

MIRACLES AND THE 'LAWS OF NATURE'

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It is often assumed as a starting point for debate that miracles are a setting aside of the laws of nature. I too start at this point. But I will endeavour to argue that this is an erroneous starting point. The definition of a miracle as a violation of a law of nature is of the essence of the Humean view. Hume asserted that:

A miracle is a violation of the laws of nature; and as a firm and unalterable experience has established these laws, the proof against a miracle . . . is as entire as any argument from experience can possible be imagined.¹

This definition, while plausible and popular, needs to be rejected. Hume was assuming laws of nature as a body of positivistic knowledge based on experience – a view stemming from a Newtonian determinism. Quite why theology has allowed Hume to dictate so much of the discussion ever since I am not quite sure.

Certainly there have been objections to this view. Indeed there has been a long running tension at this point. Augustine, for instance, objected to the idea of law being violated or set aside, for if the physical laws of the universe are but expressions of the will of God, then they can hardly be set aside, much less violated.²

Yet this standard view is deeply ingrained – even with orthodox theologians. Charles Hodge defined a miracle as 'an event, in the external world, brought about by the immediate efficiency, or simple volition of God.'³ He divided events into three classes: (a) those due to the ordinary operations of secondary causes; (b) events due to the influence of the Holy Spirit, such as regeneration; and (c) events which belong to neither of the above. Then, noting the objection of Augustine, he goes on to argue that:

The form in which the objection is presented by those who make nature the will of God, is answered by saying that nature is not the will of God in any other sense than that He ordained the sequence of natural events, and established the laws of physical

1. David Hume, *Hume on Religion*, London, 1971, p. 210.
2. Cf. Augustine, *The City of God*, section 21:8.
3. Charles Hodge, *Systematic Theology*, Vol. 1, Edinburgh, 1960, p. 618.

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causes by which that regular sequence is secured. This relation between God and the world, assumes that nature and *its laws* are subject to Him, and therefore liable at any time to be suspended or counteracted at his good pleasure.⁴

The premise here seems to view God in a Cartesian manner, indeed in terms of the Deistic clockmaker. Thus, while accepting that the absolute immutability of natural law is a gratuitous assumption, Hodge goes on to point out that God is not subject to the laws of the universe, but is absolutely independent in all his works. It follows that God can set aside the laws of nature. The problem is that Hodge is locating law 'in nature', rather than 'in God' and thus grants an effective autonomy to nature.

The Westminster Confession of Faith also seems caught in this when it states that: 'God in his ordinary providence maketh use of means, yet is free to work without, above, and against them, at his pleasure.'⁵

The whole issue of the relation of miracles to science seems to focus in two common pronouncements about this relationship: (a) In miracle God works against or contrary to the laws of nature. This may even be formulated as God works against or contrary to his laws in nature. (b) In miracle God works in conjunction with his laws in nature.

I shall seek to establish that this view is suspect. The problem being located, not so much within our concept of biblical material itself, but in our understanding of the status of what are called 'laws of nature'. The two statements I have just made confer autonomy to 'nature'. And autonomy that must be questioned. In recent literature many warning notes are sounded, but again and again ground is surrendered by failing to break the stranglehold that the concept of 'nature' seems to exert. Let me give one example from the field of popular evangelical writing:

Yet, all around us Nature is ever-mindful for the needs of even the most seemingly insignificant creature. (Day and night, summer and winter, Nature is guarding and sustaining every living species).

When we reflect on the intimate care that Nature gives these myriad creatures, we ought to give some thought to us humans and the way God, our Creator, provides for us.⁶

Let me make four statements by way of introduction.

4. *Ibid.*, p. 620, emphasis mine.

5. *Westminster Confession of Faith*, V.3.

6. R. Keith Fraser, *The Heavens are Telling*, Aberdeen, 1976, p. 29.

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(a) *Science exists within a framework of law.* Science is dependent on the concept of law, of underlying patterns and order in the universe which the scientist seeks to uncover. Indeed without this initial assumption of uniformity science becomes impossible. As an assumption it is, however, in need of examination. The assumption of order is basically an article of faith. A. N. Whitehead noted:

Science is founded on the notion of Law – Laws of Nature . . . the restless modern search for increased accuracy of observation and for increased detailed explanation is based upon unquestioning faith in the reign of law. Apart from such faith, the enterprise of science is foolish, hopeless.⁷

(b) *The idea of law in science is a biblical concept.* Science as we know it arose within the context of a Christian world-view that stressed the reality of the Creator who had formed the universe within the framework of law. Thus one contemporary philosopher of science, writing of the Reformation, says:

The intellectual power of man was being rediscovered, but in a new context – that of Christianity. This religion involved a belief in a governing *Lord*, leading directly to a belief that there were governing *laws*.⁸

(c) *The idea of 'laws of nature' is a confusing concept.* Today the phrase – 'laws of nature' – is often used with strong honorific intent but little precision. It is not a technical term peculiar to a particular science, but a generic term present from the start. Is it descriptive – explanatory – or causative?

