The Challenge of Science to the Thinking Church

Peacocke, S.O.Sc., Arthur

Boston Theological Institute
THE CHALLENGE OF SCIENCE TO THE THINKING CHURCH

by Arthur Peacocke, S.O.Sc.  
Former Director, Ian Ramsey Centre  
The University of Oxford

The author looks at the state of the contemporary relationship between science and theology and reminds all concerned that neither discipline ought to claim exclusivity as the way of knowing all about the world. He shows how those who take their Christian faith seriously and with integrity need to cultivate more flexibility in their understanding of doctrine and scripture, particularly those passages whose power has been shown to lie in the symbolic and the mythical, rather than the literal and the physical.

Anyone who reads Dante’s Divine Comedy, whether in the original, if so capable, or in one of the many fine English translations, cannot but be enormously impressed by the sheer synthetic power of his poetic imagination in integrating into one compelling narrative the cosmological, philosophical and theological insights of his times (1265-1321). It begins memorably in that “dark wood” of the frustrations, despair, and dereliction of his middle years:

Midway this way of life we’re bound upon  
I woke to find myself in a dark wood,  
Where the right way was wholly lost and gone.1

In the confusions and loss of hope of our present times we know only too well what he means. But in the story, Dante is led by the figure of Virgil, the embodiment of Human Wisdom, to the very threshold of Heaven through which he is guided by Beatrice, the representative of all those agencies which have become for humanity “the God-bearing image, the revelation of the presence of God.”2 She finally leads him to that sublime ultimate vision of “The love that moves the sun and the other stars.” For most of us moderns, including post-moderns, this is a vision for which we may well yearn but do not expect to be consummated. For that human wisdom, which was personified by Virgil and which today is dominated by the natural sciences, no longer leads us so unambiguously to the threshold of the divine.

The process of disruption of this unitary vision was beginning to be discerned later when John Donne, the English divine and poet, wrote in 1611:

And new philosophy calls all in doubt,  
........................................   
Tis all in pieces, all coherence gone.3

In this we hear an echo of the desolation that was felt at the loss of an awareness of organic unity, “Tis all in pieces”—of a divine placement for humanity, and indeed of all things living and non-living, in an organic whole.

After the seventeenth century, nothing could stem the rising tide of an individualism in which the self surveyed the world as subject over against object. This way of viewing the world involved a process of abstraction in which the entities and processes of the world were broken down into their constituent units. These were conceived as wholes in themselves, whose lawlike relations it was the task of science to discover. The staggering success of these procedures cannot be overestimated. In the course of 300 years, they have altered the whole perspective of
Western humanity so that the historian Herbert Butterfield, in his introduction to some Cambridge lectures in 1948, could declare that the scientific revolution "outshines everything since the rise of Christianity and reduces the Renaissance and the Reformation to the rank of mere episodes, mere internal displacements, within the system of medieval Christendom." It is the impact of this revolution on religious belief in general, and in particular on Christianity, which bore and still bears the brunt of it, that is our concern here.

We have to take into account that the media still propagate, almost unconsciously, a "warfare" model of the relation of science and religion, as evidenced every time the British Association for the Advancement of Science meets, when gleeful, and historically inaccurate, accounts of the encounter at its 1860 meeting between T. H. Huxley and the then Bishop of Oxford, Samuel Wilberforce, unfailingly appear. To this day it is still not regarded as professionally respectable for a biologist to admit to being a Christian. In Britain, not long ago, we witnessed a contemporary biologist, Richard Dawkins, in the role of Huxley- redivivus, attempting scornfully to denounce religion, as represented by the then Archbishop of York, Dr. John Habgood. The occasion was the Edinburgh International Festival of Science (April 1992), and it was interesting to observe the anti-religious and biased reporting it received from the science correspondents of the more up-market newspapers. This provoked articles and counter-articles, letters and comments in the other media, showing that "science versus religion" was still regarded as a newsworthy sport. The proper concern should be, of course, with the actual state of their relationship. For it is as true today as it was some 60 years ago, when A. N. Whitehead, the mathematician-philosopher, considered that the future course of history would depend on the decision of his generation as to the proper relations between science and religion—so powerful were the religious symbols through which men and women conferred meaning on their lives, and so powerful the scientific models through which they could manipulate their environment.

In spite of several decades of sophisticated and informed analyses of the true contemporary state of the complex and subtle relationships between science and religion, the idea that it is a state of conflict still endures in the popular mind. Thus, most young people in England and Scotland reported, in some recent thorough studies, that, one way and another, they had given up "religion" because of "science."

As we read, for example, the reports of the debate between Richard Dawkins and Archbishop Habgood, we cannot avoid realizing that different perspectives are operating in the arguments, concerning the actual status of scientific and religious affirmations and what counts as evidence for them. A vital aspect of the supposed challenge of science to religion is indeed to sort out how they differ with respect to the kind of knowing they each represent—and this is as much a challenge to science as it is to religion.

