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Evolution, Purpose and God

Abstract

A number of biologists maintain that the recent developments in evolutionary biology have profound implications for religion, morality and our self-understanding. The author focuses on the issue whether evolutionary biology has any relevance for a religious understanding of the meaning of life. First, the question about the meaning of life is clarified. Second, the argument of biologists such as Richard Dawkins, Stephen Jay Gould and Edward O. Wilson, that evolutionary theory undermines the religious belief that there is a purpose or meaning to the existence of the universe and to human life in particular, is evaluated. The author maintains that this argument has some merit, but that it nevertheless fails both to be a purely scientific argument and to establish the intended conclusion.

1 The Issue

A number of biologists seem to think that evolutionary theory implies a meaningless universe. The idea is that biology somehow shows that life lacks a purpose and direction. The universe and its inhabitants are the result of change and apparently nothing more.

Let me give some examples of biologists maintaining this view. Stephen Jay Gould tells us that ‘Darwin argues that evolution has no purpose. Individuals struggle to increase the representation of their genes in future generations, and that is all’.¹ William Provine asserts, ‘Modern science directly implies that there . . . is no ultimate meaning for humans’.² Richard Dawkins maintains, ‘The universe we observe 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. . . . DNA neither knows nor cares. DNA just is. And we dance to its music’.³ Edward O. Wilson writes, ‘no species, ours included, possesses a purpose beyond the imperatives created by its genetic history’.⁴ Lastly, George Gaylord Simpson claims, ‘Man is the result of a purposeless and natural process that did not have him in mind’.⁵

But if Jews, Christians, Muslims are right that the universe is created by God and that God even intended to bring into being creatures made in God’s image, then it seems as if the universe and human life have a purpose even if religious believers may not have been able to always agree on what exactly it might be. But let us assume that Keith Ward is right in that central to God’s purpose is the ‘generation of communities of free, self-aware, self-directing sentient beings’.⁶

1. Stephen Jay Gould, *Ever Since Darwin* (London 1977), 12.
2. William Provine, ‘Evolution and the Foundation of Ethics,’ *MBL Science* 3 (1988), 28.
3. Richard Dawkins, *River Out of Eden* (New York 1995), 133.
4. Edward O. Wilson, *On Human Nature* (Cambridge, Mass. 1978), 2.
5. George Gaylord Simpson, *The Meaning of Evolution* (rev. ed.) (New Haven 1967), 345.
6. Keith Ward, *God, Change and Necessity* (Oxford 1996), 191.

Hence, on such a theistic account the purpose of genes is to build bodies, the purpose of bodies is to build brains, and the purpose of brains is to generate consciousness and even self-consciousness, and with it appears for the first time in natural history, reflective and critical thinking, experiences of meaning, love and forgiveness and a capacity to chose between good and evil—all embodied in human beings.

So there seems to be a serious clash between science and religion on this point. The theologian John F. Haught thinks that if these biologists are right then the conflict is so serious that ‘although theology can accommodate many different scientific ideas, it cannot get along with the notion of an inherently purposeless cosmos’ because such an idea is so central to a theological and religious concern.⁷ He does not think this is true about merely the major theistic religions but of most religions of the world. Haught writes,

Since for many scientists today evolution clearly implies a meaningless universe, *all religions* must be concerned about it. Evolutionists raise questions not only about the Christian God but also about notions of ultimate reality or cosmic meaning as these are understood by many of the world’s other religious traditions. . . . Almost all religions, and not just Christianity, have envisaged the cosmos as the expression of a transcending ‘order,’ ‘wisdom,’ or ‘rightness,’ rather than as an irreversibly evolving process. Most religions have held that there is some unfathomable ‘point’ to the universe, and that the cosmos is enshrouded by a meaning over which we can have no intellectual control, and to which we must in the end surrender humbly.⁸

So there are good reasons why traditional believers of all sorts ought to take seriously these claims made by scientists and in particular by evolutionary biologists. The claims made are essentially:

- (1) Evolutionary theory implies a meaningless universe, that is, that there is no ultimate meaning or that the universe is not here for a reason.
- (2) Evolutionary theory implies, more specifically, that there is no meaning to be found behind the emergence of human beings in natural history, that is, we are not here for a reason and in particular we are not planned by God or anything like God.

