

Darwinism: Science or Philosophy

Chapter 11 X Does Not Entail Y

The Rhetorical Uses of Conflating Levels of Logic

Arthur M. Shapiro

Science, to put it bluntly, is uneasy with beginnings. Mythology, on the contrary, is concerned above all with what happened "in the beginning." . . . Its signature is "Once upon a time," . . . But it differs most importantly from science in that its explanatory account of how we began is also a prescriptive account of how subsequent beginnings . . . should proceed; the Last Supper, for example, tells us not only how the Christian era began but how its energies can be periodically renewed

Dudley Young, *Origins of the Sacred: The Ecstasies of Love and War* (1991)

Facts are precisely what there is not, only interpretations.

F. Nietzsche, *The Will to Power*

IT'S A GREAT PLEASURE to be here in Texas, where a certain regional neo-Populist politician is fond of saying there's nothing in the middle of the road but yellow lines and dead armadillos. I beg to disagree, at least insofar as the middle of the road applies to the relationships between religion and science.

Andrew Dickson White called his seminal work *A History of the Warfare of Science with Theology in Christendom*. No one can deny that such warfare has occurred, and even its historical necessity may not be in dispute. Like literal wars, much of that warfare resulted from the artful promotion of misperception and misunderstanding by the pro-war parties, usually on

both sides. To recognize such manipulation offers at least a glimmer of hope that the hostilities may at last come to an end

We are here to focus on Darwinism, or neo-Darwinism, because that is the target Phillip Johnson has chosen to attack. I am going to dispute the uniqueness and even the appropriateness of that target. I maintain that the concentration on evolution as the point where science and religion collide is both a product of historical forces and of the kind of rhetorical manipulation that gets people and nations into wars. I further maintain that the dichotomies employed by the propagandists of the science-religion war are false, and that proper analysis of the logical structure of their argument rapidly destroys its validity.

At the same time, I want to stress two caveats. First, this is intended as a polemic, not as a formal axiomatization of the argument. Second, I do not claim that anything new is to be found here. My arguments are old; perfectly adequate specimens of them, fashioned in fact to deal with the question of Darwinism, can be found in sources from the nineteenth century, some of which I will cite.

Here is my argument in a nutshell: Biological evolution (Darwinism, neo-Darwinism) entails no particular position on the ultimate origins of either life or the universe. Evolution is a subject studied by the methods of science. To conduct scientific investigation per se entails no claim to intellectual hegemony or ontological priority over other potential "ways of knowing." The contrary claims, implicit or explicit in the arguments of both theists and atheists, flow from a conflation of evolution with evolutionism or of science with scientism (or positivism, or materialism, or some other ism). The conflation may be pertinent to discussions of human affairs and society but at the same time is obfuscatory and logically invalid, as conflation by definition is.

I further argue that biological evolution is no more inconsistent with religion than are other sciences, and that the attacks on it specifically are best understood in sociological and political, not philosophical, terms.

Phillip Johnson is a very intelligent man, highly skilled in argumentation. It annoys me to find him making the same vulgar errors as appear routinely in the presentations of professional creationists. I refer, of course, to the conflation, if not equation, of science and scientific disciplines with ideological positions. But this is no new error. Several years ago I had the opportunity to teach a series of Sunday school classes on creation and evolution to a group of adult Presbyterians, and I was able to find outstanding specimens of debate in the nineteenth century Presbyterian literature to present to them. Charles Hodge (1797-1878) was sixty-two years old when the *Origin of Species* appeared and was firmly established as a rock-ribbed conservative theologian; he boasted that no new idea ever originated in the Princeton Theological Seminary, which he dominated for decades. His book *What is Darwinism?* (1874) declares:

This is a question which needs an answer. Great confusion and diversity of opinion prevail as to the real views of the man whose writings have agitated the whole world, scientific and religious. If a man says he is a Darwinian, many understand him to avow himself virtually an atheist, while another understands him as saying that he adopts some harmless form of the doctrine of evolution. This is a great evil.

It is obviously useless to discuss any theory until we are agreed as to what that theory is. The question, therefore, what is Darwinism? must take precedence of all discussion of its merits.