(d) *Some miracles 'appear' to impinge on the ordinary patterns of creation, or laws of nature.*

Historical Review of the Concept of 'Laws of Nature'

Of necessity this will be rather sketchy, but it is important I think in orientating ourselves within our topic.

1. *Two Basic Sources.* It has been suggested that there are two basic sources for our idea of 'laws of nature'. The first is from an analogy based on the practise of civil government by statute law introduced by the absolute monarchs of the 16th and 17th centuries. The second is from the Jewish-Christian conception of a law-giving God.

7. A. N. Whitehead, *Adventure of Ideas*, Cambridge, 1947, p. 51, 173.

8. J. T. Davies, *The Scientific Approach*, London, 1975, p. 31.

2. *The Reformation Influence.* The Middle Ages, as far as I can determine, saw no real emphasis on the term and the concept really comes to the fore from the 16th century onwards. Remember we are thinking about 'laws of nature' and not 'natural law' referring to realms of justice and morality. It can be argued that the term is an inheritance to science from the Reformation period. One science historian, Steven Mason, after having reviewed Zilsel's attribution of the origin of law to sources in civil law and the thought of Bodin, goes on to suggest that:

Perhaps it was not also a matter of chance that some forty years before Bodin another Frenchman, John Calvin, in the field of theology, was working towards the conception of God as the Absolute Ruler of the universe, governing by laws decided at the beginning.⁹

Certainly it is hard to deny that through the 17th century creation's laws were seen as testimonies to the wisdom and providence of God by theologian and scientist alike.

3. *The Absolutization of Law.* Descartes was crucial in the development of the concept of law, effectively marking a clear break from the Reformation idea of the term. The Reformation world-view envisaged no autonomous law, but Descartes identified the so-called 'laws of nature' with the principles of mechanics. Hence in the Cartesian dualism which was to be so influential, events were seen as determined by the mechanical law of the universe and not by divine action.

There was some, though little, resistance to this emancipation of the concept from its religious origins in the providence of God. More conservative thinkers such as Robert Boyle became increasingly unhappy with the concept of 'laws of nature', seeing the term as 'an improper and figurative expression.'¹⁰ However, by the time of Newton the concept was in general, if not widespread, use in a manner that would gather strength as an autonomous principle of law.

This led into the autonomous principle of law in the Deists. They, along with the men of the Enlightenment, were the twin forces which enthroned the autonomy of reason above God and revealed religion. Interestingly it is with the Enlightenment that the phrase 'laws of nature' seems to become extensive in literature as something determinate and objective – nature being compelled to follow the laws that govern it. Berkouwer notes that:

9. S. Mason, *A History of the Sciences*, London and New York, 1973, p. 173-4.

10. R. Boyle, quoted in Mason, *op. cit.*, p. 172.

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In the 19th century, nature became via positivism and materialism, just 'nature' as such; the closed world of mechanical casuality. Nature was isolated from God.¹¹

Contemporary Review of the Status of 'Laws of Nature'

The root of our contemporary problem would appear to be that our thought forms are still constrained by the old mechanistic concepts of the universe derived from Descartes and Newton, and mediated to us via the Enlightenment – however much we protest otherwise. There is much talk about having left mechanistic concepts behind – but the prevalence of the unconscious acceptance of a determinate nature that operates in some independent manner betrays the grip the old framework still has. The old dualism still holds sway as Professor Torrance spells out very sharply in *Transformation and Convergence in the Frame of Knowledge*. Torrance notes the problem of miracle where much of the discussion still operates in a dualistic framework between so-called 'laws of nature' and 'acts of Divinity'.

Torrance's critique is a welcome voice in the current situation. He calls to his cause philosophers of science such as Polanyi, Kuhn and Popper – noting how they have radically dismantled the old framework, and opened the door to a converging appreciation of the traditional sides of dualistic thinking. In science there are the sides of theory and empirical data; while in theology there is the dualism of God and nature. But the old dualism has given way in an epistemological revolution where the empirical and theoretical are interwoven. Using the dualism of historical and biblical Jesus, of natural and supernatural, as a backcloth Torrance asserts:

It can hardly be insisted strongly enough, however, that, at least so far as pure sciences are concerned, this whole way of thinking has collapsed, for the dualist principles of knowledge upon which it rested have had to give way in a profound epistemological revolution to another and more concrete way of thinking in which empirical and theoretical components are found to be inextricably interwoven from the very bottom.¹²

No longer is there a hard dichotomy between science and theology for both are now seen to rest ultimately on faith. Much of the confusion in modern theology is that it does not seem to appreciate the nature of science and scientific activity regarding the status of laws of nature – from within the secular realm.

11. G. C. Berkouwer, *General Revelation*, Grand Rapids, 1971, p. 133.

12. T. F. Torrance, *Transformation and Convergence in the Frame of Knowledge*, Belfast, 1984, p. 247.

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It is popularly said that scientists discover 'laws of nature'; that orderliness implies some rule of law, and that the scientist uncovers the complexities of phenomenon, thus exposing the underlying regularities to reveal natural laws. It is obvious right away that this viewpoint rests on an out-dated essentialist view of science – for if laws were truly discovered in this fashion they would endure for all time. But the history of science indicates that it would appear to be the fate of scientific laws to be amended or refuted.

