘First, this characterization of laws cannot distinguish coincidental from genuinely lawlike regularities and second, virtually no statements of this form are true’ (Mumford 1998, 88). One way of dealing with these points is to treat law statements not as generalizations over what actually happens but as statements that pertain to the dispositional properties that normal members of a particular ‘kind’ possess. As Lowe suggests, ‘natural laws are, I would claim, most naturally expressed as dispositional predications with sortal terms in subject position’ (1980, 253). An example is ‘ravens are black’. This is plausibly taken as a statement about how ‘normal’ ravens are coloured, this coloration deriving from some property that normal ravens possess. Because the law statement is taken as relative to the normal members of a kind, exceptions are easy to account for. An albino raven is an exception to the law but is not a falsifying counter instance. An albino does not count - for the purposes of this law - as a normal member of the kind. Here we see the operation of a filter at work which separates out permissible from non-permissible exceptions to a law. If a white raven were a normal member of the kind ‘raven’, this would be a non-permissible exception to the law ‘ravens are black’ – in other words, the law would be false (cf. Lowe 1987, 274).

Lowe notes that a law when seen from this perspective is not quantifying over actual individuals nor over possible individuals but over sorts or kinds. This means that the law to some extent stands over against any particular individual, and this in turn leads Lowe to suggest that a law of nature has a ‘regulative’ force:

As I see it, the most that a law like ‘Ravens are black’ purports to tell us *concerning individuals* is what we should expect any *normal* individual raven to be like, and apart from this it appears to be concerned rather with characterizing the raven *species* or *kind*. Such a law is ‘normative’ or regulative in force with respect to individuals, and it is precisely in this that its ‘nomic’ character resides. (1980, 257)

Once we allow for this ‘regulative’, as opposed to descriptive, dimension of law it is easy to see how a law can accommodate exceptions, analogously to how a judicial or moral law can ‘demand’ something and yet that demand not be realized.

Mumford criticizes Lowe’s use of ‘regulative’ in this context and argues for a basic disanalogy between natural laws and normative laws. The central criticism is that ‘there is no logical gap between the *norm* and the *normal* with normative laws of nature whereas there is such a gap in the case of the moral and legal’ (2000, 275). A normal raven doesn’t choose to be black and neither can it be said to be ‘compelled’ to be black, and clearly there is a disanalogy here between the raven’s blackness and a response (whether free or otherwise) made to a regulative law of the land. But what does not change when we compare Mumford’s approach to Lowe’s is the basic behaviour of the system. Whilst Mumford still thinks in terms of a descriptivist account, his descriptivist account focuses on ‘normal’ members of a kind and this still gives us an account in which law statements stand over against any particular individual. In this respect a natural law can be seen as *imitating* a ‘regulative’ law. The central point is that a space is set up between the recorded behaviour of some actual individual and a law under which an individual of that kind is meant to fall.

The point can be put in terms of modalities. The ‘exceptionless regularity’ approach to law treats a law of nature as displaying the modal behaviour that philosophers typically ascribe to logical necessity. This is a modal logic in which $\Box p \rightarrow p$ and $-\Diamond p \rightarrow -p$ always hold: if p is necessary p obtains and if p is not possible p does not obtain. If stated in terms of laws, this would be to say: if a law obligates p (corresponding to $\Box p$) then p will indeed be the case; if a law does not permit p (corresponding to $-\Diamond p$), p will not be the case. If these two conditions hold there will be no counter instance to anything that is a law (if p is a law, p will be the case; if not- p is a law, not- p will be the case).

In a deontic modal logic neither entailment needs to hold (the only stipulation being $\Box p \rightarrow \Diamond p$), so we can have $\Box p \wedge -p$ and $-\Diamond p \wedge p$. In terms of a moral law we can interpret these two possibilities as: p is obligatory but doesn’t happen; p is not permitted but does happen. It is precisely this modality that Lowe and Mumford claim characterizes natural law, though (as is fitting) we interpret the box and

diamond operators not as obligatory/permissible but as expressing a special type of necessity/possibility:

Where miracles violate laws, it shows that what is naturally impossible may be actual [i.e. $\neg\Diamond p \wedge p$] and what is naturally necessary may not be actual [i.e. $\Box p \wedge \neg p$]. Whether or not miracles actually occur, this demonstrates that the nomic modalities differ from the logical. (Mumford 2001, 191)³

Use of this modality gives us a way of modeling our intuition that it is not conceptually incoherent to think that a law of nature might be broken, in just the same way that a moral or legal law can be broken.