In short, the key assertion is that evolutionary theory undermines the religious belief that there is a purpose or meaning to the existence of the universe and to human life in particular. It shows that the universe and humans are not here for a reason. Let us take a closer look at these claims and evaluate the arguments that are given to support them.

2 Evolution and the Meaning *in* Life

Notice first that some of the things these biologists write seem to suggest yet another way evolutionary theory can undermine religious belief. A traditional religious understanding of the world involves the idea that a central part of the

7. John F. Haught, *God After Darwin* (Boulder 2000), 26.

8. Haught, *God After Darwin*, 9.

meaning of human life should be to truly love and respect God and other humans (and as some like to add other living creatures as well). But what Gould writes seems to come in conflict with such understanding of the meaning of life because, 'Darwin argues that evolution has no purpose. Individuals struggle to increase the representation of their genes in future generations, and that is all'.⁹ This indicates that if there is any purpose to human life it consists in maximizing one's fitness. Dawkins is very explicit on this point. He believes that science and in particular biology has a great deal to say about the meaning of life. It tells us that 'we are machines built by DNA whose purpose is to make more copies of the same DNA. . . That is *exactly* what we are for. We are machines for propagating DNA, and the propagation of DNA is a self-sustaining process. It is every living object's sole reason for living. . .'¹⁰ This is what Dawkins, in his more recent writing, calls the 'single Utility Function of life,' and he believes that 'everything makes sense once you assume that DNA survival is what is being maximized'.¹¹ The purpose with our human lives is, thus, to be survival machines for our genes and we serve this purpose best by maximizing our offspring. But if the meaning of life is to increase the representation of one's genes in future generations, and that is all, this means that *evolutionary theory undermines the religious belief that the meaning of life is to be found in a loving relationship with God and with other human beings.*

So evolutionary theory is taken to undermine two separate religious claims about the meaning of life. The first deals with the meaning *of* life and the second with the meaning *in* life. The former is a claim about whether the universe and life have any overarching purpose or ultimate meaning. The latter is a claim about what particular values and interest we ought to structure our lives around to give them meaning. One could claim, and this is what Dawkins, at least, seems to be doing, that there can be a meaning *in* life without there being a meaning *of* life. So even if our lives cannot have any ultimate meaning it can still have a meaning, but it is an anti-religious meaning in that it is restricted to the activity of increasing the representation of our genes in future generations.

So what should we say about these claims? The second way in which evolutionary theory is taken to undermine religious belief seems obviously false. Human activities and convictions exist that do not favor and may even hinder the survival and reproduction of the individuals and their genes. The most obvious example is that while it is true of most species that every organism has as many descendents as it can, it is not true of ours. In modern Western societies parents have fewer children than they could successfully raise given their economy. But then the most dominant determinant in human reproductive behavior cannot be maximizing fitness, and the explanation for the fall in fertility in West cannot be genetic but cultural. The most reasonable explanation is that we, as a result of scientific discoveries, can by using contraception choose the number of children we want to have. So it cannot be true that in our sexual behavior we are determined

9. Gould, *Ever Since Darwin*, 12.

10. Dawkins quoted in Michael W. Poole, 'A Critique of Aspects of the Philosophy and Theology of Richard Dawkins,' *Science and Christian Belief* 6 (1994), 58.

11. Dawkins, *River Out of Eden*, 106.

by our genes to increase our offspring.¹² Therefore, there is no reason to believe that we are in any significant way survival machines for our genes.

This applies to the human search for meaning as well. We have a freedom to give our lives meaning by structuring them around *other* values than maximizing fitness, such as appreciation of beauty and music, friendship and moral virtues, and interests such as football, sailing, science, caring for the poor and travel. By letting our activities be guided by values and interests such as these, we develop a reason or purpose sufficient to give our life a meaning. And, of course, among these values and interests a relationship with God can have a central place. So there are good reasons to believe that it is false that evolutionary theory undermines the religious belief that the meaning of life is to be found in a loving relationship with God and with other human beings.

3 Evolution and Ultimate Meaning

But without God the chances that there is an ultimate meaning or a meaning *of* life seem very slim indeed. Is it the case that such an overarching meaning is something evolutionary theory has shown there is no reason to hope for? In particular, can a science such as biology really demonstrate that it is not rational anymore for well-informed persons to believe that God brought the universe into being in order to realize a set of values or worthwhile states, including, in particular, the emergence of a complex self-conscious life form such as *Homo sapiens*?