As the 20th century has progressed and world-views become steadily distanced from Christianity, a certain ambiguity has arisen. The whole idea of law is not conducive to much modern philosophy; further it has come under attack from those who see science based, at a fundamental level, on disorder, chance, randomness. Many are therefore unhappy about the use of the term 'law' in reference to the world of science. Rom Harre actually complains: "The term "law" is a survival in this use of a certain theory about nature, in which there was a law-giver . . . I do not hold this theory."¹³ This statement is revealing. It confirms the roots of the law-idea in the Christian world-view and the reality of God. But further it creates a dilemma for Harre. Although he does not want the term, and refuses to accept the world-view from which it comes, he is nevertheless forced to use the phrase 'law of nature' albeit 'as little as possible.'¹⁴ I in fact wish to go a step further, for different reasons, and refrain from any use of the term 'law of nature'! But take law away from science and there is no scientific enterprise.

Karl Popper claims that laws of nature are laws in that the more they prohibit the more they say (*cf.* civil law); and that the search for law is equivalent to a search for casual explanations which can never be ultimately accomplished.¹⁵ Despite this, in opposition to Heisenberg, he states that laws are precise even if we cannot reach them; and we can never know if we have finally reached a law because it is always of the nature of a hypothesis. For Popper a law of nature is really more consistent with a 'law of science'.

In contrast to Popper, Stephen Toulmin asserts that as far as laws of nature are concerned the words 'true' and 'probable' have no application. Here hypotheses yield laws in terms of fruitfulness. A law of nature is neither true nor false, but a statement about a range of application.¹⁶

The basic perception of science is therefore crucial – and it is naive to assume, as theologians often seem to do, that there is one single

13. R. Harre, *An Introduction to the Logic of the Sciences*, London and New York, 1967, p. 107.

14. *Ibid.*, p. 107.

15. *Cf.* K. Popper, *Logic of Scientific Discovery*, Hutchinson, 1972, p. 41, 61.

16. *Cf.* S. Toulmin, *Philosophy of Science*, London, 1967, p. 70.

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framework which can be labelled the modern view of science. In reality there are many perceptions. Toulmin is working out of an instrumentalist concept of science; whereas Popper is prepared to see that laws must be either true or false even if we can never be sure. It would seem reasonable to me to concur with Davies, a disciple of Popper, that laws are simple well tested general theories about our universe that can be disproved.¹⁷ But now we are talking about scientific formulations which can be amended and refuted. We are no longer talking about some intrinsic law of nature *per se*.

In yet another view Holton writes:

Although laws of nature are usually called inexorable and inescapable, probably because the word erroneously suggests analogies with divine and judicial law, they actually are humanly formulated generalisations that are neither eternally true nor unchangeable.¹⁸

Here 'laws of nature' have in effect been defined as 'laws of science'. We are not talking about some objective reality which has been discovered, but rather about alterable equations that man has drawn up.

It seems to me that we are needing to make a clear and careful distinction between certain different concepts. Just as we have to be careful to distinguish between Scripture and our interpretation of it – so also with the created order. We need to distinguish between (1) an autonomous concept of laws of nature which would locate independence within that which is relative, namely creation; (2) the laws of science as they may be formulated at any given period; and (3) the laws of God over his creation. Three distinct concepts – laws of nature; laws of science; laws of God.

That, in brief, is how some see laws of nature – as the unknown objective after which the scientist strives; as mere ordering tools to make predictions; as in effect laws of science. But let me turn to some discussion of this within Christian literature.

Christian Viewpoints

Let me first give some examples of the basic problem which I see as a conscious or unconscious acceptance of the autonomy of law and the attendant independence of something called 'nature'. Secular writers are untroubled with the autonomy of nature; while Christian writers find themselves poured into a tension between such autonomy and the sovereignty of God.

17. Cf. Davies, *op. cit.*, p. 8.

18. G. Holton & D. Roller, *Foundations of Modern Physical Science*, London, 1958, p. 259.

1. *Charles Hodge*. Hodge is hardly contemporary on scientific issues. Yet in my doctoral thesis I drew heavily on him for a doctrine of creation as I could find no better source. The debate over the 'reign of law' was prominent in the evolutionary debate of the 19th century, and Hodge wrote extensively on this in his *Systematic Theology*. It should be noted that Hodge deals with this topic in terms of the providence or government of God and not with respect to creation alone. Nevertheless he seems occasionally caught in the autonomous principle of the Enlightenment and drawn into ambiguous statements. He asserts that there is in Scripture the recognition of an external world, a material universe, and that in this universe matter is active.¹⁹ This, however, leads him on to what seems an autonomous statement of the principles of law when he writes: 'These physical forces act of necessity, blindly and uniformly. They are everywhere and always the same.'²⁰

He maintains that the 'reign of law' gives laws which are immutable, uniform in operation, and which cannot be disregarded.²¹ He is thus caught in a curious tension between the concept of autonomous law prevalent in his day, and the sovereign providence of God. The tension is well displayed in the following lengthy quotation:

The phrase 'Laws of Nature' is . . . generally used in one or the other of two senses. It either means an observed regular sequence of events, without any reference to the cause by which that regularity of sequence is determined; or it means a uniformly acting force in nature. In this last sense we speak of the laws of gravitation, light, heat, electricity, etc. . . .

