

**SCIENCE****CREATION, EVOLUTION,**[home site](#)R L. C  
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These three words invoke the tension that has long prevailed between Christians and “naturalists” over the role of God in the processes of nature. It seems to me that a certain understanding of these three terms and the way they relate to a Christian understanding of the processes of nature can avoid some of the controversy.

But I must ask the reader to forgive a personal view. I have not followed the writings of those who have challenged evolutionary theory in the name of Christianity and I am not a specialist in evolutionary biology.<sup>1</sup> But I have taught anthropology for many years and am familiar with the basic issues; also, I have long been associated with biological anthropologists, for whom evolutionary assumptions constitute the essential paradigm, and I believe them to be disciplined, thorough, and conscientious in their attempts to make sense of the fossil record. At the same time, like many Christians I have pondered the issues engendered by that record. Indeed, as a young person I supposed that evolutionary explanations contradicted the scriptural passages on origins that I take as authoritative. I here explain why I no longer view modern evolutionary theory to be a challenge to Biblical revelation, in hope of offering a useful perspective for others who struggle with the issue. Like all such formulations of this kind, it is provisional, and, the topic being what it is, personal.

How does the huge and burgeoning scholarship on evolutionary history relate to the creative work of God?<sup>2</sup> To address such a question we must distinguish empirical science from its metaphysical perversions.

Means or miracles?

There was a time when Christians debated whether God works mediately (that is, through means) or immediately (that is, instantaneously and directly) to influence affairs and events. But that debate is no longer alive. Christians generally are at peace with the idea that God can work either way. God uses means – medical treatment is the easy example – but he can heal directly (“immediately”). Virtually every theist I know believes that it is OK to take aspirin and at the same time to pray for pain relief. They see no contradiction in this practice. If the pain is relieved they give thanks. They presume that God has provided material means by which the healing is effected. So he may be thanked and praised for such provision, even if he chooses not to intervene directly, something theists presume he has the power to do. Most theists assume that life generally works this way. They would be delighted (perhaps even surprised) to see miracles -- direct, immediate, and dramatic interventions -- in the course of natural affairs, but they

don't expect them. This is not because they don't believe that God can work directly in the course of events but because they believe that God usually works more subtly, that is, through means. They see God working in the story of Esther, for instance, even though he is nowhere specifically mentioned in the narrative. For them, indeed, God is at work in all of history. In a sense it could be said that his influence on all events and affairs is "miraculous" because he is believed to be continually involved in all affairs, but most of us reserve the word "miracle" for more specific, dramatic, and "immediate" interventions.

The assumptions of faith and science

When it comes to talking about God's work in creation, however, some Christians feel more comfortable emphasizing it as an "immediate," direct, intrusive, dramatic, and even unnatural work – a miracle. The first chapter of Genesis says God made the world and everything else out of nothing. Surely, that was a miracle if there ever was one. This is presumably the point of the Genesis passage – to tell where things came from and to emphasize that it was a product of Divine will.

But such a view is not possible in science. Science is by definition an attempt to understand things in material or mechanistic terms -- if you please, in "worldly" terms. Science can only examine material phenomena, or at least phenomena that are presumed to have some kind of material substance or effect. The assumptions of science took form, or at least became broadly adopted and elaborated, in the context of the Enlightenment, a movement among the intellectuals of Europe that developed as they came to know more about the wider world. As they sought to grasp the implications of reports from four newly discovered continents, they developed insights and disciplinary discourses that brought forth the new sciences of the earth and heavens: astronomy, physics, geography, geology, and biology.

All of these fields could develop as disciplines as uniformitarian assumptions were developed – that is, that the processes in nature work effectively the same everywhere, given identical conditions. Such assumptions made it possible to relate the mechanisms that humans can examine, or at least postulate on the basis of direct experience, to objects in the heavens and events in the past that were not directly available. Newton, for instance, proposed a way to think about the relation of physical bodies on earth and in the heavens that could be calculated with some precision, making it possible for mechanistic processes in the heavens to be formulated and tested. Newton's law was precise enough for Herschel to postulate in 1781 that an unseen body was the cause of the peculiar movements of Saturn, and, having calculated the location, turn his telescope to it and discover a hitherto unseen planet, Uranus.

