

Order-of-Nature Miracles vs. Specific-Point Miracles:
A Key Distinction in the Science vs. Christianity Debate
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The expressions “order-of-nature miracles” and “specific-point miracles” may be unfamiliar. However, they reflect an important distinction in the question of whether the success of science is in conflict with the worldview of biblical Christianity.

Before explaining them, the following story sets up their relevance. Pierre Laplace (1749-1827), the great French mathematician and astronomer, wrote a five-volume treatise on the solar system. Napoleon had Laplace as a tutor, and it is said that Napoleon once asked Laplace why in his book on the solar system he had made no reference to God. Laplace’s response was “I have no need of that hypothesis.” His point: Physics is able to account for the origin and functioning of the solar system; therefore, don’t bring God into the picture.

Since that time, science has proven itself capable of accounting for nearly every kind of phenomenon in our world.¹ This leads many to expand on Laplace’s remark and say, “There is no need to bring God into the picture anywhere!” Put another way, there are many who conclude that the success of science provides strong support for naturalism. (Naturalism is the thesis that everything that is real is physical and that, at least in theory, everything can be accounted for in terms of prior physical states and the laws of physics.)² Indeed, I suspect that most who view science and religion as being in conflict, do so principally from the conviction that science has shown us that all that is real is physical. Particular issues, such as whether Genesis 1 conflicts with biological evolution or with the age of the universe being over 13 billion years, are of secondary importance. Were the Bible to say nothing about creation, this would matter little to those who view the success of science as having shown that all of reality is physical. And since nearly every religion holds that there is more to reality than what can be demonstrated to exist through the physical sciences, those who think science reveals a purely physical reality will summarily dismiss all religious claims that go beyond this.

Such thinking, however, overlooks the distinction that the title of this essay encapsulates. It fails to see that the success of science, while providing significant support for the belief that there are no

¹ One exception relates to conscious experience and personhood. Conscious experience includes all the forms that subjective experience may take: the experience of pain, of colors, of heat, of joy, etc. Personhood pertains to our awareness of ourselves as conscious agents, enduring over time, having desires and intentions, and acting on those intentions. Nothing in the current categories of physics provide any reason to suppose that a more complete understanding of the brain would reveal why it is that we have conscious experiences at all. Thus, even if we knew exactly what is happening in the brain (and in resulting behavior) when a person experiences pain, this would not provide any explanation as to why there is an experience of pain. That leads some philosophers and scientists to conclude (a) that conscious experiences really are nothing but patterns of neural events and dispositions to behave, and (b) that persons (as conscious subjects) either don’t exist or are simply the collective history of neural activity and behavior. Francis Crick: “‘You,’ your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules. Who you are is nothing but a pack of neurons.” [cited by Andrew Ferguson, “The Heretic: Thomas Nagel—Professor, Philosopher, Apostate,” *The Weekly Standard* (March 2013); <http://www.weeklystandard.com/heretic/article/707692>] For a strong critique of this materialist/naturalist view, read atheist philosopher Thomas Nagel’s *Mind and Cosmos: Why the Materialist Neodarwinian Conception of Nature is Almost Certainly False* [Oxford University Press, 2012]

² The claim, typically, is not that science can tell us why everything happens just as it does. Quantum mechanics excludes complete predictability. Many physicists interpret this as there being an intrinsic indeterminacy at the quantum level. If this is right, then quantum events have no cause determining them to be as they are. They just happen. However, it is significant to note that, if quantum indeterminacy is true, this does not imply an explanatory gap in our understanding of why quantum events end up as they do. The indeterminacy is simply an irreducible fact, not a gap that has yet to be filled.

order-of-nature miracles, does not provide strong support for the belief that there are no specific-point miracles.

DEFINING TERMS: *Order-Of-Nature Miracles and Specific-Point Miracles*

Order-of-nature miracles are exceptions to natural law brought about by God for the purpose of sustaining some aspect of the order of nature (making it work as it does). Specific-point miracles are exceptions to natural law brought about by God at specific points in space and time for specific purposes and *not* needed to sustain the order of nature.

