

DIVINE ACTION AND THE PROBLEM OF MIRACLES

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Does Science Leave Room for the Miraculous?

When people learn that I have an interest in both theology and the physical sciences one of the most common questions asked – once the obligatory creation-evolution question has been cleared out of the way – is: “Does science leave room for miracles?” There are really only two ways I can honestly answer that question: “No”, and “It depends upon how one understands science and, more importantly, ‘miracle’.”

Science, by virtue of its fundamental assumptions, has no formal place for the category of miracle. For the Christian, this may initially sound problematic. But it need not be. By traditional definition (and we will come back to this) a miracle is something that cannot be explained by any known or suspected physical laws or processes. In the face of a genuine miracle the most science can do is say that we do not understand how a certain event or phenomenon is possible. Science is not even in a position to verify a possible miracle because we can never exclude the possibility that a physiological explanation might someday be available. For this reason, the category of miracle is not scientifically meaningful. This does not, however, mean that the category of miracle is meaningless. The assumption is made by many that what is not scientifically meaningful, has no meaning at all. This line of thinking goes back to an unfortunate but common informal assumption of science that only what science can legitimately examine is real and meaningful.

For the Christian thinker, this conclusion is unacceptable for several reasons. Most importantly, our Christian faith is based upon the assumption that two foundational miraculous events actually occurred in human history: the incarnation and the resurrection. Also, Christian views of God as transcendent Creator imply that God must at least in theory be able to intervene within God’s creation even if this means a violation or suspension of the ordinary laws of nature.

This problem now leaves the Christian thinker with a choice. We might choose to challenge the fact that modern science has no place for the category of miracle. If we could have a science that recognised the fact that miracles may and do occur, and that these could potentially be verified and incorporated into our total description of reality, then it would seem that our theological problem would be solved. While this route may appear attractive to many, I personally believe it to be a mistake. It would involve not only a radical reinterpretation of the nature of science – problematic in itself – but even more worrying, it would necessarily entail a reinterpretation of miracle and of divine action in which the very concept of divine transcendence would become difficult to maintain.

The other option is to challenge the popular assumption of science that only that which is accessible to its methods and subject to explanation based upon these methods is worthy of the classification ‘real.’ Personally, from a scientific standpoint, I am loath to invoke the miraculous to explain any particular occurrence. I am even more unwilling to accept that everything must have a scientific explanation. That is to say, as a Christian, I remain necessarily always open to the fact that there is more to the totality of what is real than I am able to comprehend or explain within the structure and methods of even the best possible science.

But how does one do this within the context of modern science and orthodox Christian faith? This is the question that is of particular relevance to all contemporary Christians. But it is particularly acute for those of us who, through our training and in the context of our professional and faith commitments, have a foot in both worlds. Before I come back to this question, however, I need to do two things. Firstly, I want to tell you a story. Secondly, I would like to explore with you

some of the traditional understandings of miracle and divine intervention within the context of modern science.

Miracles are Personal

First the story. Those of you present at COSAC 2001 conference will recall that I asked for prayer regarding a very difficult ethical decision with which my wife and I were faced. A routine ultrasound revealed that not all was well with our expected fourth child. A series of further tests revealed that the male foetus suffered from a complete congenital diaphragmatic hernia of the left side. His intestines, kidneys and spleen were in his chest cavity and his heart had been pushed over into the right side against the right lung. His left lung would not develop into more than a nub, and his right lung was greatly restricted in size and further tests showed that it was also partially collapsed. The baby was perfectly fine so long as he remained within the womb but as soon as he was born he would be unable to breathe to a sufficient extent to sustain life. His one semi-functional lung was simply too small and would be too underdeveloped to sustain respiratory assistance long enough to fully develop. The medical experts gave him at best a 20% chance of survival, but cautioned that this was probably optimistic.

There was, however, something they had tried only a few times previously that they presented to us as an option that would increase our baby's chances of survival. They were the only centre in the world currently trying this procedure of radical steroid treatment since previous studies indicated that while increasing the maturity (but not the size) of lungs in such cases, there was a 100% percent occurrence of brain damage in non-human test subjects, along with some physical and mental health risks to the mother.