I commend Hodge's formulation and analysis to my readers. Referring to Darwin, he says:

... he uses the word natural as antithetical to supernatural. Natural selection is a selection made by natural laws, working without intention and design.... In using the expression Natural Selection, Mr. Darwin intends to exclude design, or final causes.

And...

There are in the animal and vegetable worlds innumerable instances of at least apparent contrivance, which have excited the admiration of men in all ages. There are three ways of accounting for them. The first is the Scriptural doctrine, namely that God is a Spirit, a personal, self-conscious, intelligent agent.... This doctrine does not ignore the efficiency of second causes; it simply asserts that God overrules and controls them....

The second method of accounting for contrivances in nature admits that they were foreseen and purposed by God, and that He endowed matter with forces which He foresaw and intended should produce such results. But here His agency stops. He never interferes to guide the operation of physical causes.... This banishing God from the world is simply intolerable and, blessed be His name, impossible. An absent God who does nothing is, to us, no God.

The third method of accounting for the contrivances ... refers them to the blind operation of natural causes. This is the doctrine of the Materialists, and to this doctrine, we are sorry to say, Mr. Darwin, although himself a theist, has given his adhesion....

And to summarize:

The conclusion of the whole matter is, that the denial of design in Nature is virtually the denial of God....

We have thus arrived at the answer to our question, What is Darwinism? It is Atheism.

No, it is not.

Observe how easily Hodge implicitly equates Darwinism with Materialism. On reflection, the logical leap he makes, from Darwinism to Materialism to Atheism, becomes increasingly problematic. Darwin's sin, it appears, was to fail to acquiesce to the claim that "God did it." Some theologians indeed might argue that to seek alternative, purely materialistic explanations for phenomena already attributed to God is to commit the sin of pride. Darwin's great intellectual triumph was to provide a mechanism, natural selection, that could account for what Hodge calls "contrivances": to provide the appearance of design without invoking a Designer.

Clearly, the availability of such a mechanism would gladden the heart of anyone who for whatever reason wished to banish God from the universe. But it itself could not banish God from the universe. If the mechanism works, if it is proven valid and sufficient, then it renders God simply redundant in that context. But that is not to say that it disproves his existence; it merely makes it a teensy bit less necessary for explanatory purposes. Hodge dismisses deism with a wave of the hand: "An absent God who does nothing is, to us, no God." A deist might well reply that a God who merits belief only insofar as he is necessary as a unique explanation of biological phenomena is a pretty weak God.

Somewhere years ago I saw a cartoon showing an upset wife in her scientist-husband's lab. The white-coated husband is fiddling with test tubes, and she says, "But if you reduce us to molecular-level phenomena, what happens to our mystique?" It is no secret that the phenomenal growth of science in the last few centuries has been largely at the expense of both religion and secular philosophy: both have had less and less to claim as their unique explanatory domains.

There are various reasons why materialistic explanations in biology have often been viewed as more threatening to religion than those in physics and chemistry. But biological explanation, including Darwinism and neo-Darwinism, has no unique intellectual flaw that renders it particularly weak as an alternative to religion. This is, however, the impression conveyed by many of its critics, ranging from the folks at the Institute for Creation Research to, say, Phillip Johnson. More on this anon.

Critics of evolution, including Johnson, persistently conflate Darwinism or neo-Darwinism with the origin of life or of the universe, or both. There is simply no entailment here. Darwin was in no position to devise tenable hypotheses about the origin of life, since the basic biochemistry of life was unknown. There is nothing wrong with such hypothesizing, of course. It is perfectly normal scientific procedure to attempt to generate materialistic explanations for what appear to be material phenomena. We need to be clear as to the logic of entailment here. The validity or invalidity of Darwin's, or anybody else's, materialistic-mechanistic hypotheses about the evolution and diversification of life implies nothing about the validity or invalidity of any given suggestion about the origin of life, let alone the universe—except insofar as true explanations at those two levels could not be mutually contradictory as to, for example, the basic chemistry of life. That is, origins-of-life hypotheses must account successfully for the origins of the

biochemicals that define life as we know it, or of plausible precursors of those, not some utterly different set unrelated to life on earth today.