Alongside the development of such "hard" sciences as physics and geography there came an attempt to develop a science of history, the field from which anthropology developed. Voltaire called for the development of a "philosophy of history" that would, as he conceived it, understand history without reference to the Providence of God.

Voltaire believed in God (although he despised the Catholic Church) but he believed a "science" of history could be developed by leaving out of the equation God's intentions in the events of history, whatever they might be. Instead, he would examine the specific "knowable" conditions at work in human affairs. He would seek to understand human affairs in the terms analogous to those being developed in the "harder" sciences of physics and astronomy.

The tools of science are by definition materialistic, mechanistic. Uniformitarianism reigns in science. There is no other fundamental basis for explaining the objects and processes of our world than the uniformitarian assumption that matter and energy operate the same way everywhere. Science is by definition unable to see God at work; it can only develop formulations about the processes of nature – a "nature" that the theist regards as God's handiwork. In contrast to science, the Bible claims to reveal the character of God and his purposes, and to outline his grand design. Science does not have the tools to examine such issues.

Even so, it is remarkable how closely the uniformitarian assumptions of contemporary science seem to correspond (at least for the time being) with the creation story of Genesis. Scientists agree that the universe had a beginning and has a trajectory – inexplicably, things seem to be flying apart. Scientific formulations will always be changing of course and so the regnant hypotheses of today may not survive to other generations, but for the moment it seems remarkable that most scientists agree on the "beginning" of the universe: something exploded out of (presumably) nothing about thirteen and a half billion years ago. Scientific understanding of the processes of nature seems to be "advancing" in the sense that an ever greater body of information is being encompassed by a growing body of broadly accepted formulations, all of which are based on the uniformitarian assumptions of science, which turn out to be processual.

#### Evolution and creation

Genesis is a processual description of creation, just as are the formulations of science about the history of the universe. In the Genesis story God created in a series of stages. Some conservative Christians are uneasy treating the creative "days" as stages in a process of change that can be examined mechanistically, that is, from an evolutionary perspective. They believe that such a view robs the story of its miraculous claims. But it seems to me that if we have no problem assuming that God is at work in the mechanisms of nature in our time (that is, it's OK to take aspirin and pray for relief at the same time), then the processes of change in earlier times could have been operative in the same way. This is the preeminent assumption of everyday life as well as of science.

Indeed, to ask a narrative written hundreds of years ago to precisely conform to the canons of modern science is ethnocentric and unrealistic. If, as Christians believe, the Genesis story was written to be appreciated not only by the Hebrews of Moses's day (who of course were the addressees of the text) but also by generations of peoples from all over the world, then it could hardly conform to

cannons of modern science, which are obviously time-bound and culture-bound, and indeed will surely change over time. The theistic reading of this text presumes that it can be appreciated in all cultures, by all kinds of people at all times in history, not just those of the modern world. The modern scientist wants mechanistic explanations; the Genesis story is a narrative with a broader agenda than the explanation of mechanisms. In whatever sense God was at work in the construction of the creation story – presumably drawn from narratives already extant in the Mesopotamian world – then he would have fashioned it for a multicultural audience.<sup>3</sup>

This is why it seems to me no particular threat to Christian thought to accept the mechanistic assumptions of biological evolution. Darwin's insight was that natural selection shaped the nature of populations. Coupled with Malthusian conceptions of population dynamics and Mendelian conceptions of genetics, this formulation enabled scientists in many related fields to develop a language by which to talk about how the gene pools of populations change over time. Evolutionary assumptions now inform virtually all scientific discussion about living forms because it is so powerful. There is no alternative frame of reference.