We read all the literature we could find in the next week or so, including the studies that had caused this option to be banned from human testing in the rest of the world. Scientifically, I found the studies wanting. Proven was that sheep undergoing this treatment were born with a reduced brain size of at least 17%. What had not been studied, but was only assumed, was that humans would experience the same result, that the brain growth was not simply developmentally delayed (for no lambs had been allowed to live beyond birth), and that smaller brain size meant significant mental impairment.

Our earliest contacts at the hospital had urged us (more strongly than I felt appropriate) to consider abortion – an option chosen by two-thirds of all parents with a foetus with this condition, including, we were told, many who were not as severe as ours. We worried that those who were eager for us to try the experimental programme simply needed more hard data for their on-going science experiment. No one at the hospital was allowed to tell us what they thought we should do.

At the conclusion of the last COSAC conference we had made our decision. We agreed to try the experimental programme. The hospital ethics committee had in the meantime approved us for the programme on the basis that the baby was not otherwise expected to live, and if by some chance he did, would likely suffer brain damage from lack of oxygen in any event. Therefore there was really nothing to lose.

If you have never experienced anything like this, there are no words to describe what it is like to go through months of pregnancy and finally many hours of labour in the knowledge that as soon as the baby is born it is more likely to die than to live. Or to choose a name that is more likely to grace a headstone than to take a child through life. Many friends who had lost babies shared with us their experiences but there is nothing like the pain of going through the experience for oneself. And of course, we prayed - a lot. We had several congregational communities, many at the theological college where I worked, families from school, relatives overseas, all praying earnestly for our unborn son. Just before midnight on the 16th of October my wife gave birth to a still unnamed son who was rushed to a resuscitation room within 30 seconds of his birth. It was half an hour before we had a second brief look at him and would be nearly three weeks before we were able to hold him for the first time. The day after his birth we gave him the name Caelim Aldrich. Caelim

is adapted from the old Irish for skinny and sickly, and Aldrich is old English for a strong fighter. They were names that his siblings helped us choose and reflected both our fears and hopes. 36 hours after his birth he had major surgery to put all his internal organs back into place and create a diaphragm so that his lungs would have some space into which to expand. He nearly lost his battle for life in those first weeks but finally turned the corner. By Christmas he was home with us. Today he is 20 months old. He says 'dada' and 'mama, and knows how to work the television remote and irritate his brothers and sister. There is no indication of intellectual impairment, and other than a massive scar and still somewhat sunken left chest cavity; you would not be able to tell there was ever any problem. Our friends, family and pastor all proclaimed it a miracle. But was this a miracle? If not, then what can we call a miracle? This is an ordinary kind of story of the sort that most Christian families and congregations will call to mind when talking about miracles. Theological and scientific reflections, if they are going to be of any practical use, must be able to address this kind of real life experience. But before I suggest whether this and similar cases can rightly be viewed as a miracle, we need to turn to some more formal considerations in the discussion.

What is a Miracle?

Stephen Hawking reflected the views of many within the science community when he wrote: "Science seems to have uncovered a set of laws that, within the limits set by the uncertainty principle, tell us how the universe will develop with time, if we know its state at any one time. These laws may have originally been decreed by God, but it appears that he has since left the universe to evolve according to them and does not now intervene in it."¹ What Hawking is saying is that the physical laws reign supreme in the universe and cannot be interrupted or excepted - even by a God who may have originally created them. This assertion runs headlong against the traditional Christian belief in miracles, for a miracle, in the mind of many, is precisely that; an interruption or exception of the physical laws that govern our universe. Within this view there would appear no place for the miraculous. But what, precisely, is a miracle?

I will fall back on a definition of miracle that goes back to the 13th century and Thomas Aquinas. It is today still the predominant view of what constitutes a miracle. The Thomistic doctrine of miracles specified three conditions that an event/occurrence must meet in order to qualify as a miracle. 1. It must deal with a fact that, in principle, can be verified by the methods of historical investigation (*momentum historicum*). 2. Its occurrence must be inexplicable by natural laws. In other words, it must not only be a highly unlikely or unusual occurrence but also one that is scientifically inexplicable (*momentum scientificum*). 3. Because it is a real event that must have a cause, it can only be seen as having come from God (*momentum theologicum*).