In a post-modern age, science itself has come under attack as being sociologically and ideologically conditioned, even with respect to the knowledge it asserts to have of the world. Religion, of course, has long
had to suffer such attacks and the impugning of its claimed knowledge of God and humanity. The presuppositions of what I say here will be “critically realist” with respect to both science and theology. That is to say, I think that both science and theology aim to depict reality, that they both do so in metaphorical language with the use of models, and that their metaphors and models are revisable within the context of the continuous communities that have generated them.

This philosophy of science has the virtue of being the implicit, though often not articulated, working philosophy of practising scientists, who aim to depict reality but know only too well their fallibility in doing so. A formidable case for such a critical scientific realism has, in my view, been mounted,\(^7\) based on the histories, for example, of geology, cell biology and chemistry, which during the last two centuries have progressively uncovered hidden structures in the entities of scientific and human experience. Religious experience, also employs models which may be similarly described.\(^8\) I urge\(^9\) that a critical realism is also the most appropriate and adequate philosophy concerning religious language and theological propositions: theological concepts and models should be regarded as partial inadequate and revisable, but necessary and, indeed, the only ways of referring to the reality that is named as “God” and to God’s relation with humanity. Models and metaphors play an even more obvious role in religious language than science. In theology as in science, we have also to attempt to infer to the best explanation by application of the normal criteria of reasonableness: fit with the data, internal coherence, comprehensiveness, fruitfulness and general cogency.\(^10\)

It is the aim of theology to tell as true a story as possible. Like science, it too must allow gradations in the degree of acceptance, in the belief in the “truth,” of theological propositions, and must recognize that there is a hierarchy of truths, some more focal and central (and defensible) than others. The whole theological enterprise has often been criticized because it has been said to have no way, comparable in rigor to that of science, for the sifting and testing of its “data”—in this case, the content of religious experience and tradition and the scriptures that preserve some of them. However, some philosophers of religion have in fact been able to mount what seems to me to be an effective defense of the warrant of religious belief as expressed theologically.\(^11\) For theology, like science, also attempts to make inferences to the best explanation—or, rather, it should be attempting to do so. In order to carry this out, theology should use the criteria of reasonableness already mentioned, for these are criteria which at least have the potentiality of

---

The Boston Theological Institute 91
leading to agreement between people of different traditions (even within Christianity). Some signs that this might not be an entirely forlorn hope are provided by the changes that were at least initiated in the Roman Catholic Church by Vatican II, by the development during this century of the World Council of (non-Roman) Churches, and by the dialogues that are beginning to be organized among the world’s major religions.

The need now is for theology to develop the application of its criteria of reasonableness in a community in which no authority would be automatic (for example, of the form “the Church says” or the Bible says,“ for all such arguments are circular). Truths that are claimed to be revealed or are the promulgations of ecclesiastical authority must not be exempted from running the gauntlet of these criteria of reasonableness, for they cannot be at the same time both self-warranting and convincing. This approach needs to be combined with an openness to development as human knowledge expands and experience is further enriched. When I urge this kind of critically realist aim and program on Christians, and indeed on the adherents of all religions, I cannot help feeling a little like theologian and Archbishop of Canterbury, William Temple (1881-1944), who is reputed to have said, “I pray daily for Christ’s one holy, catholic and apostolic Church—and that it may yet come into existence.” 12 That could also be said of the present situation of a critical-realist theology. It has broadly the same intentions as that described by Hans Küng13 as “truthful, ““free,” “critical,” and “ecumenical”—a theology that deals with and interprets the realities of all that constitutes the world, especially human beings and our own inner selves.

Now, in spite of what the “cultured despisers” of Christianity might say, there are “data” available to the theological enterprise, just as there are to the scientific. They are constituted by the well-wonowed traditions of the major world religions, among them Christianity, which provides our principal source in the West of tested wisdom about how to refer to that which is encountered in those experiences initially dubbed as experiences of God. In this perspective, both science and theology are engaging with realities that may be referred to, and it is therefore entirely appropriate to ask how what scientists believe about the natural world and what religious people believe about God and human nature might, or should be, related—as they always have been in the history of both of them.