Some Examples

There are some clarifications that need to be made, but, first, here are a few examples.

Two potential examples of order-of-nature miracles :

(1) *The stability of planetary orbits*: Isaac Newton thought that God occasionally had to adjust the orbits of the planets to keep them stable. His reason for thinking this was that he knew that the planets have a gravitational effect on each other. He thought that this could destabilize their orbits and that, to prevent this, God periodically adjusts the orbits. If this were true, then such acts would be order-of-nature miracles. They would be needed to account for the observed (relative) stability of the planetary orbits.

A hundred years later Pierre Laplace showed that Newton was mistaken. The planets do have an effect on each other's orbits, but over time the effects cancel each other out.³ Thus, although the precise path of the earth's orbit is affected by the gravitational pull of the other planets, the range over which it varies stays within narrow parameters.

(2) *Cellular differentiation*: I once heard a preacher proclaim that science is unable to account for cellular differentiation. Cellular differentiation is the process where, in any developing organism, cells become the kinds of cells they need to become in the right places and at the right times. Human life starts as a growing cluster of stem cells, but, at some point, stem cells divide and give rise to different kinds of cells (nerve cells, muscle cells, etc.). In a similar way, a particular kind of cell, such as a nerve cell, may divide and the resulting cells (one or both of them) may be different from the parent cell. Now, if cellular differentiation depends on genes being turned on or off, the interesting question is, what causes such gene switching to take place at the right times and places? The preacher's assumption was that science would never be able to explain it and that, therefore, God is needed to guide the process. If he were right, then God must miraculously cause the appropriate genes to turn on or off at just the right times. Such miracles would be order-of-nature miracles (and massive in their number!)

However, as with Newton's proposal, there is good reason to think that the preacher was wrong. (a) There is progress being made on understanding how cellular differentiation works. (b) The success in understanding how other cellular processes work and how cell division takes place provides reason for thinking that the process of cellular differentiation will probably also be explainable without invoking miracles from God.

An example of a potential specific-point miracle:

(3) *The virgin birth of Jesus*: The Bible affirms that Mary became pregnant without ever having "known" a man. If this happened, it would be a specific-point miracle. It would be an exception to what can naturally happen, an exception to the laws of physics and chemistry (and presumably not just to our current understanding of human reproduction). Further, it is obvious that the virgin birth of Jesus is *not* something needed to sustain normal human reproduction. Indeed, if it occurred, it would be an exception to the observed order, a miracle brought about by God at a specific point for a specific purpose.

³ There are some computerized modeling projections where over very long periods of time it is possible that planetary orbits might be affected in radical ways, but Laplace was right that the slight gravitational effects will not accumulate in time frames relevant to human history.

It is significant to note that all the recorded miracles in the Bible are specific-point miracles.

Several Points of Clarification

(1) *Miracles as exceptions to natural law*: The definitions just given use “miracles” in the strong sense of referring to exceptions to natural law. Hence, no miracles of either type could happen were nature left to itself. For them to occur there must be a supernatural cause (for our purposes, God) bringing about the exception.⁴

(2) *The meaning of “sustain”*: “Sustain” (in the definition) involves specific actions taken by God to maintain an observed feature of the order of nature. This is in contrast to the use of “sustain” in the Christian doctrine that God *sustains* the existence of the world moment by moment. The latter entails nothing about events happening which would be exceptions to natural laws.

(3) *On the concept of the order of nature*: Today, when we speak of *the order of nature* or *the natural order*, we are typically thinking of an order that is intrinsic to nature itself—nothing external or supernatural included. But this conception has arisen along with the success of science. Prior to the rise of science, people would have seen that there is order in the natural world in various ways, but they would not have understood how that order is sustained or how it works. For instance, it would be known that rain comes from clouds, but how clouds formed and how water comes from them would not have been understood. Thus, an animist could interpret rain as coming from the spirit of the clouds, or a theist could interpret rain as being released by God from storehouses of water in the clouds (or in the heavens).

However, as various aspects of the observed order were studied and were found to follow quantifiable laws, it became reasonable to think that at least some of the order observed in nature is intrinsic to the things or phenomena observed (not an order sustained or controlled by something outside of nature or by spirits). What wasn’t clear was whether *every* aspect of the order observed in nature could be explained in this way.