It is not so easy to determine what exactly the argument is that these biologists appeal to, to justify their claim that evolutionary theory undermines the religious belief that there is a purpose or meaning to the existence of the universe and to human life in particular. The conclusion is more often stated than premises that warrant such conclusion. But it seems to have something to do with the fact that evolutionary biologists have discovered that chance or randomness is central to the development of life. Dawkins writes that ‘natural selection, the blind, unconscious, automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind’.¹³ But, of course, theists are not committed to believe that natural selection had any meaning in mind simply because natural selection is not an agent and as far as we know only agents can have purposes in mind. What they are committed to believe is that *God had a purpose in mind in using natural selection as a means to create human beings and that we, therefore, exist for a purpose*. The question is then whether science undermines such a religious belief. To be able to argue that that is the case, it seems as if one must show that *natural selection* and *God bringing us intentionally into existence* are incompatible beliefs.

What Gould writes may prove to be a good starting-point for such an ar-

12. In chapter 4 in *Scientism: Science, Ethics and Religion* (Ashgate, forthcoming) I offer a number of other examples and thus reasons why we should reject the idea that we are survival machines for our genes.

13. Richard Dawkins, *The Blind Watchmaker* (New York 1986), 5.

gument because he maintains that evolutionary biology has shown that ‘we are the accidental result of unplanned process . . . the fragile result of an enormous concatenation of improbabilities, not the predictable product of any definite process’.¹⁴ That is to say, evolutionary biologists cannot find any propensities in the organic material they investigate, which make the development of conscious life forms likely. On the genetic level all they find is random genetic changes (such as mutations) that are unrelated to the needs of the organisms. Natural selection operates over these chance events, but the selection is for survival and not increased biological complexity, which is necessary for human life to develop. It is, thus, a random event that evolution has led from simple life forms to complex life forms because such development is not probable given the biological mechanisms we know are at work in the evolutionary process, or at least the development of a self-conscious life form is not likely given these mechanism. Hence, all biological events taking place in evolutionary history, including the emergence of *Homo sapiens*, are random with respect to what evolutionary theory can predict or retrospectively explain. Consequently, evolutionary theory has shown that human beings are *merely* accidental. There was not any plan, any foresight, any mind, or any mind’s eye involved in their coming into being. Therefore, there is no ultimate meaning and in particular human beings are not here for a reason. There is no divine purpose to be found behind the emergence of life and of a self-conscious life form in particular.

4 An Evaluation of the No-Cosmic-Purpose Argument

What should we say about this argument? To start with it does not seem as though everything in the universe is really random because the things that exist obey general laws. It is not the case that everything is chaotic in the sense that anything could happen in natural history. If so one would expect that the natural laws would not be describable by science because they would change all the time or simply cease to exist. That this is not so is, of course, nothing that surprises religious people who believe that God planned the creation of the universe.

Moreover, scientists have discovered that even a marginal difference in the initial conditions of the universe would have ensured that no life ever evolved anywhere. For life to emerge at all, the rate of expansion of the universe, the force of gravity, the weak and strong nuclear forces, and innumerable other physical conditions had to fall within a very narrow range. If not, the universe could never have produced hydrogen atoms, supernovae, carbon, water and other elements essential to life. The universe seems to be fine-tuned to support intelligent life.¹⁵

So even if the biologists are right that natural selection is a random process in the sense that evolutionary theory cannot predict or retrospectively explain its outcome, once we bring in physics and cosmology things appears to change. We then learn that the physical constants and initial conditions of this universe are

14. Stephen Jay Gould, ‘Extemporaneous Comments on Evolutionary Hope and Realities,’ Charles L. Hamrum (ed.) *Darwin’s Legacy, Nobel Conference XVIII* (San Francisco 1983), 101–102.

15. See, for instance, Richard Swinburne, *Is There a God?* (Oxford 1996) and Ward, *God, Change and Necessity* for an argument in this direction.

suited with great precision to the evolution of living beings. It is no longer very surprising that evolution would eventually bring conscious life into existence.

