Reilly Center Reports

Creation, Evolution, and the Catholic Tradition

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It is certainly unusual for a cardinal archbishop of Vienna to publish an essay on the opinion pages of The New York Times. Yet in July 2005 this is exactly what Cardinal Christoph Schönborn did: his essay was "Finding Design in Nature," and the newspaper added as a kind of subtitle, "the official Catholic stance on evolution." The publication of the essay became a news story itself and reporters were quick to suggest that a leading cardinal had "redefined the Church's view on evolution." The Cardinal indicated that for years he had been troubled by the way in which many writers (including Catholic theologians) had "misrepresented" the Church's position as endorsing the idea of evolution as a random process, which if true, apparently excluded any role for God in nature. What was particularly troubling, he thought, was the misuse of Pope John Paul II's remark in 1996 that evolution "was more than a hypothesis," which has led many erroneously to think that there are no problems for Catholic teaching were one to accept the claims of evolutionary biology.

Throughout his essay the Cardinal reaffirms Catholic teaching that there is an order and purpose in nature, an intrinsic finality, which discloses the existence of God as its source. In addition, he cites the statement of the Catechism of the Church: "The existence of God the Creator can be known with certainty through his works, by the light of human reason." The Cardinal sees "evolution in the neo-Darwinian sense," with its claim that biological change is at its roots "unguided," "unplanned," and "random," as incompatible with Catholic teaching concerning creation and God's providential ordering of the world. In addition, he thinks that "any system of thought that denies or seeks to explain away the overwhelming evidence for design in nature in biology is ideology, not science." The latter, of course, is a claim in philosophy, not theology, but the Cardinal is well aware of the traditional Catholic defense of reason, since, as Thomas Aquinas would say, reason is a way to God. Here is the penultimate sentence in his essay: "Now at the beginning of the 21st century, faced with scientific claims like neo-Darwinism and the multiverse hypothesis in cosmology invented to avoid the overwhelming evidence for purpose and design found in modern science, the Catholic Church will again defend human reason by proclaiming that the immanent design evident in nature is real."

One need only read works of scientists like Richard Dawkins or Daniel Dennett to think that Cardinal Schönborn is surely correct in concluding that there is a conflict between evolutionary biology and Catholic teaching. After all, Dawkins writes that belief in God "is a computer virus of the mind" and that the universe disclosed by evolutionary biology "has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference." Daniel Dennett writes in no less stark terms: “Love it or hate it, phenomena like this [DNA] exhibit the heart of the power of the Darwinian idea. An impersonal, unreflective, robotic, mindless little scrap of molecular machinery is the ultimate basis of all agency, and hence meaning, and hence consciousness, in the universe." Although at times critical of the unwarranted excesses in the claims of scientists like Dawkins and Dennett, the late Stephen Jay Gould, when commenting on the appearance of the human species, wrote that if we were to “replay the tape a million times from a Burgess beginning... , I doubt that anything like Homo sapiens would ever evolve again.” Man is but a “tiny twig on an improbable branch of a contingent limb on a fortunate tree.”

The debate in the United States about the teaching of evolution in the public secondary schools reveals how discussions about creation and evolution can easily become obscured in broader political, social, and cultural contexts. Evolution and creation have taken on cultural connotations, serve as ideological markers, with the result that each has come to stand for a competing world-view. For some, to embrace evolution is to affirm an exclusively secular and atheistic view of reality, and evolution is accordingly either welcomed or rejected on such grounds. As Michael Ruse, the distinguished philosopher of science, has written recently, "creationism" and what he calls "evolutionism" represent rival religious views of the world: "rival stories of origins, rival judgments about the meaning of human life, rival sets of moral dictates..." What
Ruse calls "evolutionism" is a set of broader cultural claims which have their roots in, but ought to be distinguished from, the scientific discipline of evolutionary biology.