The very concept of order-of-nature miracles reflects the possibility that at least some aspects of the observed order in nature cannot be explained in terms of natural laws; they require direct divine action. So, in thinking about order-of-nature miracles, it is important that one remembers that the *order of nature* here is not necessarily self-sustaining, an order solely within nature.

(4) *The above understanding of miracle compared with that of biblical authors*: The concept of a *miracle* as an exception to natural laws is a concept that arose as science arose. Hence, it would not have been what biblical writers would have meant when they spoke of *miracles* (or *signs, wonders*). Nonetheless, they would have understood that some things do not happen in the normal course of nature. Part of what would cause them to attribute an event to a special act of God (calling it a “miracle”) was the conviction that it could not have happened apart from special action by God. Alternatively, the timing of an event could lead them see God as the cause of it. For example: Elijah announces an oncoming several-year drought in 1 Kings 17:1 and then announces the end of the

⁴ One might object that, although the probability is incredibly small, nearly every conceivable exception to natural law might be a quantum possibility. For instance, the physicist Michio Kaku writes “According to the quantum theory, one could in principle suddenly rematerialize on the red planet. Of course, the probability is so small that we would have to wait longer than the lifetime of the universe.” [*Parallel Universes: A Journey through Creation, Higher Dimensions, and the Future of the Cosmos* (New York: Anchor Books, 2007), p. 147.]

Two problems with this: First, he assumes that there is no upper limit to the scale (number of atoms) over which quantum mechanics (quantum entanglement) will continue to apply, but we don’t know that this is the case. Second, if the nature of the event seems to serve a purpose, and timing is important, then this gives good reason to suppose that the event was a miracle, not a fluke quantum possibility. (E.g. if a person rematerialized on the other side of a thick concrete barrier one second before a hand grenade explodes at the spot where he had been standing, this should be deemed a miracle. Even if the means that God used to bring this about were that of actualizing a bizarre quantum possibility, such manipulation of a quantum outcome would still be an exception to the laws of quantum mechanics if those probabilistic laws are interpreted as in themselves being indeterminate.

drought—indeed he announces the coming of a heavy rain on the day it comes, and this prior to the appearance of any clouds in the sky (1 Kings 18:41-45). The formation of the clouds on that day may or may not be an exception to the laws of nature. Of course, there remains the question as to how God revealed to Elijah that these things would happen. From our perspective this may have involved an exception to natural law. The point here is that, although the biblical authors did not conceive of miracles as exception to laws of nature (as we understand such laws today), the similarity is close enough to be able to use the definition of *miracle* employed here in reflecting on miracles recorded in the Bible.

An aside: *The supposed credulity of ancient people*: It is sometimes said that in the ancient world people had no difficulty in believing in miracles because they did not have the concept of natural laws. But this is not entirely accurate. They recognized that some things are not naturally possible, and, accordingly, reports of events to the contrary would not easily have been believed. E.g. when an angel tells Mary that she will give birth to a son, she responds, “How will this be since I am a virgin?” It is true that most people in the ancient world believed in God (or gods) and believed that God had power to do things which we (and they) would normally assume are not possible. Hence, if the testimonial evidence were strong enough, or if they were to see it themselves, they would have been more open to believe the report than would many people today. But it was not the case that ancient people would have easily believed almost anything they were told, and this is especially true when the reported event did not fit with their conviction about what is naturally possible.

(5) *Order-of-Nature Miracles and Miracles of Origin*: The fifth point of clarification concerns the question as to whether the category of order-of-nature miracles should be expanded beyond the currently observed order of nature to include the origins of that order. What position one takes on this issue will not eliminate the distinction between order-of-nature miracles and specific-point miracles, and it will still remain the case that an absence of order-of-nature miracles (on the expanded definition) will not entail an absence of specific-point miracles. Further, the argument being advanced in this essay does not depend on restricting the concept of order-of-nature miracles to the current order of nature.