I do not think that the accounts of evolutionary biologists, on the one hand, and the accounts of physicists and cosmologists, on the other, need to come in conflict with each other. The reason is that biologists typically focus on the evolution of a particular lineage of animals – it could have developed in a number of quite different ways from the way it actually developed – and the types of life forms and functions served. Holmes Rolston writes,

Assuming more or less the same Earth-bound environments, if evolutionary history were to occur all over again, things would be different. Still, there would likely again be organisms reproducing, genotypes and phenotypes, natural selection over variants, multicellular organisms with specialized cells, membranes, organs; there would likely be plants and animals: photosynthesis or some similar means of solar energy capture in primary producers such as plants, and secondary consumers with sight, and other sentience such as smell and hearing; mobility with fins, limbs, and wings, such as in animals. There would be predators and prey, parasites and hosts, autotrophs and heterotrophs, ecosystemic communities; there would be convergence and parallelism. Coactions and cooperations would emerge. Life would probably evolve in the sea, spread to the land and the air. Play the tape of history again; the first time we replayed it the differences would strike us. Leigh Van Valen continues: 'Play the tape a few more times, though. We see similar melodic elements appearing in each, and the overall structure may be quite similar. . . . When we take a broader view, the role of contingency diminishes. Look at the tape as a whole. It resembles in some ways a symphony, although its orchestration is internal and caused largely by the interactions of many melodic strands.'¹⁶

So perhaps it is true that the development of *Homo sapiens* is not likely given the scientific theories we have, but the development of some form of intelligent life is. If we play the tape again and again it is likely that something *like* us will reappear.

So far we have discussed what appears to be the first premise in the 'no-cosmic-purpose argument,' namely, the claim that we are the accidental result of unplanned process, a fragile result of an enormous concatenation of improbabilities, and not the predictable product of any definite process. We have seen that it is quite plausible to maintain the opposite conclusion that we (or something similar to us anyway) are a predictable product of evolution given the physical constants and initial conditions of the universe. That is to say, if we state the first premise of the argument as,

(1) All individual species that come into existence through the process of evolution are random (that is, have a low probability) with respect to what evolutionary theory (or more broadly, the sciences) can predict or retrospectively explain;

then (1) seems to be a scientific premise even though it is possible to question it on scientific grounds. The conclusion the advocates of this argument want to validate is:

16. Holmes Rolston III, *Genes, Genesis and God* (Cambridge 1999), 20.

(2) Therefore, the existence of human beings lacks an ultimate meaning, in particular, their existence is not the result of a divine purpose or intention.

Or alternatively it is:

(2') Therefore, the existence of human beings is the result of pure chance and nothing more.

But (1) in itself is not sufficient to warrant (2) or (2'), other premises are needed. To obtain (2') one could, for instance, add:

(3) The only things that we can know anything about are the ones science can discover.

The argument would then be that if the only things that we can know anything about are the ones science can discover, and science can only discover random events, the existence of human beings is the result of pure chance and nothing more.

But premise (3) seems to be an extra-scientific claim and, furthermore, we have good reason to believe that we cannot know that this claim is true. The problem is that the scientific belief that we can only know what science can tell us, seems to be something that science cannot tell us. How can one set up a scientific experiment to demonstrate the truth of (3)? What methods in, for instance, biology or physics are suitable for such a task? Well, hardly those methods that make it possible for scientists to discover and explain electrons, protons, genes, survival mechanisms and natural selection. Furthermore it is not because the content of this belief is too small, too distant or too far in the past for science to determine its truth-value (or probability). Rather it is that beliefs of this sort are not subject to scientific inquiry. We cannot come to know (3) by appeal to science alone. Premise (3) is rather a view in the theory of knowledge and is, therefore, a piece of philosophy and not a piece of science. But if it is a piece of philosophy than we cannot know it to be true because we would then have non-scientific knowledge. Thus, the claim undermines itself. In any case, what we have here is an argument against traditional religion, which already presupposes the truth of scientific naturalism and therefore begs the question.

The only other plausible way these biologists can, as far as I can see, undermine religious belief about an ultimate meaning to the universe and to human existence is to add to (1) a premise about the *conditions that must be satisfied for something to exist for a reason or to be something which is intended or planned by an agent*. Remember that the religious belief is that we are planned by God to be here, that there is in this sense a meaning or purpose to our existence. We are not merely accidental because God intended to create us and did so, we have discovered, not by a direct act of creation but by the process of evolution. It seems, however, as if a requirement for a plan, purpose, foresight or intention to be involved in an object coming into being is that this object is not the result of pure chance, but has a certain likelihood of obtaining.