Much of what the Cardinal Schönborn wrote was a good reminder that Catholic teaching, while recognizing the appropriate autonomy of the natural sciences to describe the physical universe, rejects philosophical claims, sometimes masquerading as the conclusions of science, that the universe is wholly self-sufficient, with no need of a Creator. What has troubled some commentators are the arguments the Cardinal advances in support of Catholic teaching. These arguments can be too easily placed in the context of the on-going debate about evolution in the United States, and supporters of "intelligent design" might take considerable comfort in the Cardinal's reference to "the overwhelming evidence for purpose and design found in modern science." Proponents of "intelligent design" think that there are "irreducible complexities" in nature which cannot be the result of random processes: ultimately, such design discovered by biology can only be explained by an appeal to a designer, and that this conclusion is, properly speaking, a scientific one. To refer to "intelligent design" as science is what troubles many scientists, and their concern is that the Cardinal's essay represents a rejection of the fundamental tenets of modern biology and would, accordingly, cast the Church as an opponent of modern science. Their fear is that in defending the Church's traditional claim that nature and human nature fall under God's providence and that, in the words of Pope Benedict XVI, "we are not some casual and meaningless product of evolution," the Cardinal has offered a defense which looks as though it is based on dubious claims associated with "intelligent design." Once "intelligent design," rightly or wrongly, is considered a threat to science, then any apparent support of its claims is suspect.

Unfortunately, in his essay the Cardinal did not distinguish adequately between arguments about order and design in nature, on the hand, and arguments about God as Creator, on the other. Indeed, it is one of the errors of the analyses of Dawkins and Dennett to think that by denying that there is order and design in nature one denies the doctrine of creation. Furthermore, there are different senses of "order and design" which need to be distinguished before one can conclude that nature discloses an "intrinsic finality." The debate about "intelligent design" concerns to what extent modern science, as the Cardinal argued, offers "overwhelming evidence for purpose and design." We ought to distinguish, I think, between the evidence of the individual sciences and the conclusions drawn from that evidence in the philosophy of nature.

In important ways the Catholic tradition, especially the thought of Thomas Aquinas, has much to offer to help disentangle the confusion in contemporary discussions about the theological and philosophical implications of evolutionary biology. First of all there is Aquinas' general commitment to the complementarity between faith and reason and that the truths of science pose no threat to the truths of faith, since God is the author of all truth. In particular, there are three fundamental insights of Aquinas which are especially relevant: 1) his understanding of creation as an explanation of origins in a metaphysical and theological sense: so that God's creative act is the cause of the complete existence of all that is, as it is; 2) his understanding of how God's causality functions in a wholly different way from the kind of causality exercised by creatures, both animate and inanimate: so that there is no competition, no conflict, between God's causality, including His providential ordering of all that is, and the kinds of causality which the natural sciences discover in the world; and 3) that nature does disclose an "intrinsic finality," but such disclosure is found in the discipline of natural philosophy and is not inconsistent with chance and randomness in nature.

Creation

On the specific question of creation out of nothing, the key to Thomas' analysis is the distinction he draws between creation and change. The natural sciences, whether Aristotelian (with which Thomas was primarily concerned) or those of our own day, have as their subject the world of changing things: from subatomic particles to acorns to galaxies. Whenever there is a change there must be something that changes.
Creation, on the other hand, is the radical causing of the whole existence of whatever exists. To cause completely something to exist is not to produce a change in something, is not to work on or with some existing material. If, in producing something new, an agent were to use something already existing, the agent would not be the complete cause of the new thing. But such complete causing is precisely what creation is. To create is to cause existence, and all things are totally dependent upon the Creator for the very fact that they are. Thomas thought that by distinguishing between what things are, their essences, and that they are, their existence, one could reason conclusively, in the discipline of metaphysics, to the existence of God as Creator.

The Creator does not take nothing and make something out of nothing. Rather, any thing left entirely to itself, wholly separated from the cause of its existence, would be absolutely nothing. Creation is not primarily some distant event; it is the complete causing of the existence of everything that is. At this very moment, were God not causing all that is to exist – from subatomic particles to the color of the sky, to our own thoughts, hopes, and dreams – were God not to be causing everything that is, there would be nothing at all.

For Thomas, there is no conflict between the doctrine of creation and any physical theory. Theories in the natural sciences account for change. Whether the changes described are cosmological or biological, unending or finite, they remain processes. Creation accounts for the existence of things, not for changes in things. Whether the universe is understood to be evolving, as we think today, or whether the universe is eternal, as Aristotle thought, it is still a created universe. Thomas was always alert to distinguish between the origin of the universe and the beginning of the universe. Even if the universe were not to have had a temporal beginning, it still would depend upon God for its very being, its existence. The root philosophical sense of creation does not concern temporal origination; rather it affirms metaphysical dependence. It is true that Scripture reveals that the universe has an absolute beginning: here faith adds to what reason can conclude about the origin of all things.