On the other hand this re-use of a modality for a notion of necessity/possibility, when that modality is normally associated with deontic terms (obligation/permissibility), can be confusing as it sounds as though we in fact have *logical* necessity/possibility in mind. It is just this confusion that Holland (1965) makes creative use of in arriving at his striking conclusion that the ‘conceptually impossible’ can in principle occur, and hence that we need not uphold the principle *ab esse ad posse valet consequentia* - in other words something can happen which is not ‘possible’. Holland can come to this conclusion by in effect working with a deontic modal logic. He prevents the entailments $\Box p \rightarrow p$ and $\neg\Diamond p \rightarrow \neg p$ by relativizing the box and diamond operators to the context of our ordinary understanding, which allows the possibility that something can happen which lies quite beyond that understanding (in terms of a model for modal logic, the relation between the ‘worlds’ is not reflexive). He then, somewhat misleadingly, interprets these operators in terms of ‘conceptual possibility’, a phrase which sounds as though it means something very like *logical* possibility. But as Swinburne notes, by ‘conceptual impossibility’ Holland means ‘merely something the occurrence of which is ruled out by our ordinary ... understanding of the way objects behave’ (Swinburne 1970, 28f.). So whilst Holland appears initially to have set up a conceptual space which is adequate for the notion of miracle (by allowing that an event can happen which is ‘conceptually impossible’) in practice the space he establishes can only contain something that goes beyond current conceptions and this is clearly too weak for miracle. Just as Smart and

³ Mavrodes 1985 likewise thinks that a ‘legal’ modality is appropriate for laws of nature.

Swinburne were not able to set up an adequate space for miracle, so also Holland's use of a deontic modality fails to be strong enough.

This though suggests that Lowe and Mumford's accounts may likewise fail to establish an appropriate conceptual space for miracle given that they also are working with a deontic modality. This turns out to be the case, and it is apparent that Lowe and Mumford are themselves aware that they have not directly established a space for miracle in terms of laws. They set up room for exceptions to natural laws but these exceptions need have nothing to do with miracles - albino ravens, for example. Albino ravens have a natural explanation, and this is not inconsistent with being an exception to a law of nature. If an exception to a law of nature is a 'violation' of such a law, the terminology of violation is no longer strong enough to separate out miracles from non-miracles. Terminology here varies between theorists. Lowe is happy to speak of albino ravens as violating natural law whilst Mumford prefers not to. Either way some new criterion is required, one that goes beyond 'exception' (or violation) of a law, in order to account for miracles.

It is at this point that we find a new criterion being used, one that seems to relate to some notion of 'natural possibility/impossibility'. Lowe argues that an albino raven only violates one particular law (the law expressed by 'ravens are black'), and that we can in fact appeal to another natural law or laws (laws of genetics) to explain the possibility of an albino raven (1987, 276). He suggests that a miracle 'would be a phenomenon which altogether eluded explanation in naturalistic terms' (ib.) and understands this as the claim that a miracle would violate the 'entire system of (true) natural laws' (ib.).

Lowe gives an example of an event which he believes would satisfy this requirement (1987, 276f.). Imagine a table which hangs in mid air without support. This violates the law 'heavy objects fall when unsupported'. There are all sorts of explanations for why a table might manage to hang in mid air - e.g. some invisible support, an anti-gravity device, the table has become weightless, etc. - but for each such explanation we imply that the law is not being violated. For a violation of this law we need a table which is genuinely heavy and genuinely unsupported. Suppose that this indeed is the case. One explanation might be that there is some alternative law formulation which embraces both the phenomenon of the table in mid air and the more usual phenomenon (as described by the original law) of unsupported heavy objects falling. Lowe notes that the prospects for discovering such a law might be

‘particularly dim’ (e.g. if the table phenomenon was not repeatable), and that *prima facie* we would be faced with a ‘genuine miracle’.

