**SCIENCE AND MIRACLES**

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**1. The definition of Miracle**

The problem I wish to investigate is the relation between science and religion, with a special focus on religions appeal to miracles. Let us define a miracle simply as an event which violates at least one law of nature. I realize that the term is used in other ways. For example, it is sometimes additionally required that miracles be caused by a supernatural being. For our purposes and in the interest of economy, that further requirement can be dispensed with. Alternatively, a miracle is sometimes taken to be any extraordinary event, particularly one that provides someone with a great benefit. That is certainly another use of the term in English, but not relevant to our topic, so let us disregard it. If we employ the definition initially given, that will allow us to focus on a particularly troublesome puzzle in the philosophy of science.

If miracles violate laws of nature, then they could *never* be explained by appeal to natural law. Note that it needs to be a genuine law of nature that is violated by a miracle, not a manmade generalization erroneously taken as a law of nature. This needs some clarification. By a law of nature I mean a proposition which describes an actual uniformity that obtains in our universe. An example would be the Archimedean Law that a floating body always displaces an amount of fluid the weight of which is equal to its own weight. And an example of a miracle which violates that law would be a man walking on water (thereby displacing an amount of fluid the weight of which would be considerably *less* than his own bodyweight). In science, events are explained naturalistically (i.e., by appeal to laws of nature), so a miracle would be an event that could never be explained in that way. But if events which cannot at present be explained in that way were to come to be explained naturalistically in the future, then, in retrospect, it would need to be said of them that they were never miracles, although they may at one time have (erroneously) been thought to be that. At the very least, the laws that miracles violate need to be *genuine* ones.

Consider an example. Centuries ago, it was regarded a law of nature that matter cannot be destroyed. Thus, an event like an atomic explosion, in which matter is destroyed, would at that time have been considered a miracle, for it violates the given law. But subsequent science came to abandon or amend the law in question in such a way that atomic explosions no longer violate natural law. A miracle, then, must be regarded, not as an event which violates *current* law (which may very well come to be superseded), but an event which violates one or more genuine laws, i.e., ones which can never be superseded by laws of nature which are more accurate and which cohere better with other parts of science.

What would be the status of laws of nature if miracles were actually to occur? First, would they cease to be genuine laws? If we say that a generalization that is violated by some event cannot be a genuine law of nature, then it would follow that miracles are logically impossible. That can be shown as follows:

(1) Miracles, by definition, are events which violate genuine laws of nature.

(2) If a generalization is violated by an event, then it cannot be a genuine law of nature.

(3) Thus, it is impossible for a genuine law of nature to be violated by any event. [from (2)]

(4) Hence, it is impossible for any event to be a miracle.

[from (1) & (3)]

I think what we need to do here, to generate our philosophical issue, is to allow that it is at least logically possible for a law of nature to be violated. Let us therefore understand the concept of a law of nature in such a way that step (2) of the above proof is false. It may be that no laws of nature are ever violated, but there is no contradiction in the mere idea of it.

Another issue is that of truth. If a law of nature were to be violated, then could it still be true? One answer that might be given is: Yes, a violated law could still be true because laws of nature are only intended to describe events within the natural realm and miracles are outside the natural realm. Thus, miracles would not then render laws of nature *false,* for they would not show that the laws fail to correctly describe the natural realm. However, to view the matter in this way, the definition of miracle would need to be changed slightly. Instead of saying that miracles violate laws of nature, we would need to say that miracles are outside the natural realm and *would* violate laws of nature *if* they *were* in the natural realm. They would then not *actually* violate laws of nature, since laws of nature only describe events within the natural realm.

I do not like this way of viewing matters, because it places too much emphasis on the concept of a natural realm. To work with a definition of miracles as events outside the natural realm, we would need some criterion for deciding whether or not an event is inside or outside that realm, and we do not have any such criterion. The result would be that the term miracle would be obscure, perhaps even meaningless. Let us, therefore, simply go with our original definition of a miracle as an event which violates a law of nature. That results in the conclusion that if an miracle were to occur, then the law of nature which it violates would be *false,* since such a law would be a generalization with at least one exception to it. Thus, some laws would be false (namely, the ones violated by miracles) and other laws would be true (namely, those not violated by any miracles). This way of speaking, distinguishing true laws of nature from false ones, may sound rather peculiar, but there seems to be no other meaningful way to permit talk of miracles to enter the discussion. The idea of a law still being useful even though it is false is a familiar one. Newtons Laws, for example, have been superseded in contemporary physics (and thus regarded as false), and yet they are still used in various practical fields. So, to speak of a law as false is not incoherent.