But a successful creation-of-life experiment in the laboratory would merely demonstrate that such a thing was possible. It would not, and could not, prove that that was how it happened the first time. The first synthetic test-tube birth cannot logically dictate the death of God.

The Epilogue of Thaxton, Bradley, and Olsen (1984) reviews and criticizes theories of origins, concluding with a plea for "metaphysical tolerance." These authors correctly, I think, compartmentalize origins as separate questions from biotic evolution. They draw a distinction between "operations science," the "second causes" of Hodge, and "origins science." Their point is that hypotheses about singular events, such as the origin of the universe or the origin of life, cannot be falsified; this, they believe opens the door to inclusion of the supernatural as a "scientific" explanation. I shall return to this theme too, noting in passing the intellectual bankruptcy of panspermia as an alternative explanation for the origin of life. Panspermia merely puts the question of origins a step back into deeper unknowability somewhere in space, with both materialistic and theistic scenarios remaining viable but somewhat further away.

Science is not an ideology. Scientism and perhaps positivism are. As a philosophical position, positivism is in advanced decay, and for anti-Darwinists to continue to flog it is either a rhetorical ploy or a demonstration of being out of touch. But that is not to say that the doing of science is independent of certain minimal and intrinsically ideological suppositions. A large literature can be found on this point but because I have no time here to review it, I will give my favorite presentation of those suppositions- which happens to be my own (Shapiro, 1987):

One is able to do science at all only if one accepts certain intrinsically unprovable postulates about the universe: that a material universe exists in some meaningful sense; that the evidence of reason and our (extended) senses is sufficient to comprehend that universe: that the universe is lawful; and that its laws are and always have been the same everywhere.... This is a materialistic belief system, an ideology if you will, no more subject to empirical or logical validation ("proof") than any religious belief system.

Note that the minimum set of materialistic beliefs enumerated above neither denies nor excludes the possibility of the supernatural; it *ignores* it.... Science *per se* neither affirms nor denies the existence of God. This was perfectly clear to the liberal Presbyterian theologian James Woodrow when he made his famous defense of Darwinism in 1884, and it is no less clear now.

In my Presbyterian Sunday school class I rebutted Hodge with a reading from Woodrow. Woodrow to a degree conflates origins with evolution too, but he (I think correctly) keeps his logic of entailment straight nonetheless:

[The] definition now given [of evolution], which seems to me the only one which can be given within the limits of natural science, necessarily excludes the possibility of the questions whether the doctrine is theistic or atheistic, religious or irreligious, moral or immoral. It would be as plainly absurd . . . to inquire whether [it] is white or black, square or round, light or heavy. In this respect it is like every other hypothesis or theory in science. These are qualities which do not belong to such subjects. The only question that can rationally be put is, is the doctrine true or false? If this statement is correct-and it is almost if not quite self-evident-it should at once end all disputes not only between Evolution and religion, but between natural science and religion universally.

And:

To prove that the universe, the earth, and the organic beings upon the earth, had once been in a different condition from the present, and had gradually reached the state which we now see, could not disprove or tend to disprove the existence of God or the possession by Him of a single attribute ever thought to belong to Him.... He is as really and truly your Creator, though you are the descendant of hundreds of ancestors, as He was of the first particle of matter which He called into being, or the first plant or animal, or the first angel in Heaven.

Scientism or atheism has agendas that leave no room for God. It can be claimed that the distinction between science and scientism, or evolution and evolutionism, may be valid but nonetheless unimportant, insofar as the effect of science or evolution is to promote the agendas of scientism or evolutionism. That is, any successful scientific idea by definition is another nail hammered into the coffin of theism, insofar as public perception is concerned. The public is no more sophisticated in these matters than are the theologians, philosophers, biochemists, and law professors who confuse these terms and concepts. And the social consequences of science-driven, mass apostasy are too horrible to contemplate. (Rachels, 1991, ruminates on potential bases for post-Darwinian morality.)

I do not like functionalist arguments, on principle. I Remember too vividly that Vavilov's pursuit of theoretical questions in agrogenetics was sufficient to define him as a German agent in the minds of the Stalinist authorities. The USSR, it will be recalled, had an entire criminal category, "wreckers," those who sabotaged the cause of the People by failing to be duly subservient, and thus served the cause of the enemy.