In my and my wife's garden there are a number of flowers and we planned some of these. There is, therefore, a reason for those flowers being there. One

might claim that because my wife and I planted a number of red roses and intended them to be there, they grow there for a purpose. But if, when walking through my garden, I tripped over a stone and some seeds accidentally lying on my sleeve happened to fall on the flowerbed, there would not be a purpose behind the existence of these red roses. So purpose seems to require intention. However, intention is not sufficient for purposive outcome of action. This can be shown as follows. Suppose I intended to plant red roses, and I took topsoil out of a bag and spread it over the flowerbed. By accident there happened to be some red rose seeds in the bag, so after a while red roses started to grow where I intended them to grow. This is, of course, a very hypothetical case. But in such a case, we would not say that the roses had been put there intentionally, but rather that their presence was merely accidental. So intention plus a certain probability that the event intended actually obtains appears to be required for the purposive outcome of an action.

If the defenders of the no-cosmic-purpose argument apply these observations about human agents to God, it seems as if they have a complete argument. It would go something like this:

(4) The existence of *Homo sapiens* is planned by God only if the species' existence is intended by God and it is likely that its emergence will take place for that reason.

(5) But all individual species that come into existence through the process of evolution are random (that is, have a low probability) with respect to what evolutionary theory (or more broadly, the sciences) can predict or retrospectively explain.

(6) Therefore, the existence of human beings lacks an ultimate meaning; in particular, their existence is not the result of God's purposes, intentions or plans.

5 Two Additional Problems with the Argument

There are, at least, two additional problems with this argument, beside the problem we have already discussed concerning premise (5). The first problem is that premise (4) is not a scientific premise but rather an extra-scientific or philosophical one, and it is also a premise that needs to be supported by philosophical arguments. This is not necessarily a bad argument. I personally think it is an interesting one, but it is nevertheless – and this is what is important in this case – not a scientific argument. Hence, it is not true that science (or evolutionary biology) *per se* undermines the religious belief that there is a purpose or meaning to the existence of the universe and to human life in particular. Science cannot establish that the universe and humans are not here for a reason. What is true is that scientific theories such as evolutionary theory can *in conjunction* with extra-scientific or philosophical claims undermine such a religious belief. Note, however that to the extent one thinks that this is possible, to that extent one also undermines the plausibility of the scientific idea that the only kind of knowledge that we can have is scientific knowledge. This is so because such extra-scientific premises are, of course, not species of scientific knowledge. But to have force they must be considered to be true, that is, someone (or many ideally) either knows

them to be true or is at least rationally entitled to believe them to be true. So if we take these extra-scientific claims seriously we also by doing so question the truth of (3).

The second problem concerns premise (5). If one wants to obtain the conclusion that our existence lacks an ultimate or divine purpose and, in particular, that we are not intended by a God like the one whom theists believe in, then what premise (5) tells us is not strictly relevant. The relevant issue is not, strictly speaking, what is likely given the scientific information or theories we possess, but what is probable given *God's* knowledge about the outcome of the evolutionary processes that science investigates, if certain initial conditions are initiated at the beginning of the universe. Theists agree that such a being's cognitive capacity would outrun our capacity by far. They disagree, however, whether God's knowledge includes merely what *has* occurred and *is* occurring, or if it also includes all that *will* occur. Some theists even think that God possesses 'middle knowledge,' i.e., God also knows what *would* in fact happen in every possible situation or possible world. But even if God's knowledge is limited to everything that is or has been and what follows deterministically from it, it seems as though God's ability to predict with great accuracy the outcome of future natural causes and events is enormous. We cannot, therefore, automatically assume that what is likely given such divine knowledge is the same as what is likely given the scientific knowledge that we happen to have.

So if God planned to create us and if it is likely that we would actually come into existence, given what God can know about the future of the evolving creation, then one could reasonably claim that we are here for a reason, and that in this sense there is a purpose to our existence. To establish the opposite conclusion seems to require more than basing one's calculation of probable outcomes on current scientific theories. At any rate, it follows that a successful defense of the relevance of premise (5) takes us far outside the domain of science and into metaphysics and theology. So any inferences from evolutionary biology that the universe or human existence is purposeless cannot possibly be categorized as scientific.¹⁷

17. In writing this article I gratefully acknowledge the financial support of the Axel and Margaret Ax:son Johnson's Foundation.