The example though is not satisfactory. If the table is *genuinely* without any support at all, and genuinely has weight, there is a conceptual problem about the coherence of the claim that the table does not fall. Conceptually we require some explanation of this state of affairs, and Lowe seems to concede this (though indirectly) by stating that ‘the intentional action of the Deity might constitute the only possible explanation of its occurrence’ (1987, 276). But if the Deity is an explanation, we seem to be saying that, by some means or other, the Deity supports the table. If the Deity supports the table there is no violation of the law ‘heavy objects fall when unsupported’. Whilst the event might be naturally impossible it will not be a violation of a law. As with the accounts considered earlier, once we shift to thinking of miracle in terms of God’s action it is no longer clear that it is relevant to think of miracles in terms of violations of laws. This though in turn suggests that the analysis of laws in terms of deontic modality is not directly relevant to the question of miracles.

Mumford criticizes Lowe’s proposal on the grounds that it is too tied up with our ability to think up a natural explanation for a given event. Even if we are unable to think up a natural explanation for the table (after all, there are many natural events which we do not initially know how to explain), this would not be ‘sufficient evidence for divine agency’ (Mumford 2000, 279). Mumford refers here to divine agency because he in fact defines miracle – independently of any theory of laws of nature – as an event with a supernatural cause (2001, 192). This perhaps in itself is an indication that accounting for miracle in terms of laws of nature is problematic, but in practice Mumford himself also attempts to delineate a law-violating miracle by reference to events of a remarkable kind.

Whereas Lowe suggests that a genuine miracle is one that violates the ‘entire system’ of laws, Mumford suggests that a law violating miracle is an event which is ‘an alteration to the natural dispositions of a sort or individual by a supernatural cause’ (2000, 280). This once again is problematic. Mumford himself (2000, 278f.) allows that natural processes can change dispositions. For example, with mutation it could come about that white ravens are entirely normal. There isn’t any conceptual reason why human agents couldn’t cause the dispositions of types of things to change. If so the only relevant feature of Mumford’s criterion is that the change is brought about by a supernatural cause. Once again we have moved away from an account of

miracle which is given in terms of laws of nature, and have instead ended up simply speaking of an event which is brought about by a supernatural cause.

If we do concentrate on God's agency we can have 'naturally impossible' events without any 'violation' of a law of nature. The events are 'naturally impossible' in the sense that we would have events that could not be explained other than by reference to God. God is not 'natural', so the events fall outside the realm of what can be naturally explained, and I take this to license the claim that such events are 'naturally impossible' (though see below). This is not to say that the event itself could not (perhaps) be brought about without the involvement of God. Perhaps natural processes, maybe with the involvement of human agents, could bring about the event, and this I take as implying that there need be no violation of a law of nature. But the particular occurrence of the event which is brought about by God is not brought about by natural agents, and this constitutes a miracle. Gilman (1989), using the walking on water example writes: 'Clearly, what is miraculous is not that the force of gravity is counteracted and a human body made buoyant in water; humans are themselves capable of this. What renders the event miraculous is that the counteractive cause of buoyance is the immediate act of a Deity' (1989, 480). Gilman sees this as support for the notion that miracles 'either conform to or counteract, but never violate, laws of nature', and hence we should 'redefine miracles in terms of the intentional action of a Divine agent'. Alston also notes a parallel we can make with the normal way in which ordinarily expected effects can be counteracted by external intervention - a law of nature takes no account of outside intervention:

A man standing upright on the surface of a lake will sink, *unless* he is being supported by a device dangling from a helicopter, or *unless* he is being drawn by a motor boat, or *unless* a sufficiently strong magnetic attraction is keeping him afloat, or ... Since the laws we have reason to accept make provision for interference by outside forces unanticipated by the law, it can hardly be claimed that such a law will be violated if a divine outside force intervenes. (1990, 56)⁴

⁴ Cf. Clarke 2007, 280: 'it ... seems logically possible that nonnatural entities and beings could intervene in the natural world without violating any particular laws of nature. Therefore, it is possible to make a coherent sense of supernatural intervention in the natural world without invoking violations of laws of nature.'