Of course it is naive to claim that ideas do not have consequences. They do. By giving God less and less to do, science has not been good overall for theism. The single-minded focus on Darwinism and neoDarwinism, however, in itself betrays the functionalist reasoning and motivation of so many of the critics. This symposium is not the place to do it, but it would be an interesting exercise to attempt a formal comparison of the intellectual structure of say, neo-Darwinism and the theory of plate tectonics. (I admit that attempts to date to axiomatize evolutionary theory have been rather unsatisfying.) It seems to me that the structure of conjecture and extrapolation is very similar and perhaps effectively isomorphous in these two fields (which, by the way, are not only complementary but are strongly mutually reinforcing) and that if the

alleged intellectual weaknesses of evolutionary theory were really being pursued for their own sake, those of structural geology would have merited comparable attention. Despite the existence of a bumper sticker that says "Stop continental drift" there seems little concern for the moral implications of subduction. And if the critics are right, *there should be*, because banishing the deity from shaping the contours of the earth should be at least as damaging to his reputation as denying his responsibility for the shapes of moths' wings.

In practical terms, however, opposing science across the board does not work; science provides too many tangible comforts. The perception of practical reward from Darwinism is low ("operations science" can continue to support medicine without postulating phylogeny) and the emotional resonances attached to perceptions of our own uniqueness are high. For anti-Darwinians, then, conflation is a useful rhetorical tool.

But it is equally useful for ideologues of the other side, who claim that the successes of Darwinism indeed are nails in the coffin of God. One of the most articulate spokesmen for scientific atheism in this country is Provine (1988). I pointed out to him that his arguments were very close to those of the conservative Presbyterian theologian, Hodge. He was not surprised; he said he came from a "long line of Presbyterian ministers" himself.

To admit that neither Darwinism, nor some eventual creation of life in the laboratory, nor the theory of plate tectonics, nor any other conceptual or empirical achievement of science can definitively settle the question of God's existence is an unappealing prospect to both theists and atheists. It bothers atheists because it leaves the door open to people (irrationally, as the atheists see it) continuing to cling to religion out of wishful thinking. It bothers theists because it obliges them to seek justifications for their belief which do not depend on the necessity of God to explain the material world. And that is hard work.

Both the humanities and the special, sort-of-hybrid discipline of philosophy of science have been wrestling with the nature of claims to objectivity. Phillip Johnson and others of our critics have accused us, with some justice, of acting as if we stand on high ground, free from ideological presuppositions. I have tried to show in this paper that we have certain basic ones, but that they are only a subset of those constituting a full-blown materialistic ideology.

With that said, a few closing words on the role of ideology and the realism-relativism question in science in general, with special reference to evolution, seem called for.

Alasdair MacIntyre (1988) says:

There is no other way to engage in the formulation, elaboration, rational justification, and criticism of accounts of practical rationality and justice except from within some one particular tradition in conversation, cooperation, and conflict with those who inhabit the same tradition Considerations urged from within one tradition may be ignored by those conducting enquiry or debate within another only at the cost, by *their own standards*, of excluding relevant good

reasons for believing or disbelieving this or that or for acting in one way rather than another. Yet *in other areas* what is asserted or enquired into within the former tradition may have no counterpart whatsoever in the latter there is no set of independent standards of rational justification by appeal to which the issues between contending traditions can be decided.

MacIntyre's view here is an echo of Kuhn's notion of incommensurable paradigms in science. By this view, theistic and atheistic perspectives are so utterly different as to share no common ground on which to communicate. A related notion is elaborated by the philosopher Rorty (1979), who seems to say that science cannot set its own rules for what is or is not scientific, because it is self-interested and therefore cannot stand on neutral ground.

I am not going to resolve such claims here, though I would hazard a prediction, hardly original, that such trendy stuff will persist for even a shorter time than did all of the once-fashionable attacks on scientific realism. (Only a few weeks ago Marjorie Grene declared on my own campus that "everyone is some kind of a realist now. What's the point of denying that a real world exists?")