The chief question is, In what relation does God stand to these laws? The answer to that question, as drawn from the Bible, is First, that He is their author. He endowed matter with these forces, and ordained, that they should be uniform. Secondly, He is independent of them. *He can change, annihilate, or suspend them at pleasure.* He can operate with them or without them. The Reign of Law must not be made to extend over Him who made the laws. Thirdly, As the stability of the Universe, and the welfare, and even the existence of organised creatures, depend on the uniformity of the laws of nature, God never does disregard them *except* for the accomplishment of some high purpose. He, in the ordinary operations of his Providence, operates with and through the laws which He has ordained. He governs the material, as well as the moral world by law.²²

19. Hodge, *op. cit.*, p. 606.

20. *Ibid.*, p. 606.

21. *Ibid.*, p. 609.

22. *Ibid.*, p. 607, my emphasis.

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The tension is, I believe, clear. Hodge grants too much autonomy to law. It thus becomes a third realm. There is God, nature – and in between law! There is an autonomous realm of law which God can set aside or violate to achieve his high purpose. But surely the law is the law of God? Therefore to annihilate his own law is to work against himself. Perhaps to redress the balance and sharpen the tension note the following from Hodge:

It is manifestly inconsistent with the idea of an infinite God, that any part of his works would be absent from Him, out of His view, or *independent* of His control. Though everywhere thus efficiently present, his efficiency does not supercede that of his creatures. It is by a natural law, or physical force, that vapour rises from the surface of the ocean, is formed into clouds, and condenses and falls in showers upon the earth, yet God so controls the operation of the laws producing these effects, that He sends rain when and where He pleases.²³

2. *Henry Stob*. Stob writes an article on 'Miracles' in *Basic Christian Doctrines* – a work edited by Carl Henry. Now while this article has much to commend it – it seeks to distance itself from the extreme dualism of the Deistic position – it nevertheless does not break out of the tension between a sovereign God and an apparently autonomous realm of nature. In an otherwise excellent article we find: 'On the existence of *nature* the scientist quite understandably insists. A wise scientist will acknowledge God, and if he is also a Christian, he will acknowledge miracle, but he will not, therefore, part with nature.'²⁴

Now I have a problem here. I do want to part with nature. I do not know what nature is. It seems to me to be a metaphysical concept that has usurped the concept of creation. I would venture to suggest that everywhere we come across the word 'nature' we can replace it with either 'creation' or 'God'!²⁵

3. *Iain Paul*. Let me now turn to a recent work: *Science and Theology in Einstein's Perspective* – volume 3 in the series 'Theology and Science at the Frontiers of Knowledge'. The general editor for the series is Professor T. F. Torrance. Dr Paul has doctorates in both science and theology and has studied under Professor Torrance.

In this work Paul seems to present an absolute concept of laws of nature. Again and again he writes of: 'the invariant determinate laws

23. *Ibid.*, p. 608, my emphasis.

24. H. Stobb, in *Basic Christian Doctrines*, C. Henry (ed.), Grand Rapids, 1979, p. 85.

25. The OT has no word for nature *per se*. In the NT there are a few instances of the word 'nature' but they are mostly in reference to the moral order in man.

of nature.²⁶ This phrase 'the invariant determinate laws of nature' is oft repeated and would seem to form for Paul an absolute datum for all scientific thinking. This leads to a tension between the realm of 'nature' with its own 'invariant and determinate laws' and the realm of 'grace' where God is free to act however it pleases him. Thus we are forced into seeing the world two ways – as scientist and as Christian. Faith sees the world one way; science another. I would question this sharp division and ask why it is not possible to bring together Christian and scientist in a symbiotic unity. The radical separation which Paul develops is all the stranger in the light of his own insistence on the foundation of faith for scientific activity itself. Yet he keeps insisting: 'The objective laws of nature are determinate.'²⁷

In chapter seven Paul talks of 'Universal Authority' and here I believe his dualistic tension is clear:

The Word incarnate is the Alpha and the Omega of the creation, but the universe has the first and last word in scientific research. It has unique authority, but that authority is inseparable from the universe itself. Nor is the authority of God separable from God himself. Indeed, the universe exposes for science the falsity of all abstract notions of authority. Such abstractions are as fundamentally opposed to the structure and harmony of the universe as they are to the nature and revelation of God. By setting themselves above either the rule of natural law or the reign of divine love, these pseudo-authorities deny themselves any basis in reality.²⁸

Here we have two authorities – God and the universe. Let me continue this quotation:

The authority of the universe resides in the power of natural law. The unity of the natural order exists amidst a variety of scientific theories. The interplay of non-external theories and invariant laws of nature enables scientists to discover and to move beyond the inadequacies of current achievements. These laws are contemporaneous with every scientific age. They represent the order that exists in the external world, and their rationality is the source of all that is meaningful to scientists. In them, the authority of the universe becomes visible and active as enriching and enlightening power. By them, the universe sets the limit of all that is possible, including chaotic abstractions.²⁹

26. I. Paul, *Science and Theology in Einstein's Perspective*, Edinburgh, 1986, p. 38, 39, etc.

27. *Ibid.*, p. 54.