God’s creative power is exercised throughout the entire course of cosmic history, in whatever ways that history has unfolded. No explanation of evolutionary change, no matter how radically random or contingent such an explanation claims to be, challenges the metaphysical account of creation, that is, of the dependence of the existence of all things upon God as cause. When some thinkers deny creation on the basis of theories of evolution, or reject evolution in defense of creation, they misunderstand creation or evolution, or both.

God as Cause and Creatures as Causes

The affirmation of the radical dependence of all things upon God as their cause is, for Thomas, fully compatible with the discovery of causes in nature. God’s omnipotence does not challenge the possibility of real causality for creatures, including that particular causality, free will, which is characteristic of human beings. As Thomas says: "God is the first cause of both natural causes and voluntary agents. And just as His moving natural causes does not prevent their acts from being natural, so also His moving voluntary agents does not prevent them from acting voluntarily, but rather makes it be just that, for He works in each according to its nature."

God causes creatures to exist in such a way that they are the real causes of their own operations. For Thomas, God is at work in every operation of nature, but the autonomy of nature is not an indication of some reduction in God’s power or activity; rather, it is an indication of His goodness. It is important to recognize that divine causality and creaturely causality function at fundamentally different levels. According to Thomas “the same effect is not attributed to a natural cause and to divine power in such a way that it is partly done by God, and partly by the natural agent; rather, it is wholly done by both, according to a different way.” It is not the case of partial or co-causes with each contributing a separate element to produce the effect. God so transcends the created order that He is able completely to cause causes to be causes. God causes chance and random events to be the chance and random events which they are, just as
He causes the free acts of human beings to be free acts. Thomas does not think that one must compromise divine omnipotence in any way in order to make room, so to speak, for there to be real causes in the world. God as primary cause is not threatened by the existence of real secondary causes in nature, including those causes which evolutionary biology investigates. As the Catholic International Theological Commission notes (2004): "Divine causality and created causality radically differ in kind. . . . Thus, even the outcome of a truly contingent natural process can nonetheless fall within God's providential plan for creation."

**Order, Design, and Intrinsic Finality in Nature**

It is important to distinguish an analysis of creation from questions concerning order and design in nature, questions which are properly the subject of the empirical sciences and natural philosophy. The biologist Francisco Ayala, who has also written on the philosophical and theological implications of evolutionary biology, notes that "it was Darwin's greatest accomplishment to show that living beings and their configurations can be explained as the result of a natural process, natural selection, without any need or resort to a Creator or other external agent." The Neo-Darwinian synthesis adds to Darwin's insight the claim that the natural process begins with chance mutations at the level of genes. Randomness and chance, as the source of whatever order and design we observe in nature, would seem to make any appeal from the evidence of biology to an author of that order unjustified. It is, however, one thing to say that the explanatory categories of evolutionary biology do not go beyond descriptions of chance and randomness as the basis for change; it is another thing to say that there is nothing more needed to account for biological change than chance and randomness.

As the Jesuit scientist William Stoeger has observed, any discussion of chance and purpose in biology needs to recognize that the natural sciences discover an order and directedness inherent in physical reality: in the laws, regularities, and evolving conditions as they function together to constitute the processes and relationships which emerge at each stage of cosmic history. These laws and conditions are more than a pattern of regularities that we observe; that pattern must have some sufficient cause in nature itself. To speak of regularities in nature, or of there being laws of nature, means that there are processes oriented towards certain general ends. If there were no end-directed or end-seeking behavior in physical reality, there would be no regularities, functions, or structures about which we could formulate laws of nature, and, thus, there would be no science of nature. However frequent chance events are in biological evolution, and however much as a result the actual course of evolution is indeterminate and thus unpredictable, it is a mistake to elevate "pure chance" to an ultimate explanatory principle. Chance events occur within nature: within the context of a reality susceptible to rational investigation because it is intelligible, and it is this intelligibility which makes possible the laws of nature. For Aquinas, the intelligibility of nature is a manifestation of intrinsic principles, including the ends in which given changes find their completion. Here is the "intrinsic finality" of nature which is so important for the Catholic tradition. It is a finality disclosed in natural philosophy as this discipline reflects on the evidence provided by the empirical sciences. It is a finality which does indeed lead us to God as its source, but it is far different from the mechanistic account of "irreducible complexities" central to the argument of "intelligent design": which claims to discover God's agency in the inability of causes in nature to produce certain kinds of biological structures.