Nonetheless, I am opting to stick with an understanding of order-of-nature miracles which puts off to one side the question as to whether what might be called *miracles of origin* should be treated as order-of-nature miracles. It is certainly the case that when one asks what conclusions one thinks the success of science warrants, one should include the quite impressive success that science has had in accounting for how the order which we observe around us came to be. The reason for not including miracles of origin in the category of order-of-nature miracles is partly due to the fact that there are unresolved questions which may or may not be resolvable solely through natural causes, but there are also methodological reasons for the decision.⁵

BUILDING THE ARGUMENT

The success of science: Good reason to suppose that there are no order-of-nature miracles

Although it has already been asserted, the starting point for the argument that this essay is advancing is that the success of science provides good reason to think that there are no order-of-nature miracles (on the narrower definition).⁶

⁵ The order in which one addresses questions can influence the conclusions drawn. Thus, if one addresses the question as to whether there are any past reports of specific-point miracles with sufficient evidence to warrant belief, the results of that enquiry will affect whether one thinks that the success of science warrants assuming that there are no miracles of origin. If regarding the first question, one thinks that one or more specific-point miracles have taken place, then that raises considerably the plausibility that God may have engaged in miracles at points in the development of life.

⁶ If human beings have some degree of free will, i.e. have some capacity to direct the course of their thoughts and behaviors in ways that are not determined by either prior physical states of the person nor by quantum indeterminate events, this gives some reason for thinking that each free act must be an overriding of what would

An absence of order-of-nature miracles does not imply an absence of specific-point miracles.

Again, reiterating what has already been said, an absence of order-of-nature miracles does not imply an absence of specific-point miracles. For the former to entail the latter it would be necessary to know (or have strong reason to believe) (1) that God does not exist, or (2) that he could not bring about specific-point miracles, or (3) that if God were to create a universe without order-of-nature miracles, he would not bring about miracles for any other purpose. However, the success of science by itself does not address any of these claims. Therefore, while the success of science provides reason for thinking it likely that there are no order-of-nature miracles (again, the narrower definition), it is mute with respect to whether there are any specific-point miracles.

Biblical theology accords quite well with an absence of order-of-nature miracles

An absence of order-of-nature miracles would provide significant support for belief in an absence of specific-point miracles if the absence of the former pointed strongly towards naturalism. But naturalism is not the only thesis that accords with an absence of order-of-nature miracles. Quite clearly, deism⁷ accords with it, but so does biblical theology. Now, it is true that in the distant past Jews and Christians had no clue that the order of nature could so thoroughly be described via quantified natural laws, but the character of God, as set forth in the Bible, fits quite well with the eventual discovery of such an order.

Indeed, part of the reason why science took root so well in the West was the amenability of the Judeo-Christian view of God (and of creation) to this discovery.

For one, unlike the view of the natural world found in animism, the Bible says that when God created the natural world, what he created was not divine nor animated by spirits. In the Bible there are poetic expressions like, “Let the rivers clap their hands, let the mountains sing together for joy (Psalm 98:7-8), but this is poetry. Because the created world is not sacred, Jews and Christians could study it without fear of offending either God or spirits.

For another, God in the Bible is described as a God of order and reason. Thus, as people began to study the natural world they found more and more order within it and were able to formulate that order in quantifiable terms. The response was often praise to God for his wisdom and goodness in having created such a well-ordered world.

Finally, when one considers the biblical affirmations that God is both all-powerful and all-knowing, one realizes that God has the power to create any possible universe and he knows all the possibilities. The question which one can ask, given this, is, should it be surprising that God would choose to create a world in which he, at no point, needs to perform miracles to sustain the observed

take place if nature were left to itself. Assuming that such exercise of free will is a part of the observed order, one could argue that such acts of free will constitute small order-of-nature miracles.

However, up to this point there is no evidence from neuroscience indicating that the self, the conscious person, is able to bring about exceptions to the laws of physics and chemistry within the brain of the person. One might propose that this is so because free will involves only micro-miracles or perhaps just the capacity to influence quantum outcomes. However, even if humans have this capacity, it would not involve order-of-nature miracles brought about by God (which is part of the definition given earlier).