I began by referring to Dante’s unified vision of nature, humanity, and God. What is the vista that twentieth-century science unveils for our contemplation? We know now that we live in a world that, extrapolating backwards in our clock-time, may be said to have “begun” some ten or so billion years ago in the fluctuation of a quantum field that became an unimaginably condensed mass of fundamental particles and quanta of energy, and that has over millions of years coalesced, in an expanding space, into the present observable universe, with its billions of galaxies, each containing between a hundred million and a hundred thousand million stars. Near one of these stars in one of these galaxies, a planet—our Earth—had a composition, temperature and age such as to allow the formation of increasingly complex molecules from the atoms it had inherited from some supernovae explosion eons before. By their inherent properties, some systems of molecules came into existence that could copy their own patterns of organization—matter became living. The forms of living matter expanded by the incorporation into their systems of other molecules, and in doing so competed with each other for limited resources. Those life forms that produced the most copies of themselves at any one time persisted longer than others, and the evolution of living organisms by natural selection was under way. The advantage of acquiring new functions and abilities, in response to changing conditions of climate and the predations of other living organisms,
stimulated an increase in complexity as time proceeded. We note that the history of the cosmos and of life on the Earth manifests an emergent quality—for the concepts that are hammered out by the sciences appropriate to each level of complexity, and that are needed to describe and account for specific systems, cannot be reduced to those that are pertinent to their constituents. Genuinely new kinds of reality appear in the evolutionary process, in the course of time.

The advantages of accurate information-processing systems to predict and adjust to environments induced the development of sensitive monitoring and information-storing systems—in fact, senses, nerves and brains. This advantage could be further compounded by social communication and organization; thus, language, and, so, forms of consciousness, emerged under pressures of natural selection in those creatures capable of such information retrieval. These propensities toward complexity, information-processing, and consciousness eventually coalesced in the uniquely concentrated form of the personal self-consciousness of Homo sapiens, who, be it noted, might have exemplified the embodiment of these propensities in a quite different physical form, such is the interplay of chance and law, of sheer happenstance, in the evolutionary process. Thus, the original fluctuation in a quantum field has taken the form of human persons with all their creativity and diversity. The dust of the cosmos has become a Mozart, a Shakespeare, a Jesus of Nazareth—and you and me! What might a latter-day, twentieth-century Dante make of that?

The humanity that has thus come into existence through this seamless web of evolutionary natural processes, as now unveiled in broad outline by the sciences, seeks urgently and even passionately for the meaning of its own existence and of that from which and within which it has emerged. This long search for meaning is the religious quest of humanity and cannot but be affected by this new scientific perspective of where we have come from and the processes that have resulted in us being here at all. This is the broad challenge of science to religion—and indeed to all human reflection on our nature and destiny.

So, I want to look at some of the challenges to certain central themes in religious belief and consider what revisions of religious images and metaphors might be the best way of responding to them.

God

The primary attribute of God in the monotheistic religions is that of “transcendence” over all-that-is. God having a mode of being distinct from everything else. This is based on the sound instinct that the existence of all-that-is is not self-explanatory. Even the original quantum fluctuation, from which our observable universe is currently thought to have expanded, had to have a mode of being of a kind to which quantum mechanics could specifically apply, so that it had to be a fluctuation in a “field” of a kind describable by the laws of that science. It was not just “nothing at all,” even if it was “no thing”! The affirmation of the existence and transcendence of God is, then, a response to the question, Why is there anything at all? A response to the sheer givenness of it all—and the need for such a response—is enhanced by the scientifically perceived subtlety and rationality of the observed universe. This response involves the recognition of God as Creator, as the giver of being

Truly that are claimed to be revealed or are the promulgations of ecclesiastical authority must not be exempt from these criteria of reasonableness, for they cannot be at the same time both self-warranting and convincing.
to all-that-is, as the ground of all being, as Being itself, and the recognition of the world as having a derived and dependent being. This constitutes one of the fundamental pillars of Christian theology, and indeed of all the monotheistic religions.

The givenness of the parameters of the universe has been brought sharply into focus recently in that cluster of physical considerations referred to as the “Anthropic Principle”: the fact that this universe is characterized by a particular set of laws and fundamental constants that prove to be just those that could allow the development of living matter, of life, and so of ourselves. The Anthropic Principle re-emphasizes, firstly, what in the monotheistic religions of the world is perceived as the contingency of all-that-is. Everything could have been otherwise; it need not have been at all in the form it now has. Hence, the Anthropic Principle gives new grounds for us to recognize the contingency of our own existence and, so, of God’s transcendency—though I myself am less sure that it actually constitutes an argument for God’s existence. Secondly, it restores for our generation a sense of how integrated is our human existence with the physical cosmos, that cosmos whose sheer scale seems, on our first apprehension of it, so daunting—threatening even. Not only is this Earth our natural home, so is this universe!