Thomas Aquinas would help us to recognize the error in "absolutizing" chance and randomness to universal principles of change, or to think that their existence in nature is a challenge to God's providential ordering of the world. Here it would be useful to compare Cardinal Schönborn's criticism of Neo-Darwinism with the passage he cites on the same subject from the International Theological Commission. The Cardinal identifies evolution in the Neo-Darwinian sense as essentially an "unguided, unplanned process," and calls it ideology and not science. The Commission rejects "those theories of evolution, including those of a neo-Darwinian provenance, which explicitly deny to divine providence any truly causal role in the development of life in the universe." Notice how, unlike the Cardinal, the Theological Commission does not necessarily equate Neo-Darwinism with the denial of any role for divine providence: it only refers to those theories of evolution which do in fact deny providence. Surely some thinkers do use arguments which have their roots in Neo-Darwinism to deny divine providence, but only if one illegitimately raises biological arguments to the level of metaphysical and theological claims does such an error occur. Thus, the real problem lies not in the commitment of evolutionary biology to explanations in terms of randomness and contingency, but
rather in unwarranted extrapolations about the absence of meaning and purpose in nature. It is these extrapolations which, to use Cardinal Schönborn's phrase, are "ideology and not science."

God’s providence is not threatened by evolution viewed in terms of random variations, unless, of course, one mistakenly argues that the natural sciences are the only source of truth about the world. An important lesson here is that we do not need to defend divine providence by rejecting evolutionary biology, but only by rejecting certain philosophical claims which deny providence.

God accomplishes His purposes in and through the universe He has created. Science discloses the way the universe operates in terms of principles in the universe. God so transcends the created order that He can be the cause of all that is without compromising the causal efficacy of creatures, so too His purpose issues from the same transcendence, beyond the categories of time, place, and change. When discussing God’s providence, Thomas distinguishes between God as universal cause, which is an immediate manifestation of His goodness, and the role of particular causes which bring to fruition, each in its own proper way, specific ends. In fact, it is a sign of God’s goodness that He creates a world in which there are such true, albeit secondary, causes. In the realm of secondary, particular causes, chance events can and do occur. God’s providence, although manifested in the workings of His creatures, cannot be fully apprehended if one’s vision is only that of the activity of these secondary causes. In other words, God’s providence is most properly disclosed in theology, not in the natural sciences.

Conclusion

Among the salutary consequences of Cardinal Schönborn's essay is that it has been the occasion in many places to think again about the relationship among the natural sciences, philosophy, and theology as these disciplines address questions about the origin and meaning of life. Although the Cardinal does not endorse the claims of "intelligent design," some of the phrases have struck others as being at least consistent with the claims of "intelligent design." As I have tried to show, Catholic thinking in the tradition of Thomas Aquinas requires a more subtle analysis of creation, finality, order and purpose than that offered by those who criticize the comprehensiveness of evolutionary theory on the basis of "intelligent design."

It is true that the existence of all that is depends upon a Creator who transcends the world, but it would seem strange to argue that causes in nature were somehow, in principle, insufficient to explain the changes which occur in nature. If nature is intelligible in terms of causes discoverable in it, we ought not to think that changes in nature require special divine agency. In fact, deficiencies in the causal structure of nature which require an appeal to an intelligent designer, would call into question God's omnipotence and providence, rather than serve as an argument in support of God's agency. To explain the development of complex biological structures by an appeal to causes other than those in the natural order would suggest that God could not have created a natural order endowed with causal principles adequate to produce the changes in that order. Appeals to an "intelligent designer" do not really defend the agency of God in the world. Against those who would use contemporary science to deny Catholic teaching on creation and providence, the Church has ample philosophical and theological resources without rejecting central claims of that science.