It is perhaps not clear what a ‘violation’ would actually require. Hughes (1992) suggests that the instantaneous rearrangement of the visible stars to spell out ‘GOD MADE US’, would be an example of a violation of the laws of nature. It might be that Hughes is influenced by an underlying thought that this is not merely an event that is naturally inexplicable (in the sense that its explanation requires reference to God’s act) but that it would be an event which has some intrinsic quality which puts it beyond the possibility of being brought about by any created entity or agent. This implicit criterion is problematic given that (a) it may be very unclear what bounds of possibility we want to place on what can happen in the realm of created entities and agents (as Hughes himself allows), and (b) even if there is some act which no created entity or agent could bring about, it is not immediately obvious that such an act (if brought about by some supernatural being) need imply that any law is violated (it might be that the event happens to require a being of a power and scope which can never be realized in any created agent, but otherwise this being is still acting within nature in a non-violating way, cf. (ii) below).

It is worth noting various possible interpretations of ‘naturally impossible’.

(i) A weak notion would be that the ‘naturally impossible’ refers to what ‘nature’ by itself, interpreted as excluding the operation of human agents, could not bring about. On this notion a watch, or television, is not naturally possible. This of course is too weak for providing an appropriate conceptual space for miracle.

(ii) A stronger notion is that the naturally impossible is that which created entities, whether conscious agents or not, could never in principle bring about. As suggested above, I don’t take this as necessarily implying that such an event is inconsistent with the laws of nature.

(iii) A different notion is that the naturally impossible is some event which has God as explanation. The event is naturally impossible in the sense that without God that event would not have happened. It does not follow that the event could not (at some other time or place) be brought about by created entities.

None of (i) – (iii) need imply that there is any ‘violation’.⁵ We might though still want to allow for a special type of event which goes one step further. The idea, I take it, would be of an event which somehow involves not merely a supernatural agent, but a profound ‘setting aside’ or ‘overriding’ of natural processes. As suggested it is perhaps quite difficult to know what this would involve. Hughes deliberately refers to the star moving event as happening ‘instantaneously’ in order to suggest a type of event that is completely beyond the bounds of ordinary possibility. Perhaps such an ‘instantaneous’ event would indeed involve a total overriding of natural possibility and would properly license the use of ‘violation’ of natural law. On the other hand this is not clear. We may have only a very limited understanding of the bounds of possibility. And it might be that as we try to push putative events into the undeniably ‘violation’ category, we end up by positing events that are pushing the bounds of coherence.⁶ This, arguably, places any miracle account under an added and probably unnecessary burden. The problem of miracle is not the problem of thinking up events that radically violate ordinary possibility in this way.

Overall it seems that miracle is not suited to being primarily defined by reference to laws of nature. On the one hand, insofar as we do manage to set up a conceptual space between a natural law and what happens, this space turns out not to be sufficient for the concept of miracle. The above accounts have found space for experimental error, for something that goes beyond current conceptions, and for albino ravens. Miracle requires an extra move. Arguably the only move we can make is to appeal to divine agency, and when we make this move it is no longer clear that we need to set up a conceptual space between laws and miracles. Even dramatic miracles, such as changing water into wine, could be envisaged as, say, the

⁵ There is a general question whether any intervention by God might violate the law of conservation of energy. Larmer 1985, who thinks of God’s act in terms of ex nihilo creation/destruction of energy, with the laws of nature operating normally upon whatever mass/energy there is, does not think there need be any violation of this law (as long as the total amount of mass/energy remains constant). For the purposes of this article I take a different route and treat God as though God acts as other (created) agents do, i.e. as acting upon what is already created, albeit with greater power and scope. The parallel with agents such as ourselves suggests there need be no violations of laws.

⁶ Cf. Larmer 1992, 94 who indicates that he thinks a putative violation of a law of nature would push us into the realm of the inconceivable.

manipulation of the atoms in the water so that wine results – this would require a powerful agent but it is not clear that this would involve a violation of any law. It is conceptually possible that in the future we ourselves will be able to directly manipulate water molecules so as to produce good wine. Whilst we can imagine that God changes the water into wine in a radically nature-violating way (as with the stars example, Hughes qualifies the event as happening ‘instantaneously’ 1992, 185), this doesn’t seem necessary for the possibility of miracle (the water doesn’t need to change instantaneously) and might involve pushing us uncomfortably close to a form of impossibility which is too strong even for miracle (as perhaps with Lowe’s table that remains in mid air, if understood as not supported *by anything*, supernatural or otherwise).