These traditional qualifications of what constitutes a miracle are of continuing value in the dialogue with natural science. The last qualification constitutes a theological judgment that does not come directly into play in the discussion with the natural sciences. It would seem, however, that the first two qualifications; the *momentum historicum* and the *momentum scientificum*, could be agreed upon by scientists and theologians alike. First, a miracle is in principle a historically verifiable occurrence. Miracles, therefore, from the very beginning are seen as taking place within the realm open to scientific investigation. Second, although there is good theological reason today for broadening the category of 'miracle,' in the strictest and more traditional sense, miracles are occurrences that are not explicable within the context of presently known physical laws. It is precisely here, however, that the issue has usually come to an impasse between theology and natural science. Theology has traditionally maintained that such occurrences have not only taken place in the past, but in principle, can happen in the future. Natural science has maintained that the laws of

¹ Stephen Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (New York: Bantam Books, 1988), 122.

physics that govern the physical processes of our universe are invariable and, therefore, miracles are in principle impossible.

David Hume was perhaps the first, in the context of the emerging, modern scientific worldview, to deny the occurrence of miracles. Hume agreed, "a miracle is a violation of the laws of nature," or more precisely, that a miracle is "a transgression of a law of nature by a particular volition of the Deity, or by the interposition of some invisible agent." It is precisely on the basis of this definition, however, that Hume sought to disprove the existence of miracles. He argued that there must be "a uniform experience against every miraculous event, otherwise the event would not merit the appellation. And as a uniform experience amounts to a proof, there is here a direct and full proof, from the nature of the fact, against the existence of any miracle."² For Hume, therefore, a miracle is excluded by its very definition. Modern science, if not individual scientists, has tended to reject miracles on this same basis.

What is at stake here is not simply a dispute over individual 'miraculous' occurrences so much as the question of God's ability to intervene in the created order. God's general providence takes place apart from any interruption or exception of physical laws. God actively directs and sustains the universe, but within the context of the specific physical laws that God established to govern it. The traditional Christian doctrine of divine providence, however, also includes the possibility of a special providence (*providentia extraordinaria*) that posits the freedom of God to intervene in the normal process or order of the physical universe in a way that presupposes God's ability to interrupt or except the physical laws that govern the universe. The continued affirmation of this doctrine has been difficult for modern theology but continues to be important. The question is not so much one of whether the earth actually ceased to rotate in the long day of Joshua, as it is a question of whether the Creator of the universe could, in principle, intervene in such a way.

The question of miracles has more to do with the doctrine of God and his relationship to the physical cosmos than with particular 'supernatural' occurrences. Not only is the doctrine of miracles significant for our understanding of God, but also the Christian religion is built upon two central miracles: the incarnation of God through the virginal conception of Jesus, and the resurrection of Jesus from the dead. Clearly, Christian theology would have great difficulty rejecting the possibility of miracles within the context of God's special providence and remaining Christian theology. But to what extent can such a special providence be maintained in the light of contemporary science?

Miracles and Physical laws

Any discussion of miracles is likely to run sooner or later up against the 'immutable laws of physics', which would seem to disallow such occurrences in principle. It is the apparent immutability of such laws that led Hawking and others to claim that God does not now intervene in the physical world.

The American physicist Richard Feynman has written, "there is ... a rhythm and a pattern between the phenomena of nature which is not apparent to the eye, but only to the eye of analysis; and it is these rhythms and patterns which we call Physical Laws."³ It is this rhythm and pattern that exists between the phenomena of nature that science has generally held to be 'immutable,' that is, unvarying in its regularity. But this in no way implies that science has discovered all the laws of nature or that those we currently accept may not at some point need to be adapted to fit new discoveries. In fact, scientists are constantly seeking new laws of nature and revising their understanding of existing laws. Natural science at its best, and most realistic, operates under the

² David Hume, "Of Miracles," in *David Hume: The Philosophical Works*, vol. 4, ed. T. Green and T. Grose (London, 1882), 93 and n.1.