Three further comments: (a) If human persons do have any control over the course of their thoughts and decisions (i.e. are not simply the products of past states and quantum indeterminate events over which they have no control) then naturalism/materialism is false. (b) The metaphysical scheme (the understanding of the nature of reality) will then either need to include causal power within the natural world that is not analyzable into physics, and/or a reality to persons that transcends nature, an immaterial soul. The “and/or” reflects (i) the possibility that nature is more than what the physical sciences describe but that there is no reality beyond it, (ii) the possibility that reality is divided between a natural realm (which the physical sciences accurately describe) and a supernatural realm, and (iii) the possibility both that nature is more than what the physical sciences can describe and that there is a supernatural reality which is able to affect natural events. Note: The metaphysics of human persons—the conscious self—remains an open question.)

⁷ Deism is the thesis that God created the universe, but after getting it started has had no interaction with it.

order? Now, we are not God, and God is quite different from us; so, it is typically quite problematic to presume that we know what God would do. However, from a human perspective, to create something such as a machine of some kind, that does not need periodic adjustments and does not need manual input to accomplish its goal, is preferable to creating something that does require such things. Hence, it would be rather odd to presume that God would *not* choose to create such an exquisitely and thoroughly ordered world. In our experience, intelligent people often value order quite highly.

[Now, it might be objected that although a thoroughly ordered world may well have many beneficial features, but it would also have some negative consequences for humans and for animals. This raises the question as to whether, from God's perspective, the best world will be a world that includes order-of-nature miracles so as to mollify negative consequences that would otherwise be present. I won't try to address this question further here.]

A seemingly fine-tuned order of nature

On the topic of whether science and Christianity conflict, it should be noted that calculations done by physicists over the past sixty years on what the universe would look like were the laws of physics slightly different have led many of them to conclude that there seems to be a delicate balance amongst the values of the physical constants which must be achieved if intelligent life is to exist. For instance, Stephen Hawking, both in *A Brief History of Time* and in *The Grand Design*, is quite direct in affirming that there is an apparent fine-tuning amongst the laws of physics (amongst the values of the physical constants) which renders intelligent life possible.

The emergence of the complex structures capable of supporting intelligent observers seems to be very fragile. The laws of nature form a system that is extremely fine-tuned, and very little in physical law can be altered without destroying the possibility of the development of life as we know it. Were it not for a series of startling coincidences in the precise details of physical law, it seems, humans and similar life-forms would never have come into being.⁸

Hawking does not see this as evidence for the existence of God; rather he thinks that the correct explanation is that we live in a multiverse in which all possible universes are actualized. If this is the case, then, no matter how exceeding rare habitable universes are, we, obviously, must live in one of them. Pondering one's existence is possible only for one who is in one of those rare universes. Now, it is not possible at this point to show that Hawking's multiverse explanation is false, but the presence of such a delicate balance—such an apparent fine-tuning—fits well with the biblical thesis that this world, together with the laws of physics describing its most fundamental order, are brought about by God, the creator.

Specific-point miracles and biblical theology

Turning to the topic of specific-point miracles, it is obvious that many such miracles are recorded in the Bible. Further, there are aspects of God's character which the Bible affirms which give reason to expect that God would at times engage in such miracles. God is said to be loving and compassionate, caring about human welfare. He is also said to desire that people come to know him and relate to him. This presumes that people have reason to believe that he exists and that it is possible to enter into relationship with him. Specific-point miracles in the Bible serve both of these purposes: e.g. in delivering the people of Israel from their bondage of slavery, raising to life the sole son of a widow, changing to wine at a wedding, raising Jesus from the dead.

⁸ Hawking & Mlodinow, *The Grand Design*, (Bantam Books, 2010) p. 161] The quote in *A Brief History of Time*: "The laws of science, as we know them at present, contain many fundamental numbers, like the size of the electrical charge of the electron and the ratio of the masses of the proton and the electron.... The remarkable fact is that the values of these numbers seem to have been very finely adjusted to make possible the development of life." [Hawking, *A Brief History of Time*, (Bantam Books, 1988) p. 125]

One can, of course, deny that any of these miracles have occurred, and can claim that God does not exist, but the important point to see here is that neither of these denials is warranted by the success of science by itself.