28. *Ibid.*, pp 64-65.

29. *Ibid.*, p. 65.

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Now this seems to me to absolutize the universe, nature, in an unacceptable manner. Further on Paul talks of how the universe guides scientists in an intuitive manner and notes: 'this guidance cannot possibly be an accident since it conforms to the laws of nature that exhibit invariance.'³⁰ Over the page from this last quotation we find the following: 'the book of nature written by the universe with binding authority on scientists.' The very language used is exclusive of God. Surely the 'book of nature' comes from the hand of God, not from 'the universe'?

4. *C. S. Lewis*. Over the years I have become increasingly unhappy with Lewis' book *Miracles*. He begins chapter two with these words: 'I use the word miracle to mean an interference with Nature by supernatural power.' He admits that theologians might not agree with this, but posits it as a popular understanding of miracle. But in a book that deals with the crucial area of presuppositions, Lewis has already conceded to the Humean position – that a miracle is somehow a violation of the laws of nature!³¹

5. *Robert Boyle*. Let me now turn to a writer I find helpful, Robert Boyle – regarded by many as the father of modern chemistry, and ardent Puritan. I find it intriguing I have to go back to Boyle to find the note I seek. But it is in Boyle I believe that we see the redressing of the balance of the dualistic tension we have been noting.

Boyle perceptively saw the great danger of the phrase 'laws of nature'. Useful though this term might be, he perceived that it opened the door to the autonomy of nature. The argument of Boyle was that the natural world was God's creation. The idea of nature was a mere notion. He took as an absolutely basic presupposition that apart from creation, nature was nothing. He writes: 'And indeed the world is the great book, not so much of nature, as the God of nature.'³² And again: 'I call the creatures I admire in the visible world, the works of God, (not of nature) and admire rather him than her, for the wisdom and goodness displayed in them.'³³

The realm of law belongs to God – not nature. Thus he writes: 'the ascribing to nature, and some other being, (whether real or imaginary) things, that belong but to God, have been some, (if not the chief) of the grand causes of the polytheism and idolatry of the gentiles.'³⁴

30. *Ibid.*, p. 67.

31. C. S. Lewis, *Miracles*, London, 1960, p. 9.

32. R. Boyle, quoted in Klaaren, *Religious Origins of Modern Science*, Grand Rapids, 1977, p. 114.

33. *Ibid.*, p. 150.

34. *Ibid.*, p. 151.

Has not Boyle put his finger on the critical factor? Is not nature in reality become an idol – personified, given power over man, seen as autonomous, and ultimately worshipped? Nature is given by man in our day the attributes of deity – just listen to any 'good' natural history programme, or Walt Disney production!

This brief overview indicates some of the problems in the concept of 'laws of nature'. The basic problem is that of the pretended autonomy of law, and perhaps it would be better from a biblical point of view if the phrase 'law of nature' was abolished. We can legitimately talk of the 'law of God' or indeed of 'the apparent laws of scientific research', even of the 'laws of science'. But to talk of 'laws of nature' is implicitly to grant autonomy, if not deity, to a metaphysical concept called 'nature'. The idea of 'laws of nature' contains an inbuilt assumption of a property 'of' nature; an autonomous 'nature' existing in and of itself – instead of existentially dependent upon God.

Preliminary Conclusions

At the heart of my preliminary conclusions lies the assertion that there are no such things as laws 'of' nature. Laws of God – yes! Laws of creation – yes! Scientific laws that approximate in some way to the laws of creation – yes! But not laws of an independent something entitled 'nature'.

It is evident that there is uncertainty and confusion surrounding the term 'law of nature'. Indeed Toulmin, in noting this, concedes that most text-books used to start by trying to define the concept, cleared their throat, forgot about their attempt, and got on with it by simply assuming that laws were there to be uncovered. Modern text-books often do not even make this attempt! Let me give a modern dictionary definition of 'nature': 'a creative, controlling agent, force, or principle, or set of such forces or principles, operating or operative in a thing and determining wholly or chiefly its construction, development, well-being, or the like.'³⁵ Another dictionary definition is: 'Creative and regulative physical power conceived of as immediate cause of phenomena of the material world.'³⁶

Surely this grants autonomy to nature. Indeed nature and God would seem interchangeable terms in many cases. But God alone is responsible for natural phenomena. There is no law inherent in something called 'nature' for law is over 'nature'/creation. Natural phenomena, like man himself, are subject to God.