In twentieth-century physics there has been a development, initiated by Einstein, in which the categories of space and time, which seemed so given and a priori to Kant—and to “common” sense—are themselves interlocked with each other in a new kind of relation. For space, time, matter and energy have become mutually defined concepts that modern physicists link closely together. This challenges naive understandings of the doctrine of creation. For any notion that God gives being to all-that-is must now include time as an aspect of, a real relation within, what God has created, as St. Augustine of Hippo well knew. Our understanding of the doctrine of creation is restored to what the profoundest thinkers in the monotheistic religions have always affirmed: that it is not a

There seems to be an in-built tendency in matter toward complexity, self-organization, information transfer—and ultimately toward consciousness, cognition, and self-consciousness. The original “hot Big Bang,” with its cloud of neutrinos, quarks or whatever, has become us.

statement about what happened “in” space-time, because space-time, matter, and energy are all aspects of the created order. God has to be regarded as other than, and transcending, the space-time, matter, and energy of the physicists. The doctrine of creation is fundamentally about the relation of God to all-that-is, and this includes space-time-matter-energy. It is not at all about what happened at 4004 B.C.E., or even 10 billion B.C.E.!

But, together with the biblical authors, Christians, Muslims and Jews believe that God is not entirely “timeless,” for they all regard God as, in some sense, “personal”—as least misleadingly described by personal metaphors, and as interacting with human beings in a way best understood as like personal relationships. So God is pictured as experiencing a sense of succession in relation to the world, including human beings. We cannot put God, as it were, on a mountaintop from which God views all time—past, present and future—and, thus, foresees all future events (including those involving ourselves), for that would limit, indeed destroy, our freedom. For us to be free, God cannot know with certainty what
we will decide. There is no simple fact of the matter ("At 10:30 a.m. tomorrow, I will do X...") for God or for us to know. I would suggest that we can best think of God giving existence to all-that-is, i.e., creating moment by moment, each interval of that relation we call physical time (in our particular relativistic framework)—which is what the traditional notion of God sustaining and preserving matter-energy in spacetime must now be taken to signify. That is how I and some others respond to the challenge of the modern physical understanding of space-time-matter-energy in relation to the idea of God as Creator.¹⁴

The scientific perspective also challenges and, I think, enriches our notion of another classical attribute of God in the monotheistic religions, namely, the presence of God in the world. the “immanence” of God. We observe, through the sciences, the operation of natural processes that are continuously and inherently creative, for matter has the ability to be self-organizing into new forms. The process is open-ended, and the details of the processes are often unpredictable by us and will always be so, either because of in-principle “Heisenberg uncertainty” at the subatomic level, or because of the in-practice inevitable unpredictability of the future states of certain, far-from-uncommon, nonlinear macroscopic systems. There seems to be an in-built tendency in matter, and the processes it undergoes, toward complexity, self-organization, information transfer—and ultimately toward consciousness, cognition, and self-consciousness. Potentials appear to be being actualized. The original “hot Big Bang,” with its cloud of neutrinos, quarks or whatever, has become us. Nature not only has, but is a history of events. There seems to be no inert stuff in the universe, for all entities and structures are in dynamic process in which the universe manifests emergence of the genuinely new. New realities go on appearing.

If we are to think of God as Creator of such a universe, then we are bound to re-emphasize that God is still creating in, with, and under the processes of the natural world all the time. God is all the time the Creator—it is an ongoing, continuous relation. God as Creator not only, in this perspective, sustains and preserves the world (the traditional understanding) but must now be regarded as continuously creating in, with, and under these creative processes. In unveiling the natural processes whereby new forms come into existence, science is revealing God at work as Creator. God has now to be understood as exploring and actualizing the potentialities of creation, achieving ends flexibly without laying down determinate lines in advance. God is improvising, rather as did J. S. Bach before the King of Prussia, or perhaps as does an extemporizing New Orleans jazz player in Preservation Hall. Creation is the action of God-the-Composer at work.

Moreover, in some sense, the world is “in” God, yet God is “more than” the world. God, in this respect, is more Creator-Mother than Creator-Father, for God gives new forms and life to what is in God, in “God herself,” we find ourselves having to say. God is present to all-that-is, the circumambient Reality that flows in and around all.

Science, strangely enough, affords here some new perspectives on the perennial mysteries of death and pain and suffering. For, through our scientific spectacles, we now know that death of the individual is the pre-condition of the evolving by natural selection of new life and new forms of life. Furthermore, consciousness, and, so, awareness, cannot evolve without the development of nervous systems and sensitive recording organs, which inevitably have to be able to react negatively to their environment with what we call pain. It appears that pain and suffering are the pre-conditions of sensitivity and consciousness, and that death of the individual organism is the pre-condition for new life to appear. What religious thinkers used to call “natural evil” now appears in a new light as a necessary part of a universe capable of generating new forms of life and
consciousness. This has the corollary that, for our notion of God to be at all acceptable morally, we have to regard Godself as suffering in, with, and under the creative processes of the world, a perception now widely accepted by many Christian thinkers. God is, then, to be conceived as suffering and enduring what we call natural evil for achieving the ultimate good and fruition of what is being created, namely, inter alia, free-willing, self-conscious persons.