It seems to me that the first step to understanding the intellectual structure of the origins problem is to disentangle carefully the levels at which entailments are claimed. Once that is done, it should be clear that it is unreasonable to require science to do theists' homework for them. Here is Phillip Johnson (1990) speaking:

The absence of proof "when measured on an absolute scale" is unimportant to a thoroughgoing naturalist, who feels that science is doing well enough if it has a plausible explanation that maintains the naturalistic worldview. The same absence of proof is highly significant to any person who thinks it possible that there are more things in heaven and earth than are dreamt of in naturalistic philosophy.

Victory in the creation-evolution dispute therefore belongs to the party with the cultural authority to establish the ground rules that govern the discourse. If creation is admitted as a serious possibility, Darwinism cannot win, and if it is excluded *a priori* Darwinism cannot lose.... Creation-science is not science, said the [National] Academy [of Sciences], because "it fails to display the most basic characteristic of science: reliance upon naturalistic explanations. Instead, proponents of creation-science hold that the creation of the universe, the earth, living things, and man was accomplished through supernatural means inaccessible to human understanding."

Phillip Johnson, conservative theist that he is, here betrays himself as deeply confused about commensurability. He accuses science of being unfair in not admitting into its own camp a philosophical perspective radically different from its own, and then using that refusal to cement its social hegemony. He very nearly goes so far as to claim, with MacIntyre or Rorty, that science *has no* right to be taken seriously when it attempts to define itself, because it is so deeply self-interested.

I do not hear science demanding that religions employ experiment to demonstrate the existence of God. I have heard positivists say that the notion of God is nonsense because it can't be tested by experiment. That, thank heavens, is a *passee* argument, but in any case it is *at a different level of discourse*. And that's the point.

Huber (1991) argues that the erosion of the 1923 Frye rule opened the way to "junk science" and chaos in American liability law. The Frye rule held that expert witnesses were permitted only when "their testimony was founded on theories, methods and procedures 'generally accepted' as valid among other scientists in the same field." This is indeed a prescription for preserving orthodoxy within science, yet-as philosophers, historians, and sociologists of science never tire of telling us-science, perhaps alone among human institutions, has built into it mechanisms for self-correction and the promotion of change.

I do not think that Phillip Johnson's antipathy to Darwinism extends far enough that he would embrace a relativist, perspectivist, or nihilist notion of "science" that would open the door not only to the Creator but to astrology, orgone energy, pyramid power, and all of that (and if he did, conservative Christians, thinking functionalistically, would see him as a stalking horse for Satan).

Thaxton et al. (1984) miss the boat when they call for inclusion of God as a viable hypothesis in "origins science." What they should say is that "knowledge claims" can be divided into a variety of categories, and that claims about origins are beyond the realm of scientific "proof." In MacIntyre's terms, the contending traditions in the realm of origins require no "independent standards of rational justification," insofar as they have been talking at different levels. The problem between them is a pseudo problem. And it is not a Darwinian problem.

Unless one ideologically *insists* upon biblical inerrancy-at which point I will go have a beer.

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Darwinism: Science or Philosophy

Chapter 11a Response to Arthur M. Shapiro

X Does implicate Y: implication and Entailment in the Creation-Evolution Debate

William A. Dembski

ARTHUR SHAPIRO HAS JUST argued that X does not entail Y, where X is biological evolution of the Darwinian or neo-Darwinian stripe, and Y is any particular position on the ultimate origins of life or the universe. To this I offer a hearty Amen. But I also ask, So what? As a mathematician I've had plenty of experience in the logic of entailment-every theorem is entailed by some relevant set of mathematical axioms. As a philosopher who works in the logic of conditionals, I'm aware how entailment works outside mathematical contexts. Entailment is the strongest logical connection by far. To say that X entails Y is to say that it's impossible for X to be true and Y false. Alternatively, Y is necessary given X. Thus, to say that X does not entail Y is to say that it is possible for X to be true and Y false. But since Shapiro leaves Y completely open-ended on the questions of origins, to say that biological evolution does not entail any account of origins, be it theistic, materialistic, or whatever, is simply to say that biological evolution is logically compatible with any number of positions on the origin of life and the universe.