However, there is a problem here. Previously, a distinction was drawn between genuine laws and erroneous (or superseded) laws. How could that distinction still be drawn if we allow that even some of the genuine laws might be false? Let us say that if genuine laws are false, it is only because of isolated counter-instances which cannot be explained or predicted on the basis of any other empirical laws. But when erroneous (or superseded) laws are false, it is because of regular counter-instances which are both explainable and predictable on the basis of other empirical laws. Atomic explosions, for example, occur according to known regularities on the basis of which they could be explained and predicted. Thus, the law that matter cannot be destroyed is an erroneous (or superseded) one. But if a man were to walk on water, although that would make Archimedes Law false, it would not make it an erroneous law in the given sense. The counter-instance(s) would still be isolated and neither explainable nor predictable on the basis of any other empirical laws. Archimedes Law could still be a genuine law, though it would no doubt be somewhat suspect under such circumstances.

What would be the result if people walking on water were to become commonplace? Suppose various men were to do it every year, say, on Easter Sunday. Their action could not be explained by Archimedes Law, since the amount of fluid they displace as they walk on water does not correspond to a force sufficient to keep them from sinking. Some other force would be sought, but suppose that none is ever found and so their actions remain a mystery for science forever. Although such counter-instances to Archimedes Law would in that case not be isolated events, they would still be miracles if, indeed, the law cannot be replaced by other natural laws which are not violated by the given events. Thus, miracles need not be isolated events, but they do need to be events that violate natural law which are forever unexplainable within the system of science.

**2. Scientists Attitudes**

The philosophical issue which now comes into play is that of the relation between science and miracles (defined in the given way), particularly the attitude of scientists towards miracles. There seem to be at least the following possibilities:

(A) No scientist could ever believe in miracles under any circumstances.

(B) Scientists could believe in miracles, but not *as scientists.*

(C) Scientists could believe in miracles, even as scientists, but not when they are engaged in scientific research on the specific area in which the alleged miracles occur.

(D) Scientists, as scientists, could believe in miracles, even when engaged in scientific research on the specific area in which the alleged miracles occur, but such belief could not be regarded to be a result of the research or a scientific finding.

It seems clear that position (A) is incorrect, for there certainly have been scientists in the past who believed in miracles and there are still scientists today who do so (for example, many of those who identify themselves as Christians). But even if (A) is deleted, the question of which of the other positions is the correct one is rather difficult.

Certainly the last part of position (D) is correct. It could never be a scientific finding that a miracle occurred, for science is the attempt to understand reality in terms of the laws of nature. To say that a miracle occurred is to abandon the scientific (= naturalistic) perspective on the matter. If a scientist were to end up with such a belief, then it would be incompatible with the scientific point of view. It would be as if to say, Here is something that could never be naturalistically explained and so it lies outside the domain of science.

It might be objected here that the purpose of science is not to try to understand reality but only to predict it and thereby control it. That is, science is of significance only to the extent that it yields (or has the prospect of yielding) technological results. This is the pragmatic view of the nature of science. I dont particularly care for it, since I find it too limited, but even if it were correct, it would still leave no room for any appeal to miracles within science. There is no way that an appeal to miracles could lead to theories which produce predictions or technological results. Thus, whether science is construed realistically or pragmatically, all appeals to miracles would be excluded from it.

But even if the last part of position (D), above, is correct, the first part of it may not be. It could be, instead, that (B) or (C) is the correct approach to take on this matter. Let us consider a hypothetical situation. Suppose a man is diagnosed with a terminal illness but then recovers fully. Such events have been known to happen and they are often termed miracles. Some medical researchers believe that miracles, of that sort, do indeed occur. One main question is whether, when they express such belief, they can do so *as scientists,* or whether they necessarily do so only as laypersons (or private citizens, as it is sometimes put).

According to position (D), it is indeed possible for medical researchers to believe, as scientists, that a miraculous cure has occurred. It is simply that they cannot put this down as a scientific finding. But it might be objected that if they cannot put the result down as a scientific finding, then when they claim that a miracle has occurred, they are not speaking *as scientists* at all. In order to speak as a scientist, one must be in a position to report a scientific finding, for the reporting of such findings is a major component of science. The first part of (D), therefore, conflicts with its last part, and so (D) needs to be rejected.

According to position (C), it would be possible for *other* scientists to claim, as scientists, that a miraculous cure has occurred, but not those scientists (medical researchers) who are engaged in the specific area of research in question. But that seems rather anomalous. Why should scientists who are outside a particular field be in any better position to speak in the name of science on a matter related to that field than those scientists who are working in the very field in question? It would seem more reasonable to say that the people best able to speak in the name of science on a particular area would be the very scientists who are working in that area. Position (C) has other difficulties as well, but this one seems sufficient to refute it.

By a process of elimination, only position (B) remains, and that is the one which I shall endorse. Scientists can claim that miracles occur, but when they do so, they do so only as laypersons, not *as scientists.* But what, then, are we to say about such persons? Their minds seem to be compartmentalized into a scientific part and a religious part. When they think in terms of their profession, they have a positive outlook on science, assuming that what it deals with is in principle explainable by appeal to natural law, but when they think religiously, they have a negative outlook on science, assuming that there are aspects of reality that can never be explained by appeal to natural law, no matter how far science advances.