God and the World

But now another apparent challenge from the sciences to religious thinking must be faced. How can God be thought of as interacting with, and possibly influencing, events in a world in which all its processes and events are increasingly rendered lawlike and intelligible by the sciences, which include the brain sciences and psychology? Many people in the past have been driven to think of God as some kind of deus ex machina, who, from some lofty, transcendent throne, intervenes in the very fabric of the causal network that same God is regarded as having created. Oddly enough, science, in explicating what personal agency might be, now also helps to clarify how God might be conceived to interact with the world and influence events without breaking the very regularities that Godself has created.

In the perspective of the sciences, human beings are seen as psychosomatic units, evolving by natural processes, emerging into consciousness and self-consciousness. Biblical scholars also emphasize that this non-dualist view of the human being as a psychosomatic unity is indeed that of the Hebrew Scriptures and also underlies that of the New Testament. This view can give us an important clue to making more intelligible the belief that God interacts with the world to make some things happen rather than others. When we act, total brain states, which we experience subjectively as thoughts, intentions, purposes, etc., are causally effective in the many-tiered levels of our bodies. This action of our brains-in-our-bodies is a holistic one, in the top-down direction and what happens at the “lower” levels is entirely consistent with the known regularities of muscle biochemistry, physiology, neurology, etc. This is but one of the more significant proposed examples of the way in which the state of a whole macroscopic complex system affects and constrains the events occurring at the micro-level of its constituents parts. Many other systems are known to manifest this kind of whole-part constraint (or “top-down causation,” as it has less felicitously been called).

Such systems suggest a model for how God might be conceived as interacting with the world—for how God might be causally effective in a whole-part relationship that does not abrogate the known regularities of events at their own distinctive level of description by the appropriate sciences. This would not be an “intervening” God, but would be a God continuously interacting with the totality of the world, shaping, through God’s own whole-part constraint upon the whole, both the general course of events and the patterns of particular ones. God is faithful to the order of God’s own
creation and does not act in a way inconsistent with its God-created regularities. Moreover we now see that God has let God’s own acts be circumscribed by the character of the natural order Godself has created, even including the inherent unpredictability of events at the Heisenberg level, and of those macroscopic events that result, in some cases, from the amplification of quantum ones.

As often in the past, the model of personal agency continues to be fruitful in helping to conceive of God’s interaction with the world. But now it is enriched and nuanced by new insights into the brain-body relation, into whole-part constraint in complex systems, and into the openness and flexibility inherent in the natural world.

**Humanity**

Like all living organisms, human beings have a finite life, and we have come to recognize, through the scientific understanding of evolution, the biological necessity of the death of the individual. We as individuals would not be here at all, as members of the species *Homo sapiens* if our forerunners in the evolutionary process had not died. Biological death was present on the Earth long before human beings arrived on the scene and is the prerequisite of our coming into existence through the processes of biological evolution, whereby God creates new species, including ourselves. So when St. Paul says that “sin pays a wage, and the wage is death” (Rom. 6:23), that cannot possibly mean for us now biological death and can only mean “death” in some other sense, such as the death of our relation to God consequent upon sin. I can see no sense in regarding biological death as the consequence of that very real alienation from God that is sin, because God had already used biological death as the means for creating new forms of life, including ourselves, long before we appeared on the Earth. This means those classical Christian formulations of the theology of the redemptive work of Christ that assume a causal connection between biological death and sin urgently need replacing.

Moreover, the scientific evidence is that human nature has emerged only gradually by a continuous process from other forms of primates, and there are no sudden breaks of any substantial kind in the sequences noted by paleontologists and anthropologists. There is no past period for which there is evidence that human beings possessed moral perfection existing in a paradisiacal situation from which there has been only subsequent decline. All the evidence points to a creature slowly emerging into awareness, with an increasing capacity for consciousness and sensitivity and the possibility of moral responsibility and, the religions would affirm, of response to God. So there is no sense in which we can talk of a “Fall” from a past perfection. There was no golden age, no perfect past, no original perfect, individual “Adam” from whom all human beings have now declined. What is true is that humanity manifests aspirations to a perfection not yet attained, a potentiality not yet actualized, but no “original righteousness”. Sin as alienation from God, humanity and nature is real and is about a falling short of what God intends us to be and is concomitant with our possession of self-consciousness, freedom and intellectual curiosity. The

*It is theologically imperative that the birth stories and the doctrine of the virginal conception of Jesus be separated from the doctrine of the incarnation and be regarded as mythical and legendary stories intending to convey non-historical and non-biological truths.*

TED BOSTON THEOLOGICAL INSTITUTE 97
classical conceptions of the “Fall” and of “sin” that dominate Christian theologies of redemption urgently need, it seems to me, recasting if they are to make any sense to our contemporaries.