Given what is meant by logical entailment-and this is the sense in which Shapiro is using it-I must agree with his claim. Moreover, Shapiro's claim has empirical support: individuals with widely divergent views on origins have made their peace with, or (if you will) have surrendered to, neo-Darwinism. Certainly this is true of "scientistic atheists" like Will Provine. But it is also true of notable theists like Richard Swinburne, who even when writing on teleology and design admits the central claims of neo-Darwinism:

Complex animals and plants can be produced through generation by less complex animals and plants . . . and simple animals and plants can be produced by natural processes from inorganic matter. {1}

Suffice it to say, there is no *logical* impossibility reconciling neo-Darwinism with a host of philosophical positions on origins.

So what? Suppose I place Al and Bob in a room, lock it, reopen it an hour later only to find Al lying on the floor in a pool of blood, with Bob standing over him holding a smoking gun. Denote this scenario by X. Let Y denote the claim that Bob shot Al. Does X entail Y? Well, no. Al may have been suicidal and shot himself. Bob tried to prevent this and is now holding the gun which he was too late in taking away from Al. Suppose, however, we know that Bob and Al are mortal enemies, and that Al has no suicidal tendencies. With this background knowledge, does X entail Y? Again the answer is *No*. There might be a trap door in the room. Perhaps an enemy of both Al and Bob used the trap door to enter the room, shoot Al, and then place the gun in Bob's hand so as to frame Bob.

If this story appears fanciful, if I appear to be veering from the path of common sense, it is because the logic of entailment cannot distinguish between the banal, the bizarre, and the ridiculous. It can distinguish only between the possible and the impossible. The circumstantial evidence for Bob's killing Al may be excellent if a video camera in the room happens to record Bob shooting Al, there will even be direct evidence for Bob shooting Al. But no amount of empirical evidence will *entail* Bob shooting Al. Bob's double might actually have shot Al. Bob's enemy might have rigged the video camera so that it only appears that Bob shot Al. I am not suggesting that our reason for believing that Bob shot Al becomes inferior because no evidence can entail this claim. Entailment is simply too strong a logical notion to apply in most matters of fact. In particular, it is the wrong philosophical tool for investigating the relation between Darwinism and origins.

It is here that Shapiro and I part company. Shapiro argues, and I quote,

Biological evolution is no more inconsistent with religion than are other sciences, and . . . the attacks on it specifically are best understood in sociological and political, not philosophical, terms.

Philosophy has a lot more to say about the relation between biological evolution and world views than Shapiro is willing to admit. To move from entailment to sociology is simply too abrupt a leap. It is more than a sociological fact that, and I quote Shapiro, "the phenomenal growth of science in the last few centuries has been largely at the expense of religion. By concentrating on entailment and jumping from there to sociology, Shapiro has ignored the epistemological question of what implications exist between Darwinism and religion.

In philosophy, implication is a more general notion than entailment. The scenario of Al and Bob locked in a room together with some appropriate background assumptions would implicate that Bob had murdered Al, but it wouldn't entail that Bob had murdered Al. Implication includes entailment, and therefore addresses questions of possibility and necessity. But implication also

addresses questions of uncertainty, partial evidence, and probability. X can implicate Y without X having to force Y to be true under all possible circumstances. X can implicate Y. X can be true, but Y might still fail. Any lawyer will appreciate this point. As an aside, let me mention that this is one reason why I appreciate Phillip Johnson's work of weighing neo-Darwinism in the legal balances. A strict logico-deductive argument will never settle the creation-evolution debate.

I've said that Shapiro ignores the epistemological question of what implications exist between neo-Darwinism and theology. This is true in that he admits no implication other than entailment. Nevertheless, without assigning it any epistemological weight, he does mention a significant implication. Commenting on natural selection Shapiro notes,

Darwin's great intellectual triumph was to provide a mechanism, natural selection, that could account for . . . the appearance of design without invoking a Designer. Clearly, the availability of such a mechanism would gladden the heart of anyone who for whatever reason wished to banish God from the universe. But it itself could not banish God from the universe. If the mechanism works, if it is proven valid and sufficient, then it renders God simply redundant in that context. But that is not to say that it disproves His existence; it merely makes it a teensy bit less necessary for explanatory purposes.