3. Divine agency and scientific intuition

Whilst there may be no need to define miracle in terms of a violation of the laws of nature, the classic miracle events – such as walking on water – arguably do manifest a ‘violent’ irruption into the normal order of things, at least with respect to our ordinary understanding. We are suggesting that a human being might walk upon water with no natural explanation whatsoever. Perhaps we are saying that God directly holds the person up on the water. Or again, suppose we have a table three feet from the ground and it does not fall. There are all sorts of natural reasons why this might be so and none of these reasons means that we have a violation of the law of gravity. The table might be being held by someone. But suppose that this ‘someone’ is God. Whilst a parallel explanation can be made in both cases (natural agents could support a person on water, or hold up the table; presumably God also can support the person and the table), the fact that we can make this parallel can perhaps make it easy for us to forget just how unusual the thought experiment is. It would be conceptually disturbing, I think, to be faced with a table in mid air and the claim that it was God who was holding it up. It might be difficult ever to believe that claim, independently of whether or not one believes that God acts in the world. I think we need to make a clear differentiation between the world of thought experiments and our actual responses to events. As already mentioned, Hughes (1992, 186) gives the example of all the visible stars being instantaneously rearranged to spell out ‘GOD MADE US’. My response to this example is to wonder what our reactions would really be to such an event. There would be nothing ‘silly’ (pace what Hughes seems to imply) for a

theist to doubt that such an event was the act of God, though it might well indicate some new and disturbing and previously unknown (created) agent at work in the universe.⁷

Faced with a table that is suspended in mid air, or even Hughes's stars, there will I believe be an overwhelming tendency to look for a natural explanation. There is a clear sense in which arguments such as McKinnon's wrongly try to establish a substantive claim about miracle from an a priori perspective on what a law of nature must be. And yet on the other hand whilst the a priori argument is unhelpful there is undeniable force in what McKinnon describes as the methodological claim of science: the contemporary scientific view 'discards the concept of the supernatural and resolves to treat all events as wholly natural' (1967, 309). Whilst thus baldly stated this seems wrongly to rule out a priori any notion of God as involved in the world, the basic intuition which McKinnon expresses is I think a significant feature of our everyday reasoning, irrespective of the sort of thought experiments that we can make when thinking about miracles. We look for a natural explanations and this in practice is a strong intellectual commitment. It might be that the unsatisfactory a priori argument against miracle in effect builds some such practical intellectual commitment into the structure of the argument, turning this commitment into an implicit premise that explanation will always be 'natural'.

The force of the scientific methodological claim has been expressed by Robinson (1967). He describes the various ways in which scientists deal with observations that do not fit with currently accepted understanding (for example we might revise our theories or reject the data). But suppose that a scientist invoked the concept of miracle to explain some result: 'To do this would be simply to resign, to opt out, as a scientist' (159). Whatever our theoretical commitment to miracle I suspect that many people would - in practice - feel extremely uneasy if a scientist claimed that some result might be due to a miracle. This is not I think to be closed minded. On the contrary, I suspect that we would tend to think that close-mindedness belonged to the scientist who declared 'This has no natural explanation, it was caused by the supernatural' - it would, in effect, be a refusal to try and come to any further understanding of what happened. To say that something is not naturally explicable is

⁷ This though will be a point of debate. Larmer 1984 for example, suggests (using a different example) that 'it may require a greater act of faith to interpret such an event naturalistically'.

a major commitment and maybe we are misled by the ease with which we can set up examples of miracles.

These comments about scientific intuition are not intended to be part of an argument against the possibility that God acts, in some way, in the world. My point rather is to indicate what I think is a real tension in any discussion of miracle. On the one hand we have the realm of thought experiments and conceptual possibility, on the other we have the world of our actual thought processes and intellectual commitments. Whilst some anti-miracle accounts do seem to build these commitments in a wrong way into the structure of the argument, we shouldn't overlook that in the rather abstract world of theorizing about miracles we might easily ignore commitments which few of us, in practice, are willing to give up. Whilst it may not be appropriate to think of miracles as violations of the laws of nature, there remains a way in which the concept of miracle does do 'violence' to our understanding. It is, I suggest, an open question whether this violence is commensurate with an adequate understanding God's relation to the world.

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