Now, we all have an awareness of the tragedy of our failure to fulfill our highest aspirations; of our failure to come to terms with finitude, death, and suffering; of our failure to realize our potentialities and to steer our path through life. Freedom allows us to make the wrong choices, so that sin and alienation from God and from our fellow human beings are real features of our existence.

So, not only the question, Who are we? but even more acutely, What should we be becoming? and, Where should we be going? remain acute for us. To be brief, I find the clue to the answers to these questions in the person of Jesus of Nazareth. As Irenaeus affirmed, “The Word of God, Our Lord Jesus Christ, who of his boundless love became what we are to make us what even he himself is.” 16 So, then, this question presents itself:

Who is Jesus?

Viewed against the backdrop of the vista of cosmological and biological evolution that the sciences now give us, how is this question to be answered?

Since 451 C.E., the Definition of Chalcedon has been taken as the criterion of orthodoxy. It affirmed that Jesus was “complete in regard to his humanity,” that is, “completely human”—indeed “perfect” in the sense of “complete” 17—fully human, but (note) not necessarily displaying perfection in all conceivable human characteristics. Any assessment of Jesus must start here, along with recognizing his special vocation and relation to God.

But, one may well ask, isn’t this starting point in Jesus’ undoubted humanity called into question by the assertion in the traditions about Jesus, that there were acts of his and events associated with him that have a “supernatural” connotation? Consider, for example, the supposed “miracles”? If by “miracle” one means an event interpreted as not fully explicable by naturalistic means, then judgment must depend on one’s a priori attitudes toward the very possibility of such events occurring in principle—and a scientific age is, in my view, properly skeptical. Briefly, I consider 18 that, in general, the healings and apparent exorcisms give rise to no special difficulties, even for a scientific age, but that the “nature miracles” certainly do so. These latter usually have features that denote them either as pure legend or as stories told with an overload of symbolic meanings—in fact, “myths” that are true!

More pertinent to the theme are the major “miracles” connected with the person of Jesus himself. 19 Firstly, as regards the birth narratives, found in the Gospels of Matthew and Luke, the conclusion of Raymond Brown, the cautious and very thorough Roman Catholic scholar, is worth quoting:

[The scientifically controllable biblical evidence leaves the question of the historicity of the virginal conception unresolved. 20]

This verdict would be regarded as over-cautious by other scholars less restrained by an ecclesiastical magisterium. Thus John Macquarrie affirms:

[Our historical information is negligible... apart from... scraps of doubtful information, the birth narratives [of Matthew and Luke] are manifestly legendary in character. 21]

Biological science, in fact, also raises acute questions about the “virginal conception.” Since females possess only X chromosomes, conception without a father to provide a Y chromosome could lead only to a female child with two X chromosomes, unless there was some kind of divine de novo creation of a Y chromosome in the ovum entering Mary’s uterus—for the New Testament narratives never deny, and indeed affirm, a normal gestation period of nine months. Even such a miraculous, almost magical, act would be beset with problems: What genes should the DNA of this Y chro-
mosome possess? Those to give facial characteristics of Joseph, or, if not, of whom? So one can go on piling Ossa on Pelion.

But a more general consideration now weighs heavily with me because of its theological import. If Jesus is really to be fully and completely human, all that we now know scientifically about human nature shows that he must share both our evolutionary history and have the same multi-levelled, including genetic, basis for his personhood—and that means he must be not only flesh of our flesh and bone of our bone, but also DNA of our DNA. If he does not, to use the traditional terms, our salvation is in jeopardy for “what he has not assumed he has not healed.” 22

Hence, it is theologically imperative that the birth stories and the doctrine of the virginal conception of Jesus be separated from the doctrine of the incarnation and be regarded in the same light as those about Adam and Eve—that is, as mythical and legendary stories intending to convey non-historical and non-biological truths. In this instance, the truth being asserted is that God took the initiative in shaping and creating the person and life of Jesus of Nazareth.23

The situation is quite otherwise with that other major postulated “miracle” concerning the person of Jesus, that complex of events we call his Resurrection (and in which I will include also the Ascension or Exaltation). It is not at all clear that the narratives, as such, of the “resurrection,” are sensitive to scientific considerations at all, since the end state, the “risen” Jesus is not open even to the kind of repeatable observations that science and, indeed, ordinary experience involve. The evidence is that this was a genuine experience within the consciousness of several witnesses.

Such a complex of experiences, especially when they are communal, could well manifest a new reality only discernible in that particular complex combination. The concept of “resurrection” appears not to be reducible to any purely psychological account, and the affirmations of the New Testament can properly be claimed to be referring to a new kind of reality hitherto unknown because not hitherto experienced.

Those members of the Church who take no account of the scientific picture of the world are forfeiting the future viability of the Good News for humanity that is in Jesus the Christ.