Why would anyone assume that science has such limits? What possible evidence could there be that there are events which science will be forever unable to explain? The only possible evidence is that certain events have *not as yet* been given naturalistic explanations. However, many such events in the past later came to be explained naturalistically. Thus, the mere use of induction should lead us to infer that, eventually, the events presently unexplained may very well, and perhaps even probably will, be explained. It would seem, then, that the epistemic stance most compatible with a scientific way of thinking would be to withhold judgment on whatever events have not as yet been explained naturalistically. To reason that what has not as yet been explained can never be explained would be invalid. It would be a *non sequitur* (more specifically, a kind of hasty generalization). Furthermore, one should not adopt a pessimistic outlook on science by calling such events miraculous, for to do so would be not only unscientific, but *anti-scientific* as well.

Two points should be made regarding this matter. First, if there are scientists who have such a pessimistic (anti-scientific) outlook with regard to their own profession, then presumably they acquired it from religion, which partly regulates the early mental development of most children. There is certainly no scientific basis whatever for such pessimism. And, second, it may be that the belief in miracles is connected with the idea that there are aspects of reality which must be forever beyond scientific scrutiny. If one already believes that there are facts which it is impossible for science to explain, then one would be already predisposed towards a belief in miracles. Well, what sorts of facts might those be? Here are some possible candidates:

(A) Religious experiences in people

(B) Selfless love and sacrifice

(C) Objective values (e.g., morality)

(D) God and an afterlife

(E) Free will

(F) Mind or consciousness

(G) Life

(H) Basic uniformities of nature

(I) The fact that the uniformities permit life

(J) Laws of logic

(K) Abstract entities, like numbers

(L) The existence of the universe itself

(M) The fact that something exists

In each case, there are two questions: whether there is some fact there to be explained, and, if so, whether there is any hope that science might come up with a complete and adequate explanation of that fact. If, for some items on the list, the answers are yes and no, respectively, then that would predispose one towards a belief in miracles. That is, if there are other facts to be explained which science cant possibly explain, then there is not so much involved in adding (the occurrence of) miracles to the list. I think that many of the items listed above are ones which religion appeals to as facts beyond scientific explanation. At any rate, if one is indoctrinated by religion to believe that there are such facts, then the acceptance of miracles would come easily. If the person should later adopt science as a profession, then the kind of compartmentalization of the persons mind mentioned above would be an expected outcome.

It is an interesting question whether any items on the above list really have the features claimed for it by religion, that is: (1) a fact to be explained, and (2) forever incapable of any naturalistic explanation. I myself am inclined to deny it. For some of the items, it is condition (1) that fails to be met. I would say that of (C), (D), (J), (K), & (M). For all the other items, it is condition (2) that fails to be met: i.e., naturalistic explanations can be given. I shall not defend this here, for it is a large topic and beyond the scope of the present essay.

Perhaps the main question before us at this point is whether, within such mental compartmentalization as described above, the person necessarily holds *incompatible* beliefs. What it comes down to is the issue whether the scientist *qua scientist* must believe that *all* of reality is naturalistically explainable. If so, then scientists who believe in miracles would be *inconsistent* in their thinking.

We have already established that the scientist *qua scientist* cannot believe in miracles. But it is a further question whether he must deny that they ever occur. In other words, is the scientist *qua scientist* like an agnostic regarding miracles, neither believing in them nor denying them, or is he like an atheist, denying that they ever occur? If he is like an atheist, then for him to believe in miracles in some other compartment of his mind would be inconsistent, for it would contradict something that he believes in the scientific compartment. But if he is only like an agnostic, then there need be no such inconsistency. In his scientific compartment, there would (necessarily) be no belief in miracles, but there would not be anything that contradicts their occurrence either.

So, what is the answer? I argued above that when people work *as scientists*, they necessarily have a naturalistic worldview. But do they, in addition, necessarily believe that such a worldview is complete and not contradicted by anything else in reality? There are indeed scientists who do not regard the naturalistic worldview to be complete in that way. In their scientific work, they are only methodological naturalists and not also metaphysical naturalists. That is, they assume naturalism as an outlook presupposed by their scientific work, but they do not regard naturalism to be generally true of all reality. They might say, I can make no reference to miracles here in science, but science is limited; there are aspects of reality that lie beyond it. Are such scientists necessarily deficient *as scientists*? I shall make no pronouncement on this matter here but will leave it open. Certainly scientists who believe in miracles have compartmentalized minds, and some of the time (in their religious life) they have not only an unscientific but an anti-scientific outlook. But whether they must also have inconsistent beliefs is a further matter, one which I shall leave to the reader to judge.

Two good essays on miracles may be found on the Secular Web as follows:

The Conception of the Miraculous and Christian Apologetics by Keith Parsons at

<http://www.infidels.org/library/modern/keith\_parsons/thesis/>

and Examining Miracle Claims by Joe Nickell at

<http://www.infidels.org/library/modern/joe\_nickell/miracles.html>.