There is no dichotomy in the Christian perspective between nature and grace. Such dualistic thought is prevalent in our modern world for the two realm *a priori* of humanism drives a wedge between fact

35. Second Edition, *Merriam-Webster Unabridged Dictionary*.

36. *Chambers Dictionary*.

and value, theory and practice, mental and physical, freedom and authority, faith and science, church and world. A modern philosopher writes that: 'the cause of this dualism lies in the exiling from our concrete and daily activities, of faith in God as Creator of heaven and earth.'³⁷

But are the 'laws of science' then something imposed on creation by man, or simple definitions, or descriptions? Depending on the particular philosophy embraced scientists make their choice. Simple discovery is mitigated by there being no uninterpreted facts; simple definitions are inadequate in the face of the history and practice of science; while impositions on nature by man tend to idealism.

My tentative suggestion is that the laws of science, not nature, are impositions mixed with discovery; or man-made representations of the normal patterns of God's rule. The laws that science formulates should be true to the reality of the external world as far as possible; they should tend to form one non-contradictory web of truth. But our equations come inevitably short of reality. They come from our definitions and biases and not from external reality alone.³⁸ In the final analysis the basic laws are those which describe that which determines the structure and behaviour of different aspects of being. Yet we must ever remember that creation is never absolute and independent, but relative and dependent!

Let me draw a seed thought from Herman Dooyeweerd. Law originates from the sovereign God and constitutes the boundary between God and his creation, a boundary between the origin of creation (God) and the meaning of everything created as subject, in subjection to law.³⁹ Final meaning and comprehension is found only in Christ; in him the heart confesses God as Creator and bows under the law as the boundary between Creator and creature. We must take far more seriously Christ's claim: 'I am the truth.'

But care is needed here for the idea of God being enclosed by a boundary has been attacked with certain validity.⁴⁰ However Dooyeweerd is at pains to draw out the point that his boundary is merely a mark of the essential distinction between God and man; as Lawgiver and subject, in their relation to the Law. God is never subjected to, or limited by law; while man is always under it.

It follows that law is not 'of' temporal reality, but rather is a law 'for' it prescribed by God. The law is not a boundary for God, but for the creation. This idea of boundary does not, of course, mean that we

37. J. Dengerink, *The Universal Reality of God's Kingdom*, International Reformed Bulletin No. 69, p. 12.

38. Cf. N. Feather, *Matter and Motion*, Harmondsworth, 1970, p. 14.

39. H. Dooyeweerd, *A New Critique of Theoretical Thought*, Phillipsburg, 1969, Vol. 1, p. 108.

40. Cf. J. Frame, *The Amsterdam Philosophy, A Preliminary Critique*, Harmony Press, pp. 27-32.

have a third area between God and creation, for the law is ultimately co-terminal with the character and being of God.⁴¹ In the religious fullness of meaning there is but one Law of God; but under the boundary this law separates into a rich diversity of aspects of meaning. Just as all truth is one in Christ, but yet there is a diversity of truths within creation. Dooyeweerd illustrates this by reference to the way in which a prism breaks up one beam of light into the different colours of the spectrum.⁴²

A scientific law, then, never controls events in that it is a human means correlating experiments to a pattern which is built up round concepts. Our scientific laws therefore do not prescribe what must happen, but represent what has happened and allow predictions to be made. The so-called 'laws of nature' are in reality scientific laws. Additionally we might say that when true they conform to the ordinary patterns of God's will which science seeks to reflect in its formulations. But they must never be associated with any sort of Kantian *ding an sich*. Scientific laws are to be seen as man-made representations in word and mathematical symbol of the personal God's consistent patterns of operating his creation.

The hypotheses and laws dealt with in science are essentially special cases of theories which may be true or false in their reflection of the patterns of God. In the final analysis there is a personal God-Creator who is in control of all things. It seems to me that we are needing to recover in our day something of the force of the reality and doctrine of creation, and the need to integrate all thought in God.

Thus we are in a better position to understand the nature and status of our scientific laws. Paradoxically much of modern science has been forced by the reality of God's creation to a position that is not altogether hostile – even if it appears so in the popular mind. Modern science has arrived at a position wherein it seems to me that we are aided in distinguishing reality and man's representations of it – scientific laws are symbolical approximations but, hopefully, can reflect a degree of truth. Yet the true law which our constructions seek to reflect is not the property of an autonomous nature, but the objective and regular pattern of operation by which God sustains and controls his creation. These laws, that is the normal operations of God, are not alterable by man, though man's approximations are. It is also important to see that the law-structured creation provides laws for all aspects of reality and not just for a mathematical-physical realm.

The foregoing is meant to undermine the idea of miracle as a violation of a law of nature – inasmuch as there is no such thing as an autonomous law of nature.

41. Dooyeweerd, *op. cit.*, p. 29.

42. *Ibid.*, p. 101.

The Doctrine of Law

God in his Word gives no direction as to the detailed scientific structure of the universe, nor should we look for that there. Certainly where the Scripture touches on matters of history and science it is accurate and reliable as the Word of God – but it is not a scientific text-book. As Kepler said: 'Scripture is there to tell us how to go to heaven, not to tell us how the heavens go!' God's Word is concerned with the special revelation of his plan of salvation. Nevertheless we do not have to choose between God and some 'natural law', for the laws we live under are the laws of the Creator. Scripture sees neither man nor cosmos depersonalised before the Creator. But modern science tends to exclude the *who* of God in its disciplinary thought and therefore the *why* loses significance and integration. Thus in a sense we are today, when caught in an atheistic concept worse off than the ancients whose *how* was quite wrong, but yet recognised the existence of the *who*.