³ Richard Feynman, *The Character of Physical Law* (Cambridge, Mass: MIT Press, 1965), 13

assumption that many of its "laws" may well be only provisional approximations. Feynman provides an amusing description of this situation when he writes:

We have these approximate symmetries, which work something like this. You have an approximate symmetry, so you calculate a set of consequences supposing it to be perfect. When compared with experiment it does not agree. Of course - the symmetry you are supposed to expect is approximate, so if the agreement is pretty good you say, 'Nice!', while if the agreement is very poor you say, 'Well, this particular thing must be especially sensitive to the failure of the symmetry'. Now you may laugh, but we have to make progress in that way.⁴

Finding 'new' laws, then, is a "process of guessing, computing consequences, and comparing with experiment." The bottom line, however, is that whether we know all of the laws of nature or not, we believe that such laws do exist and are inviolable.

The inviolable nature of physical law is, as we have seen, presupposed by the traditional doctrine of miracles. It may well be, as we shall see later, that this presupposition needs to be reconsidered. But given this traditional understanding of miracles, the so-called immutability of the laws of nature constitutes no proof against miracles. From the perspective of theology, one might say that miracles are the exceptions that not only assume but also 'prove' the rule. Yet the difficulty is not so easily removed. Hume's criticism that miracles, by definition, cannot happen remains a problem.

Recent changes in the understanding of the nature of physical law, however, especially in quantum theory, have been seen as allowing possibilities for a theological affirmation of miracles over against scientific understandings of natural law that did not previously exist.

Given the fact that all the laws of nature have not yet been discovered or are not fully understood, there is a certain difficulty that arises in saying what they do and do not permit with reference to the total compass of reality. The laws that describe individual systems may not be satisfactory when seeking to describe the whole. It is similar to the old trick of the mathematics teacher who, using a combination of perfectly valid equations and formulas, is able to demonstrate that $1+1=1$. All the equations and formulas used are valid within themselves but somehow, taken together, they produce the wrong answer. Ahron Katchalsky, speaking of physical beings and the laws of physical chemistry, points to a similar difficulty: "Our problem is whether the laws governing the behaviour of single particles suffices for the treatment of organized assemblies of particles - even assuming that our knowledge of the laws were complete."⁵

In this light it would seem that Hawking's statement that it appears that God, if indeed a Creator-God exists, has left the universe to evolve according to the laws of nature "and does not now intervene in it," must be seen as an observation and not made into a rule. Yet at the same time, theology should also expect such an observation to generally hold true. After all, what kind of Creator would find it necessary to continually make adjustments and corrections to his 'good' creation. Even if a case of divine intervention (in the sense of a miracle understood in the traditional sense) were verified, the 'laws' of nature could almost certainly be revised to take into account the observation as part of the 'natural' phenomena of the universe.

Perhaps the most radical development, however, in the understanding of the nature of physical law has been that introduced by quantum mechanics, which has replaced the Newtonian understanding of universal law with a quantum-statistical approach. Philosopher Richard Swineburne has noted that natural laws may be either universal in form and state what must happen (classical physics), or statistical in form and state what must probably happen (quantum physics).

⁴ For this and the following see *ibid*, 159.

⁵ Ahron Katchalsky, "Thermodynamics of Flow and Biological Organization," *Zygon* 6:2 (June 1971): 101.

"From the eighteenth to the beginning of the twentieth century most ... [people] believed that all natural laws were universal. Yet since the development of Quantum Theory in this century many scientists have come to hold that the fundamental natural laws are statistical." ⁶ Erwin Schrödinger, for instance, has written that "physical laws rest on atomic statistics and are therefore only approximate." ⁷ In the light of such a view of natural law a miracle, it would seem, would be a violation of statistical probability rather than of some absolute set of laws. The precise theological and philosophical implications of such an understanding of miracles, however, remains to be seen.

Quantum Theory, Singularities, and Miracles

If one takes seriously the divine postulate, and additionally contends that the divine being is Creator of the universe, then the question of miracles (if not their actuality then at least their potentiality) is unavoidable. The nineteenth century physicist George G. Stokes was certainly correct when he wrote: "Admit the existence of a God, of a personal God, and the possibility of miracle follows at once."⁸ A century after Stokes made this observation it might reasonably be asked whether there are aspects of contemporary physics that shed a positive light on the theological affirmation of miracles. Such aspects of contemporary physics would, of course, prove nothing concerning miracles. They may, however, serve to demonstrate that the theological affirmation of miracles cannot be dismissed out of hand. They may also provide useful models for explaining the Christian doctrine of miracles in a way intelligible to modern persons. Two insights from modern physics are here especially relevant: the uncertainty principle of quantum mechanics and the existence of singularities within classical cosmological models.