I would drop the "teensy bit less necessary" business, and simply admit that if Darwin was right, then design is unnecessary for explaining the complexity of living systems. This clearly is an implication. Note that it is not an entailment. Note also that the concerns raised by this implication are squarely epistemological, not sociological. The implication states that a certain type of explanation becomes insupportable if neo-Darwinism happens to be correct, namely, any explanation that explains living systems as the product of design.

Now I agree wholeheartedly that this implication is correct. Swinburne endorses it as well. I quoted Swinburne earlier as supporting the fundamental thesis of neo-Darwinism, viz., that "complex animals and plants can be produced through generation by less complex animals and plants . . . and simple animals and plants can be produced by natural processes from inorganic matter." Swinburne makes this claim at the same time he is advancing an argument from design. How can he do this? By looking to cosmology instead of biology. Indeed, he admits that Darwin has banished design from biology.

Now Shapiro doesn't think that the implication "if neo-Darwinism is right, then design is an unnecessary explanatory device" has much riding on it theologically. For Shapiro it is enough that the existence of God remain secure. As Shapiro has rightly observed, Darwinism entails nothing about the existence of God. For theology, however, there is more at stake than simply the existence of God. The nature of this God, his relation to the world, and his causal powers to affect the world are part and parcel of any theological position.

In terms of the logic of entailment it makes no big difference to the existence of God whether Darwin was right or wrong. But in terms of the logic of implication it can make a big difference to a theological position whether Darwin was right. Shapiro's theology is certainly at peace with Darwin. A strictly pietistic theology can without much difficulty make peace with Darwin. A

deistic theology can readily make peace with Darwin. Only a theology so obtuse as to insist on biblical inerrancy cannot make peace with Darwin; at least this is the impression Shapiro leaves.

What are the implications of Darwinism for theology? Shapiro has correctly argued that Darwinism does not entail any of the isms that contend with religion. Shapiro has also argued, again correctly, that Darwinism implicates the redundancy of design. Phillip Johnson (I believe rightly) takes this implication a step further, viz., Darwinism implicates naturalism. As Johnson puts it,

"Evolution" contradicts "creation" only when it is explicitly or tacitly defined as *fully naturalistic evolution*-meaning evolution that is not directed by any purposeful intelligence.

Once one realizes that natural selection is precisely the vehicle needed to transform a theory of evolution into a *fully naturalistic* theory of evolution, the implication follows at once. Darwinism does implicate naturalism. The less God has to do, the less reason there is to maintain a theology, the more reason there is to adopt naturalism. This is not a sociological point. This is an epistemological point about the nature of explanation-about not postulating entities that are redundant or irrelevant. X therefore does implicate Y.

In closing this response, I feel it necessary to say a few words in defense of Phillip Johnson. Shapiro has charged Johnson with "making the same vulgar errors as appear routinely in the presentations of professional creationists." There is only one error I can see Shapiro referring to, and that is the error of claiming that Darwinism entails naturalism (a claim that is false simply because God can always be maintained as a useless appendage in any world view). That Johnson never claimed such an entailment should have been obvious to Shapiro, since Johnson as a lawyer is in the business of weighing evidence subject to uncertainties, and not in the business of entailments involving necessary connections. Shapiro's charge therefore cannot be supported.

Shapiro's criticism of Johnson, however, fails in a more serious way. Shapiro claims that Darwinism does not entail naturalism. Johnson claims that Darwinism implicates naturalism. Both are right. Nevertheless, I would claim that Johnson's concern in writing *Darwin on Trial* was not primarily with X entailing or implicating Y, where X is Darwinism and Y naturalism, but Y implicating X. The reverse implication is really the important one. Sure, Darwinism gives God less to do and therefore implicates naturalism. But naturalism in turn needs something like Darwinism to keep it viable.

As Alvin Plantinga puts it, if you accept naturalism, Darwinism is the only game in town. Plantinga claims an implication from naturalism to Darwinism. Johnson's work properly speaking is devoted to this implication. As a lawyer concerned with how ideological agendas-and naturalism is one such agenda-influence the courts, it is only natural for Johnson to concentrate on this implication. Shapiro has therefore missed the boat twice. The question was never whether X entails Y. It was always obvious that X implicates Y. The central question was how Y implicates X, i.e., how naturalism manages to keep Darwinism afloat. Indeed, Darwinism needs more than scientific facts to keep it afloat.