Whether specific-point miracles have occurred needs to be addressed on a case-by-case historical investigation

Since the success of science is mute with respect to the possibility of specific-point miracles, it should be clear that the question as to whether there have been any such miracles needs to be addressed by examining the evidence for particular reported miracles. The aim needs to be to search for the explanation that best explains the evidence. Philosophers refer to this as *inference to the best explanation*.

What is the best explanation will depend on two considerations: First, there is the question of explanatory power. Which of the possible explanations best accounts for the evidence in question (both testimonial and physical)? Second, one needs to weigh the intrinsic or prior plausibility of each of the possible explanations. An explanation may account for all the facts (evidence that seems beyond dispute) far better than any other explanation, but if it presumes something that seems quite preposterous, utterly implausible, it likely is not the best explanation. For example, in a murder investigation, the hypothesis that an utterly unknown identical twin (not known to exist) was the murderer might fit the evidence better than any other explanation, but it would likely not be viewed as the best explanation. For it to be the best explanation, it would have to be quite clear that all other explanations (with higher intrinsic plausibility) are ruled out.

One should be more skeptical of reports of what would seem to be a miracle than for ordinary events because there is the need to weed out false reports. The question becomes, how much more skeptical should one be? Experiences that a person has had, plus background beliefs of the person, will be important in how high the bar should be set. (Of course, the background beliefs need themselves to have rational warrant.) But it needs to be noted that there are a number of reported miracles which are backed by a considerable amount of evidence.⁹

Conclusion

The claim in this essay was that the success of science does not by itself tell us that specific-point miracles have never happened. Indeed, it is mute with respect to the possibility of specific-point miracles. Further, an absence of order-of-nature miracles accords quite well not only with theism in general, but also with biblical theism, and, of course, biblical theism provides reason to believe that God would at times bring about specific-point miracles.

There are some possible objections to this conclusion, but rather than address them here I will do so in a series of short follow-up essays.

Some possible objections (which may arise in the Q&A and which I, the author will address in subsequent essays)

- Science is concerned not just with explaining enduring patterns of events but also with explaining individual events.
- When science has been applied to assessing miracle reports, it has often succeeded in showing either (a) there is a good non-supernatural explanation that accounts well for the event, or (b) the reported event never occurred.

⁹ For Christians the most important reported miracle is the resurrection of Jesus. The historical case for it is actually quite strong. Were it not for the fact that the resurrection of Jesus would be a miracle it would clearly be the best explanation. I like to follow up a lecture on “The Historical Case for the Resurrection,” with a lecture “But Dead Men Don’t Rise!” That follow-up lecture addresses the philosophical question, what does it take to reasonably believe that miracle has taken place? Science does not answer that question for us.

- No actual past reports of miracles have been supported by enough evidence to warrant believing that a miracle actually happened.
- Given the past success of science in explaining individual events in terms of the order of nature, shouldn't one always assume that a scientific explanation will eventually be found no matter how contrary it may seem to current science?
- The methodology of science presumes that natural explanations can be found for all events. To believe in the occurrence of specific-point miracles is to abandon a fundamental presupposition upon which science is grounded.
- Any rational assessment of whether a miracle has occurred has to depend on adhering to canons of critical historical enquiry, and these preclude bringing in the supernatural to explain an event.
- If specific-point miracles occur at all, shouldn't one suppose that they would be common enough that nearly everyone would be aware that they happen?
- The general concept of a supernatural being bringing about specific-point miracles does not presume that it would bring about specific-point miracles frequently or of a kind that is obvious to nearly everyone,. However, what is affirmed about God in the Bible (e.g that he cares about human suffering and evil, and that he desires that people know that he exists) would lead one to expect that specific-point miracles would be common and at least some of them obvious to nearly everyone. (This is not a problem arising from science, or the success of science, but needs to be addressed.)
- An all-powerful, all-good God would be expected to engage in order-of-nature miracles so as to bring about an order of nature with less human and animal suffering than what is observed.