1. *The Biblical Doctrine of Law.* We are still thinking of the law vis-à-vis the realm of scientific inquiry. A consistent philosophy of creation will include the biblical data and the data available from the various branches of science. These two features will interact with each other and will need to be consistent. The status of the biblical material is particularly interesting as the Bible, unlike other fields of investigation, has total authority over the researcher.

(a) *Nature is Creature.* The first feature of the biblical view of what is commonly called 'nature' is the frank creationism presented. In the created order all things are in a unity of creatureliness before the Creator. God is nowhere equated with his creation or seen as contained within it, nor is there any division into realms of spiritual and material, nature and grace. All is creaturely. It follows that no aspect of created being is to be worshipped or absolutised (idolised). Torrance, writing of the famous Scottish physicist James Clerk Maxwell, notes the following:

That nature is essentially contingent and not necessary in its inherent relations and that scientific truths themselves, therefore, are contingent and not necessary in character, had become one of the established tenets of Scottish realist philosophy and its account of 'natural philosophy' or physics, but that view owed not a little to the influence of Reformed theology in the Scottish Universities.⁴³

43. Torrance, *op. cit.*, p. 223.

Nature as creature is always relative and never absolute. Let me quote from G. C. Berkouwer's *General Revelation* where he is dealing with the 'Nature Psalms': 'in the light of his universal power as Creator, all things are revealed in their *absolute creatureliness*. Everything which is able to impress us deeply partakes of *this* creatureliness. All variations of nature do not cancel the common denominator: *creature*.'⁴⁴

As Psalm 50: 10-11 has it: 'For every animal of the forest is mine, and the cattle on a thousand hills. I know every bird in the mountains, and the creatures of the field are mine.' Berkouwer later notes: 'the entire realm of nature remains 'undeified' and are considered *as creature* over against all glorification of nature.'⁴⁵

(b) *Creation is Ordered*. It is evident that the biblical record recognises order and regularity within the created realm. However the number of references that might pertain to a modern concept of law in science are few in number.⁴⁶ Certainly none of the biblical material contains the idea of autonomous laws of nature – for the emphasis falls on the existential divine control and sovereignty. There is therefore no regularity of independent operation within the realm of creation which God might, or might not, act into but rather the continuous upholding power of God ordaining certain normal regularities within his creation.

Certainly we need to distinguish between primary and secondary causation. Scripture, however, clearly declares that the secondary level of causation (what we are pleased to call 'natural' and where scientific inquiry operates) lies also under God's control. God causes the mists to rise, the lightning to break forth, the rain to fall, the winds to blow (*cf.* Jer. 10:33). He makes the grass to grow and feeds the fauna (*cf.* Ps. 147:8-9). He sends snow, frost, hail and warm winds (*cf.* Ps. 147:16-18). In the New Testament we find the same – God sends his rain upon the earth, and lets his sun shine (*cf.* Matt. 5:45). He feeds the birds and clothes the flowers (*cf.* Matt. 6:26-30). It is God alone who gives life and breath that we might exist (*cf.* Acts 17:25). It is the upholding power of the Word of Christ that allows being to exist at all (*cf.* Col. 1:16-17. Jn. 1:1f).

(c) *Law Reveals God*. Law derives from God and behind it stands all the divine glory and majesty. It is the function of the law to reveal and serve the divine majesty. This moves us into the whole area of general revelation.

44. Berkouwer, *op. cit.*, p. 123.

45. *Ibid.*, p. 127.

46. *E.g.*, Gen. 8:22; Jer. 5:24; Job. 28:26; 38:33-34; Jer. 31:35-36; 33:25f; Neh. 9:6.

MIRACLES AND THE 'LAWS OF NATURE'

2. *Law and Providence.* We affirm that existence depends on the will and word of God. This undercuts any concept of self-existence or attempt to elevate science into a self-existent arena of autonomous neutrality. Autonomy and providence are mutually exclusive concepts. Under the providence of God there can be 'no law of a self-existent or self-sustained operation.'⁴⁷ While in practice this might not obviously affect a particular part of scientific research, it should affect our overall understanding of the universe. There is a decided attitudinal difference between the Christian and the non-Christian. The Christian believes that the regularity of the relations he perceives and seeks to unfold are preserved by the constancy of God. It is only in the continued upholding of the universe by God that creation is law-structured and sustained. It is necessary for the Christian view that God be seen everywhere and not just brought in as an added, superfluous benediction, to an essentially autonomous science. Professor Donald MacKay notes:

The essential point made in the Bible, and in a sense, I think, the key to the whole problem of the relation of science to the Christian faith, is that God, and God's activity, come in not only as extras here and there, but everywhere. If God is active in any part of the physical world, he is in all. If the divine activity means anything, then *all* the events of what we call the physical world are dependent on that activity.⁴⁸

MacKay continues his argument by pointing out that in the Christian view, laws of nature, are 'not alternatives to divine activity but only our codification of that activity in its normal manifestation.'⁴⁹