Hume's argument against miracles (and successive versions of it) is founded upon a Newtonian understanding of physical law that is today no longer accepted as valid. The Newtonian/Laplacian understanding of physical law was an entirely deterministic one. Today, physical law, within the context of quantum mechanics, is understood statistically. The philosopher of science Mary Hesse writes that, "Newtonianism has been replaced in modern physics by ... quantum theory whose laws are not deterministic but statistical. ... It is important to notice that according to quantum theory this is not merely a question of ignorance of laws which may after all be fundamentally deterministic, but of irreducible indeterminism in the events themselves." ⁹

To say, as does Hesse, that the quantum, statistical view has "replaced" the Newtonian view seems a bit premature, considering that quantum and classical physics have not yet been successfully unified. Nevertheless, the existence of the quantum-mechanical, statistical view of natural law, even if its precise relationship to the classical view remains uncertain, is of undoubted metaphysical significance. As long as the statistical view of natural law holds true at some level, the 'universal' understanding of the classical view loses its character as absolute, deterministic, and universally applicable. But does the appearance of the concept of a statistical understanding of physical law change the standing of the idea of miracle in light of the physical sciences? On the one hand, as Hesse points out, "radical as the transformation from Newtonian to quantum physics is, ... it does not have any direct effect on the acceptability of the idea of miracle." ¹⁰ The fact that laws are viewed as statistical does not mean that they cannot be violated and that such violation would not cause the same logical difficulty as within the strictly classical view. "Statistical laws in science are in fact regarded as violated if events occur which are excessively improbable. ... There is no question that most events regarded as scientifically 'miraculous' in religious contexts would, if

⁶ Richard Swineburne, *The Concept of Miracle* (London: Macmillan, 1970), 2f.

⁷ Erwin Schrödinger, *What is Life? The Physical Aspect of the Living Cell* (Cambridge: Cambridge University Press, 1944), 10.

⁸ George G. Stokes, *Natural Theology* (London: Adam and Charles Black, 1891), 24.

⁹ Mary Hesse, "Miracles and the Laws of Nature," in *Miracles: Cambridge Study* (ed. C.F.D. Moule, London: A.R. Mowbray, 1965), 37.

¹⁰ *Ibid.*, 38.

they violate Newtonian laws, also be excessively improbable on well-established quantum laws, and therefore would be regarded as violations of these also." There is also a sense, however, in which the "abandonment of the deterministic world-view in physics has made it more difficult to regard the existing state of science as finally legislative of what is and what is not possible in nature."¹¹

While it is clear that quantum, statistical laws can also be 'violated', it cannot be said with as much precision as in the case of Newtonian laws what would constitute such a violation. Swineburne has written that in the case of quantum, statistical laws, "it is not in all cases so clear what counts as a counter-instance to them."¹² It is this flexibility within the understanding of physical law that has, though not eliminating the difficulty, created a more congenial atmosphere for the concept of miracles. Science, at least to the extent it is influenced by quantum mechanics, is no longer so certain as to what can and what cannot happen.

The closest physics comes to providing a working model, or metaphor for miracles is in the occurrence of singularities. All Friedmann type universes have at some point in their past history (and if closed also in their future) a point (Big Bang or Big Crunch) at which the density and curvature of space-time would have been (or will be) infinite. As Hawking explains: "Because mathematics cannot really handle infinite numbers, this means that the general theory of relativity predicts that there is a point in the universe where the theory itself breaks down. Such a point is an example of what mathematicians call a singularity."¹³ At such singularities our very ability to make predictions breaks down, providing an example within classical physics not just of insufficient information but also of fundamental unpredictability. Not only are 'events'/conditions at singularities not subject to prediction, but singularities themselves, as the name suggests, are unique, non-repeatable states.