The sciences as such can make no comment. I recall the penetrating statement of Christopher Evans:

The core of resurrection faith is that already within the temporal order of existence a new beginning of life from God, and a living of life under God, are possible, and are anticipatory of what human life has it in it to be as divine creation; and that this has been made apprehensible and available in the life and death of Christ regarded both as divine illumination of human life and as effective power for overcoming whatever obstructs it.24

Jesus’ resurrection demonstrated to the disciples, notably to Paul, and now to us, that it is the union of his kind of life with God which is not broken by death and is capable of being taken up into God. For he manifested the kind of human life that can become fully life with God, not only here and now, but eternally beyond the threshold of death. Hence, his imperative, “Follow me,” now constitutes for us a call for the transformation of humanity into a new kind of human being and becoming. What happened to him, Jesus saw, could happen to all.
In this perspective, Jesus the Christ, the whole Christ event, has shown us what is possible for humanity. The actualization of this potentiality can properly be regarded as the consummation of the purposes of God in the evolution of humanity. In Jesus, there was a divine act of new *creation*, because the initiative was from God within human history, within the responsive human will of Jesus inspired by that outreach of God into humanity traditionally designated as “God the Holy Spirit.” Jesus the Christ is thereby seen, in the context of the whole complex of events in which he participated (the “Christ event”), as the model of what God intends for all human beings, now revealed as having the potentiality of responding to, of being open to, of becoming united with, God.

But how can what happened in and to him, there and then, happen in us, here and now? Can what happened in and to him be effectual, some 2000 years later, in a way that might actually enable us to live in harmony with God, ourselves, and our fellow human beings—that is, to experience the fulfillment for which human nature yearns?

The Work of Christ

I can here only sketchily outline how such questions might be answered in the affirmative. Any answer, to be credible today, will have to be grounded on our sharing a common humanity with this Jesus. There are certain features in the scientific perspectives we have been delineating that now properly constrain this response, namely:

(i) The biological death of the individual, as the means of the evolutionary creation of new species by natural selection, cannot now be attributed to human “sin”; and

(ii) The evidence is all against human beings ever in the past having been in some golden age of innocence and perfection from which they have “fallen.”

The Nicene Creed simply affirms baldly that Christ “was crucified *for us* under Pontius Pilate. He suffered and was buried.” This reticent “for us” encompasses a very wide range of interpretations. Although the Church in its many branches has never officially endorsed any one particular theory of this claimed at-one-ment, yet a number have become widely disseminated doctrinally, liturgically, and devotionally. They all (with one exception—the Abelardian) propose a change in God’s relation and attitudes to humanity because of Jesus’ death on the cross. These purportedly “objective” theories of the atonement also rely heavily on those very two presuppositions I have just mentioned as no longer tenable in the light of well-founded science. Moreover, they fail to incorporate our sense, derived from the vista of evolution unfolded by the sciences, of humanity as emerging into individual and corporate consciousness and self-consciousness, awareness of values, social cooperation, human culture; and into a sense of and awareness of God. The classical theories of the atonement fail to express any dynamic sense of the process of human *becoming* as still going on. They also fail to make clear how the human response, which is an essential part of the reconciliation between God and humanity, is evoked.

So, let us now put the question again as: How can what happened in and to Jesus the Christ actually evoke in us the response that is needed for our reconciliation to God and actually enable us to live in harmony with God and humanity *here and now*? This question may be answered most effectively, it seems to me, by seeing the life, suffering and death of Jesus the Christ as an act of love, an act of love of God, an act of love by God.

In the suffering and death of Jesus the Christ, we now also concomitantly perceive and experience the suffering, self-offering love of God in action, no more as abstract knowledge, but actually “in the flesh.” For the openness and obedience of the human Jesus to God enabled him, as the God-informed human person, to be a manifest self-expression in history, in the confines of human personhood, of God as creative, self-expressing Word/Logos/“Son.” Thereby is uniquely and de-
finitively revealed the depth of the divine love for humanity and the cost of God’s gracious outreach to us as we are, alienated from God, from humanity and ourselves—that is, as “sinners.” As such, this love of God engages us, where “to engage” means “to attract and hold fast; to involve; to lay under obligation: to urge, induce; to gain, win over.” The Cross is a proposal of God’s love and as such engages our response. Once we have really come to know that it was God’s love in action “for us” that was manifest in the self-offering love and obedience of Jesus the Christ, then we can never be the same again. God in that outreach to humanity that we denote as “God the Holy Spirit” united the human Jesus with God’s own self and can now kindle and generate in us a love for God and for the humanity for whom Jesus died, as we contemplate God in Christ on the cross.