Evolution and evolutionism; science and scientism

But in Darwin's time evolutionary formulations were explicitly posed against the scriptural narrative – notably by T. H. Huxley and others. Evolution was proposed as an alternative to Biblical notions of creation as part of the larger agenda of those who saw religion as superstition and an impediment to progress, inimical to the advance of “modern” rational thought. The early attacks against Christian thought seem to have colored all subsequent discussion about biological processes in nature.

But there was a confusion of concepts in the debates of the nineteenth century. Evolution as the name for processes of change in nature that can be examined by empirical methods (using uniformitarian assumptions) must be distinguished from evolutionism, the assumption that nothing exists that cannot be explained in mechanistic, materialistic terms. In the same way, science should be distinguished from scientism. Evolutionism and scientism are metaphysical assumptions about “reality”, and “nature.” In particular they assume that in principle everything that exists can be examined by the tools of science. They have taken Voltaire beyond his agnosticism about God's hand in history to one of certainty: for them there are only material forms and material mechanisms. Nothing more. Scientific inquiry, as they see it, can reach the outer limits of all that exists: There is nothing fundamentally “spiritual” in the universe, no creator, no God -- or at least no God who is sentient like humans (thus, humans are more sentient than the “Force” that made them). For them, as far as can be seen now, this material system faces an ultimate demise. As one anthropologist characterized the views of another (Levi-Strauss) “man and all his meanings is only an ephemeral efflorescence in the larger course of nature,” a view that may be called “transcendental materialism.”<sup>4</sup> Evolutionism and

scientism are a kind of heuristic faith, a metaphysic, like Christianity.

Evolutionary study as an empirical science is something else. It seeks to make sense (in uniformitarian terms) of the materials that have come out of the ground. Even so, although scientists believe they have traced the biological history of humans back to a few million years ago, there is no lack of unresolved fundamental questions. The most important unresolved issue is how humans came to depend on symbols as their mode of existence and how moral issues came to be so pervasive in human experience. A question that has vexed anthropologists is the rule against incest, which appears to be universal among humans. But the problem of morals in human life has other expressions; in general it is manifest in the human proclivity everywhere to moralize. Presumably everyone opines about what the world should be like, what people (at least other people) should do, what God should do (or have done), and so on. It is characteristically human to evaluate experience in self-righteous terms.

Sociobiologists, who would explain everything in terms of the mechanisms of population dynamics – natural selection, genetic drift, and so on – identify this as the problem of "altruism." For them the operational question is, "What conditions would have selected for altruism in the human gene pool?" This problem of morals -- altruism, self-righteousness, idealism, sex rules – has been a fundamental issue all along and remains unsettled. Most Christians believe that, whatever mechanisms are involved in the development of this human characteristic, its source lies beyond the reach of empirical science. They take moral concerns, idealistic visions, the quest for justice, to be entailed in what it is to be human, intrinsic to human nature. Perhaps this is what it means to be created in the image of God.

#### Science and belief in God

There is no need to regard interpretations of the fossil record as contrary to an understanding of God's creative work. The study of the history of living forms is a quest to know, in materialistic terms, how such things came to be. It is not so much an atheistic enterprise as an agnostic one, like all the enterprises of science. It is an attempt to make sense of what has come out of the ground in terms explainable according to the canons of science. The fossilized remains of living forms provide means of reconstructing the material past. For those of us who see God at work in nature, they reveal the mechanisms God has used in his creative work and enrich our appreciation of God's handiwork.

#### Notes

1. It is regrettable that, so far, the critics have not succeeded in winning the respect of competent scientific audiences.
2. Anyone who tries to follow the weekly issues of Science, the official organ of the American Association for the Advancement of Science and one of the most respected journals in the world, cannot

escape the pervasive importance of evolutionary assumptions in virtually every branch of the biological sciences.

3. In this case we take the Genesis story as metaphor, just as we read Psalm 18 metaphorically, which refers to lightening as God's "arrows" and thunder as God's chariots.

4. Crick, Malcom. 1976. Explorations in Language and Meaning. London: Malaby, p. 43.