There is a sense, then, taken metaphorically, in which miracles can be compared to singularities. In the case of miracles, as with singularities, we encounter unique, non-repeatable events at which our ability to make predictions, based upon the laws of nature, breaks down. From a theological perspective, one might even say that in miracles we encounter the infinity of the transcendent God, which our human understanding of the physical world is not able to handle. Singularities, of course, are not miracles; and neither are miracles singularities in the sense in which the term is used in physics. The two are not to be literally identified in any way. Yet the idea of a singularity, which we find especially in a Big Bang or Big Crunch, demonstrates that even within the normally deterministic worldview of classical physics there are instances at which predictability and known laws simply break down and science can do nothing other than point to the occurrence and confess its inability to explain or go beyond it. Theology does essentially the same thing in the face of miracles. For this reason, if no other, the concept of singularity has metaphorical value for a theological concept of miracle.

Regarding the question of miracles in the light of modern science and the Christian belief in a transcendent and omnipotent God, we are left with a certain tension and uncertainty that call for restraint in our talk of miracles. To claim either too much or too little concerning the potential of divine, miraculous intervention is to be avoided. Arthur Peacocke has summarised the matter well, writing: "Given that ultimately God is the Creator of the world ... we cannot rule out the possibility that God might 'intervene', in the popular sense of that word, to bring about events for which there can never be a naturalistic interpretation. ... But we have ... cogent reasons for questioning whether such direct 'intervention' is normally compatible with and coherent with other well-founded affirmations concerning the nature of God and of God's relation to the world."¹⁴

¹¹ *Ibid.*

¹² Swineburne, *The Concept of Miracle*, 30.

¹³ Hawking, *A Brief History of Time*, 46.

¹⁴ Peacocke, *Theology for a Scientific Age: Being and Becoming – Natural and Divine*, (Oxford: Basil Blackwood, 1990), 183.

Divine Intervention as Scientific/Theological Problem

John Polkinghorne, speaking of the conditions of the early universe that allowed the development of human life, makes specific mention of the idea of inflated domains in which certain parts of the universe have different properties. According to this view we live in a domain in which the precise necessary level of expansion is maintained to produce a universe within the 'anthropic limits' required for the development of life. Polkinghorne suggests that such an anthropic self-selection of the conditions of our 'domain' may have benefits for theism. He explains that, "if the idea of inflated domains is the reason why there is a region where the precise balances resulting from that theory's symmetry breaking lie within anthropic limits, then that could be a gain for the theist, who might be loath to invoke direct divine intervention."¹⁵

But why, we might ask, would theists "be loath to invoke direct divine intervention" in the world? There is a sense in which the invocation of miracles has generally been viewed as a sort of theological 'cheating,' similar to the invocation of a God-of-the-gaps. When all other explanations fail we invoke the miraculous intervention of God. Yet as Arthur Peacocke correctly points out, such intervention is not normally "compatible with and coherent with other well-founded affirmations concerning the nature of God and of God's relation to the world." Contemporary biblical scholars, therefore, often seek every possible way of explaining an apparent 'miraculous' intervention of God recorded in Scripture as taking place within the laws of nature.¹⁶ Whereas past generations of exegetes often did not hesitate to identify an act of intervention as a 'miracle' contemporary scholars admit the possibility, and then usually only provisionally, when all other explanations fail. Physicist and Anglican priest William Pollard typifies this tendency when he comments that the majority of 'miracles' recorded in Scripture "are the result of an extraordinary and extremely improbable combination of chance and accidents. They do not, on close analysis, involve, ... a violation of the laws of nature."¹⁷

For theology, it is important to distinguish between God's ability to intervene in the affairs of the world through a miraculous interruption of natural law, and God's propensity to actually carry out such acts of special providence. From the perspective of the natural sciences it is difficult to engage in dialogue with theology if theology is constantly changing the rules by invoking miraculous intervention. It is like playing tag with someone who retains the right to change the 'safety' zones at their convenience. Thus, partly for apologetic reasons, miracles have become something of a theological problem that contemporary theologians are "loath to invoke." There are also theological grounds for this reluctance. As Polkinghorne suggests, a God who is constantly tinkering with his creation through special, miraculous intervention begins to look uncomfortably like a God-of-the-gaps.