What I am proposing here is that this action of God as Holy Spirit in us engages our response, and this itself effects our at-one-ment, is itself salvific, actually making us whole, making us “holier.” Such an understanding of the “work of Christ” coheres with our present evolutionary perceptions that the specifically human emerged and still emerges only gradually and fitfully in human history, without a historic “Fall.”

For since God took Jesus through death into his own life, it is implicit in this initiation and continuation of this process in us that we, too, can thereby be taken up into the life of God, can be “resurrected” in some way akin to that of Jesus the Christ. Since Jesus was apprehended as having been taken through death with his personhood and identity intact and as having been “taken up” into the presence of God, it could happen to us, and that is the ground of our hope for our individual future and that of humanity corporately.

Furthermore the interpretation of the death and resurrection of Jesus as manifesting uniquely the quality of life which can be taken up by God into the fullness of God’s own life implicitly involves an affirmation about what the basic potentiality of all humanity is. It shows us that, regardless of our particular human skills and creativities—indeed, regardless of almost all that the social mores of our times applauds—it is through a radical openness to God, a thoroughgoing self-offering love for others and obedience to God that we grow into such communion with the eternal God that God does not allow biological death to rupture that essentially timeless relation. Irenaeus says it all:

The Word of God, our Lord Jesus Christ, Who of his boundless love became what we are to make us what even he himself is.

**Conclusion**

If the foregoing has any weight, then it is an example of the way that the Church must rethink its message in today’s language, for a society deeply impressed by and indebted to science. The old images, although they may still be evocative and meaningful for those steeped in traditional language, no longer appear at all credible to those outside the churches and other religious institutions, which is 90% of those in the United Kingdom and most of Europe, it seems from all the surveys. We need a rebirth of images in continuity with what we have inherited from the classical religious scriptures and traditions; we need to revise how we speak of the eternal realities to which the religions seek to refer.

For I am convinced that the importance of ideas, both in the short and the long run, cannot be overestimated. Those members of the Church who take no account of the scientific picture of the world are forfeiting the future viability of the Good News for humanity that is in Jesus the Christ. They are digging themselves into a deeper and deeper hole and, as they go down, they will be able to talk more and more to themselves and less and less to other thinking people. For in God’s good time, truth must prevail.
Works cited:


The Bible. Revised English Bible.


Endnotes:

1. Dante Alighieri, first stanza.
3. Donne, p. 73, lines 205 and 213.
5. For an account of the development of this particular myth, see Lucas.
8. See, among others, Soskice, ch. 7; and MacFague.
9. See, for example, Peacocke, introduction.
10. See Mitchell; Banner.
11. See Mitchell; Banner.
12. I cannot trace the reference.
14. But this response is not undisputed, for mathematical physicists take very seriously—even reifying—their models of a four-dimensional “block” universe in which the future just is there already, so to speak. See the discussion in Isham and Polkinghorne.
15. This may be understood as analogous to what is technically called an input of “information.” See the discussion in Peacocke, pp. 179ff; chap. 11, sections 2(a), 3(b) and 3(c); and endnote 31, pp. 416-417, discussing J. C. Puddefoot’s analysis of the meaning of this term.
17. Robinson, p. 68 and n. 3.
18. For a fuller exposition see Peacocke, ch. 13, section 3(d).
19. Ibid., chap. 13, section 3(e).
22. Gregory of Nazianzus.
23. En passant, this does not, of course, derogate at all from St. Mary’s unique position in Christian devotion and affection as the mother of our Lord, who must have been the primary influence on his maturation and one of the earliest witnesses to his true vocation and role—and in a very real sense, the Mother of the Church.
24. Evans, p. 503. For a fuller treatment, see Peacocke, pp. 319ff.
A leading theologian in the science-and-religion field, Arthur Peacocke is a physical biochemist (research on DNA and biological macromolecules) and, since 1971, an Anglican priest. He has authored many books, including Creation and the World of Science (1979), Theology for a Scientific Age (1990; enlarged edition, 1993), God and the New Biology (1986), God and Science: A Quest for Christian Credibility (1996) and From DNA to Dean: Reflections and Explorations of a Priest-Scientist (1996). He delivered the Bampton lectures in 1978, the Gifford Lectures in 1992-93, and is a founder of the Science and Religion Forum (U.K.), and founder and Warden Emeritus of the Society of Ordained Scientists, a dispersed religious order. He taught for many years at the University of Birmingham, Cambridge University, and Oxford University; and he directed the Ian Ramsey Centre, Oxford, from 1985-1988 and from 1995-1999.

Note: This article is a slightly expanded form of an address given at Boston University School of Theology in September 1994 as part of the Lecture Series of the Center for Faith and Science Exchange. It was subsequently published in Modern Believing (October 1995, 'New Series,' vol.XXXVI, No.4, pp.15-26) and is reprinted here, in expanded and updated form, by permission of the editor.