The idea of God as the celestial mechanic or craftsman has long since been dispensed with as lacking any relevance in terms of the providence of God. Another analogy has been that of God as creative artist which lays more stress on the immanence of God but still leaves much to be desired.⁵⁰ Probably no model can ever be satisfactory, but MacKay has given a useful extension of the 'God as Artist' model where he makes use of modern technology. Instead of an artist using oils and canvas he uses a television screen to display his creation, using the transmitting station to generate whatever he wishes to display on the screen. Here the picture continues to exist by the will of the artist; it continues to have form only as long as the artist

47. R. J. Ream, *A Christian Approach to Science and Science Teaching*, Phillipsburg, 1972, p. 45.

48. D. Mackay, *The Clockwork Image*, Leicester, 1974, p. 57.

49. *Ibid.*, p. 60.

50. Cf. M. Jeeves, *The Scientific Enterprise and Christian Faith*, London, 1969, p. 24.

continues to generate the programme. When he stops generating the picture ceases to exist! Thus the continuing activity of the artist is highlighted, though this still leaves the participation of God in his creation to be accounted for – the Christian God is more than Creator, he is Creator-participant. However, the thrust of the analogy is that nothing continues to exist except under the existential activity of God. Thus it is meaningless to ask if the laws of nature leave room for the activity of God. Professor M. Jeeves notes:

How could they *leave room* for God's activity, since God's activity is present all the time? Or again how could God *intervene* and *suspend* His laws from time to time, since He is there all the time upholding everything in existence? In what sense could God *use* natural laws, since natural laws are only our way of summarising our experience of the regular occurrence of events in the creation which God holds in being all the time.⁵¹

As H. van Riessen pictures it: 'law is the sceptre in the hand of God by which He rules the universe.'⁵²

3. *Law and Chance*. The concept of chance is often used in an ambiguous way to mean simply an unexpected incident; or incident whose immediate cause is unknown. But the specific scientific formulation of chance as an assertion that events can occur which are absolutely uncaused and unconditioned would seem to be unbiblical. We need to reject both hard determinism and strict indeterminism as formulated at present, for in all things the Christian is called to be aware of the hand of God underlying the secondary level of imminent experience. As Calvin notes: 'what is commonly called "fortune" is also ruled by a secret order, and we call a "chance occurrence" only that of which the reason and cause are secret.' (*Institutes* 1:16:8) Or as Proverbs puts it: 'The lot is cast into the lap, but the decision is wholly from the Lord' (Prov. 16:33).

Even secular authorities claim that mathematically there is no way to define a completely random series.⁵³ In other words there is no chance behind God. Law, not chance, is the basic presupposition of science and it is theistic in character. Ream contends therefore that: what we call chance and what we call accident are in fact neither

51. *Ibid.*, p. 27.

52. H. van Riessen, quoted in L. Kalsbeck, *Contours of a Christian Philosophy*, Beaver Falls, 1975, p. 75.

53. M. Gardiner, 'The Meaning of Randomness and Some Ways of Achieving It', *Scientific American* Vol. 219, No. 1, July 1968. Also Nagel, *The Structure of Science*, Boston, 1974, p. 333f.

chance nor accident but actually God working in His world and unfolding history.'⁵⁴

Conclusion

The problem revolves not just round the question of 'law' and 'nature', but also around the word 'miracle'. We have seen something of the problem connected with the former – but the latter is also used loosely. Miracle is derived from words with associations of wonder, sign, token and power. It can be seen as simply designating any extraordinary event which arouses wonder and evokes attention. In the Scriptural usages the several words used indicate the intention/design of the event rather than the nature of the event.

Abraham Kuyper considered that a miracle was 'nothing more than that God at a given moment wills a certain thing to occur differently than it had up to that moment been willed to occur.'⁵⁵ If the laws which are observed in creation are not independent autonomous functions of some self-existent machine, but the operating patterns of God, then it follows that a miracle is not a violation of these laws, but simply an unusual operation of God. Scripture itself nowhere presents the miraculous as antithetical to a self-contained universe, and the whole idea of miracles working against laws of nature implies a strong allegiance to an idea of the self-sufficiency of reality and its laws. Perhaps we are still suffering from the mechanistic self-sufficiency of the Newtonian era; but the modern autonomy of chance is no better.

Ultimately the question is not as to the miraculous but as to how it is that the world is as regular as it appears to be. This is the assumption of science, but it can only be justified from the theistic aspect of the personal faithfulness of God. It is God's world, not nature's, and all things from the Scriptural viewpoint have a rationale in the will of the Creator. Let me finish by quoting some words from Professor MacKay:

The biblical claim is that wherever God did 'work' or 'bring into being' an event which we call a miracle, whether or not it broke with scientific precedent, he did it because in the overall pattern of his drama it made *more* sense at that point: because his total plan and purpose for our world would have been *less* coherent had it not occurred in the way it did.⁵⁶

54. Ream, *op. cit.*, p. 51.

55. A. Kuyper, quoted in Ream, *op. cit.*, p. 62.

56. MacKay, *op. cit.*, p. 64.