Yet when all is said and done, the ability of God to intervene in the universe remains a fundamental confession of the Christian doctrine of God. At issue is not so much the immanence of God - that can be maintained apart from the ability to interrupt the laws of nature - but the transcendence of God. A God who cannot in principle intervene 'miraculously' in the universe can hardly be credibly maintained to be its 'wholly other' Creator. The transcendence of God, however, is perhaps ultimately more of a stumbling block than the possibility of miracles. A God who transcends the physical universe also transcends the ability of modern science to prove or disprove

¹⁵ John Polkinghorne, *Science and Creation*, 1988, p.35.

¹⁶ An example of this would be Brevard Childs' comment on the exodus in which he points out that "the direct intervention of God is pictured in terms of 'natural' causes such as the blowing of the east wind, the impeding of chariot wheels, and the panicking of the Egyptian army." *The Book of Exodus: A Critical, Theological Commentary* (Philadelphia: Westminster, 1974), 228.

¹⁷ William Pollard, *Chance and Providence: God's Action in a World Governed by Scientific Law* (New York: Charles Scribner's Sons, 1958), 83. Pollard, however, considers the original creation, the incarnation, and the resurrection to be true miracles.

his existence. In an age when scientific research stands on the very threshold of understanding the mysteries of the universe, a God who is beyond its grasp remains a hard pill to swallow.

Mary Hesse is correct in her contention that miracles, or divine interventions in general, do not seem to be the main problem, but rather, the doctrine of God's transcendence. She writes: "Difficult to understand from the scientific point of view is theological talk about the special acts of a transcendent God. The offence of particularity is still with us, whether these special acts violate or conform to the laws of nature. The fundamental problem is not about miracle, but about transcendence."¹⁸

Rethinking Miracles

Now, I could easily end on this note – and a few years ago I probably would have. But I still feel unsettled about some things. And I have not yet come back to the question of whether it is legitimate, in cases like that of my youngest child, to talk of God's miraculous intervention.

A first point that needs to be made is that divine intervention in the world or in our lives does not need to violate the laws of nature. It is entirely possible for a 'special' act of providence that intervenes in human or natural history to take place without violating any laws of nature. Arthur Peacocke is correct to contend that particular events or clusters of events "can be intentionally and specifically brought about by the interaction of God with the world in a top-down causative way that does not abrogate the scientifically observed relationships operating at the level of events in question."¹⁹ Such a possibility, according to Peacocke, is of value in that it "renders the concept of God's special providential action intelligible and believable within the context of the perspective of the sciences."²⁰ Peacocke, of course, is quite right.

I wonder whether we have not been too hasty in accepting for so many centuries such a narrow definition of miracle. Certainly there is a category of miracle that includes the suspension or interruption of the regular laws of nature, as we know them. But if, as we have suggested, our concept of natural law has been too narrow in the past, then perhaps we need to look at the theological side of the equation as well. We have become so focused on the historical and, even more, on the scientific moment of Thomas' definition that the theological moment has become a mere addendum, even in discussions among Christians. What would happen, I wonder, to our understanding of miracle, if only the first and third of Thomas' moments were essential from a theological perspective in order to speak legitimately of miracle. In other words, we must be agreed that something actually has occurred, and that, upon careful reflection, it is appropriate to understand what has occurred in light of God's special care and love for us in the sense that ordinarily, we would not have expected it to occur.

The *momentum historicum* is, in my view, indispensable. I can think of far too many cases in Christian circles where a miracle is proclaimed as having taken place and it later turns out that nothing, indeed, actually happened beyond wishful thinking. In Adelaide a few years back a prominent Christian was proclaimed healed of cancer and a full-page newspaper article was devoted to the story. Six months later the same newspaper carried her obituary. It turned out there was never any medical verification that the cancer was gone – it was only a strong feeling after intense prayer accompanied by a sharp reduction in the pain and other symptoms of this particular cancer. We should be very careful before speaking about a miracle that something has actually occurred.

At the next stage, there may or may not, I believe, be a *momentum scientificum*. There are many things that occur for which I can find no scientifically satisfactory explanation. But two things need to be said here. A *momentum scientificum* does not automatically make something a miracle. And, I would contend, neither does its absence disqualify an event as a miracle. As the

¹⁸ Mary Hesse, "Miracles and the Laws of Nature," 41f.

¹⁹ Peacocke, *Theology for a Scientific Age*, 182.