NOTE

{1} Richard Swinburne. *The Existence of God* (Oxford: Oxford University Press, 1979), p. 135.

Darwinism: Science or Philosophy

Chapter 11b Reply to William A. Dembski

X and Y and Bob and Al and Ted and Carol and Alice

Arthur M. Shapiro

NOT MENTIONING SOMETHING does not necessarily entail ignorance of it. Nor does it necessarily *imply* ignorance of it. Dembski is correct; entailment is the strongest logical connection, if I say that all Shapiros are geeks, this claim means that any given Shapiro is a geek. Life is comfortingly simple.

Contrast this with the claim that Shapiros *tend to be* geeks; there is some unspecified degree of connectedness between the property of Shapironess and that of geekiness. Now, suppose your daughter announces that she intends to marry a Shapiro. Are you justified in forbidding such an act, sight unseen? This involves a judgment on your part: how important is your daughter's happiness? your aversion to geeks? Do Shapiros and/or geeks have any rights that might conflict with your perceived interest? If you are a decent humane sort, rather than a flaming bigot, you would conclude that no probabilistic statement short of absolute certainty would suffice; you would insist that the putative geek be brought home for inspection. You might be less principled on this point if the matter at issue were, say, buying a post-hole digger from a Shapiro-if the price were good.

I did not discuss implication, precisely because it is so fuzzy and because the weight to be assigned it is so dependent on context. To say that methodological materialism or naturalism implies (or implicates) metaphysical materialism or naturalism is to say very little, To conflate logically distinct terms (science and scientism, evolution and evolutionism) is indeed to commit a "vulgar error," one that creates a rhetorical illusion of entailment when in fact only an unspecified, but certainly considerably weaker, association can rightfully be claimed. The more

important the issue, the more inexcusable the error. (The fact that we are here argues that this issue is non-trivial)

Phillip Johnson is a lawyer and as such is "in the business of weighing evidence subject to uncertainties, and not in the business of entailments involving necessary connections." Could Dr. Dembski possibly be such a babe in the woods when it comes to lawyering? In adversarial proceedings (and if there were none such, who would need lawyers?), the lawyers "weigh evidence subject to uncertainties" in the sense that they attempt to manipulate the perceptions of others so as to minimize the appearance of uncertainty when favorable evidence for their cause is at issue, and to maximize the appearance of uncertainty when contrary evidence is at issue. That is, they attempt to create illusions of entailment or near-entailment in the minds of those "others." What "others?" Why, those who "weigh evidence subject to uncertainties" *in order to reach a judgment*, that is, judges and juries.

As a lawyer and a good one, Phillip Johnson's job-and he knows it very well-is to use rhetoric to disguise the weakness and/or unoperationality of his own claims. That's why it's important to demonstrate that the *illusion* of entailment cannot be taken for *true* entailment-because there isn't any.

After all this obscurantistic Dembskian scuffle, the last paragraph of his critique is refreshingly interesting. In it, he inverts the sense of the quote that brought us together. Remember? It says "Darwinism and neo-Darwinism . . . carry with them an *a priori* commitment to metaphysical naturalism, which is essential to make a convincing case in their behalf." But Dembski says "naturalism needs something like Darwinism to keep it viable," and therefore I have missed the boat. No, Phillip Johnson missed the boat. Dembski might be able to write an interesting paper based on this novel thesis, and I hope he does-but he had better justify his logic, because logical propositions are not automatically symmetrical, like redox reactions.

Oh yes, Al and Bob. Only once, in the second paragraph of the Al and Bob excursus, does Dembski actually say that Bob *killed* Al. As it happens, he didn't. (Lying in a pool of blood on the floor doesn't entail being dead) The actual *denouement* is much more interesting, Al survived, and told the police the whole story, including who shot him.

God did it. But not to worry: Phillip Johnson for the defense got him off. Charles Darwin, who wasn't even there, got forty-six years for attempted murder, aggravated assault, and naturalism in the third degree.