²⁰ *Ibid.*

physicist Carl Friedrich von Weizsäcker reminded us many decades ago, “A miracle was not originally defined as an event which transcends the laws of nature; for the very concept of laws of nature is a modern one. A miracle is a manifestation of superhuman [or divine] power.”²¹

It is also worth noting that the insistence upon a *momentum scientificum* makes all miracles ‘provisional.’ We may understand them as provisional only as long as we do not have a credible scientific explanation for what occurred. But we can never rule out the possibility that such an explanation may one day be forthcoming. Such a view also puts God in a bit of a box. If God is going to intervene then it has to be contrary to the way God appears to have set up the physical world to run or it doesn’t count. The folly of this view is illustrated in the joke about the man caught in rising floodwaters.

There was once a man (and as the story proceeds you will see that it really could not have been a woman) who was trapped in rising floodwaters. He decided to pray to God and ask for deliverance. He felt a peace and assurance that God had heard his prayers and would answer them. Shortly thereafter a 4-wheel drive came sloshing through the rising floodwaters and offered the man a lift out. “No thanks,” answered the man, “I’m waiting for God to deliver me. I’m putting my faith in him alone.” The 4-wheel drive continued on its way and the floodwaters rose further, forcing the man onto the roof of his house. Soon a powerboat sped up to the man, now stranded on his roof, and offered him a ride out of the flood. “No thanks,” he responded, “I’m trusting God to rescue me.” Soon the man was forced to move to the chimney and was up to his waist in water. He never wavered in his belief that God would rescue him. Soon a rescue helicopter came by and lowered a rope. But the man refused to take hold of it, yelling up instead to the helicopter, “I’ll be fine, I’m waiting on God to rescue me.” Finally the helicopter flew off. The floodwaters continued to rise and the man drowned. As he arrived in heaven the man confronted God. “I trusted you to rescue me,” said the man, “but you let me drown.” But God only chided him. “I sent you a 4-wheel drive, a power boat, and a helicopter,” said God, “just what more did you expect?”

God, of course, in the story, was intervening in all sorts of ways. The man would not accept them as God’s intervention because each was also entirely explicable on the basis of his experience of the world and the way things happen.

In the traditional and strict understanding of miracle, my son’s survival was not a miracle. I can explain exactly how a combination of steroid treatments, major surgery, and first-class intensive paediatric care made the difference between life and death. But at the same time, hundreds of people prayed that God would intervene in his struggle for life. The routine ultrasound, we were told, should not have picked up a problem when it did. Ordinarily, we would have only known something was wrong at birth, in the regional centre of Mt. Barker. By then it would have been too late. Also, if we had been living in any other city in the world than Adelaide, the experimental treatment that likely made all the difference would not have been available to us. And we also have a child who shows no signs of intellectual impairment. Quite the opposite. The outcome we had is an answer to many prayers. We thank God for this, but also humbly recognise that many parents in similar situations have prayed just as earnestly and have suffered tragic loss. I cannot attempt to explain why God acted in this way in this particular instance. But I can say that I have no difficulty speaking about this and similar events as miraculous in the wider, theological sense. If we are unable to do this then I wonder if the concept of miracle will be able to retain any real meaning among modern Christians, who have at our disposal so many avenues of possible scientific

²¹ Carl Friedrich von Weizsäcker, *The Relevance of Science: Creation and Cosmogony*, Gifford Lectures 1959-60 (London: Collins, 1964), 14f.

explanations. I also wonder what would be the implications for our understanding of God, who by default could never be legitimately thanked and praised for an unexpected outcome unless we were certain that God must have broken his own rules to do so.

Some will rightly remind us that if too many events qualify as miraculous, the concept is in danger of losing its meaning. Perhaps. But I would also contend that if almost nothing is allowed to be viewed as a miracle, the concept is in no less danger of obsolescence. I would contend that, especially in our modern world where explanations are often so readily available, that once we have satisfied ourselves that something special and extraordinary has indeed occurred, contrary to ordinary expectations, and that we are able to interpret this in light of God's loving action toward us, that whether a scientific explanation appears likely or not, we do not shrink from speaking of a miracle. Otherwise we may as well abandon the term as belonging exclusively to study of the Gospels, because we are likely to find too few occasions for its legitimate and undisputed use in our contemporary situation.

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