

## The Plantinga-Dennett Debate: Science and Religion: Are they Compatible?

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“Science and Religion, Where the Conflict Really Lies.” That's the title. Our question is this: are science and religion compatible? A useful project would be to try to make this question more precise. What is religion? What is science? What is incompatibility and in what varieties does it come? There is explicit contradiction, implicit contradiction, contradiction in the presence of plausible assumptions, improbability of conjunction, and the like. Some claim that theism itself is inconsistent; in which case, naturally enough, it will be incompatible with science ... and everything else [*audience laughter*]. Others retort that the same goes for science: current general relativity is incompatible with current quantum theory, so that current science itself is inconsistent. In which case, it is incompatible with religion ... and everything else [*audience laughter*]. These are good topics, but they'll have to wait for another occasion.

Here I'll assume that we have at least a pretty good rough grasp of the question. I won't be talking about religion generally but about specifically theistic religion and in particular Christian belief. But the Christian part will be less important than the theistic part. When I speak of Christian belief I am thinking of C.S. Lewis' "Mere Christianity": something like the intersection of the great Christian creeds. So although what I say is explicitly concerned with Christian belief, it will also be relevant to many varieties of Judaism and Islam.

Why think there is conflict here? Many suggestions have been offered. For example, theistic religion endorses special divine action in the world, miracles for example. But such action would contradict the laws promulgated by science. Another example, there is such a thing as the scientific worldview and it is incompatible with theistic religion. Christian belief implies that human beings have been created in God's image, but contemporary evolutionary theory—properly understood—implies that neither God nor anyone else has designed, planned, or intended that human beings come to be. Evolutionary psychology is full of theories that are incompatible with theistic understandings of human beings. Some scientific Biblical scholarship argues that historical claims of Christianity—for example, that Jesus rose from the dead—are false, or anyway groundless. These are all of great interest, but I'll limit myself on this talk to a cluster of issues having to do with evolution.

I'll argue:

(1) That contemporary evolutionary theory is not incompatible with theistic belief

(2) That the main anti-theistic arguments involving evolution together with other premises also fail

(3) That even if current science—evolutionary or otherwise—were incompatible with theistic belief, it wouldn't follow that theistic belief is irrational or unwarranted or in any other kind of trouble. And finally:

(4) That naturalism—the thought that there is no such person as the God of the theistic religions or anything like—God is an essential element in the naturalistic worldview, which is a sort of quasi-religion itself in the sense that it plays some of the most important roles of religion. And, I'll argue that the naturalistic worldview is in fact incompatible with evolution. Hence, there is a science and religion (or quasi-religion) conflict alright, but it's the conflict between naturalism and science, not between theistic religion and science.

## Part 1 - Contemporary Evolutionary Theory is Compatible with Theistic Belief

The term "evolution" covers a variety of theses. There is the ancient earth thesis for example. There is the thesis of descent with modification. That is the thought that the enormous diversity of the contemporary living world has come about by way of offspring differing—ordinarily in small and subtle ways—from their parents. There is the common ancestry thesis: the claim that—as Gould put it—there is a tree of evolutionary descent linking all organisms by deep ties of genealogy. I'll use the term "evolution" to refer to the conjunction of these three theses.

There is also (4), the claim that the principle mechanism driving this process of descent with modification is natural selection—natural selection winnowing random genetic mutation. Since a similar proposal was characteristic of Darwin—he said natural selection has been the main but not exclusive means of modification—we'll call this thesis Darwinism (so that's the fourth thesis).

Now it's clear I think that there's no conflict between theistic religion and the ancient earth thesis or the descent with modification thesis or the common ancestry thesis. According to theistic belief, God has created the living world, but of course he could have done so in many different ways and in particular in ways compatible with these theses. What about the fourth thesis, Darwinism? Is it incompatible with theistic religion? Many apparently think so. Among them are Richard Dawkins, Daniel Dennett seated here to my left [*audience laughter*], George Gaylord Simpson and many others, and far to the other side Phillip Johnson. But are they right? Where exactly would such an incompatibility arise?

A suggested source of conflict has to do with the Christian doctrine of creation—in particular the claim that God has created human beings in his image. This requires that God intended to create creatures of a certain kind, and planned that there be creatures of that kind. Rational creatures perhaps, with a moral sense and a capacity to know and love him. It requires that God intended to create creatures of such a kind, and then acted in such a way as to accomplish this intention. This claim is purely consistent with evolution (those first three theses), as conservative Christian theologians have pointed out as far back as 1871 with Charles Hodge at Princeton. But is it also consistent with Darwinism? It looks as if it is. God could have caused the right mutations to arise at the right time. He could have preserved populations from perils of various sorts, and so on. And in this way, by orchestrating the course of evolution, he could have ensured that there come to be creatures of the kind he intends. Now what is not consistent with Christian belief, however, is the claim that evolution and Darwinism are unguided or I'll take that to include being unplanned and unintended. What is not consistent with Christian belief is the claim that no personal agent (not even God) has guided, planned, intended, directed, orchestrated, or shaped this whole process. Yet precisely this claim is made by a large number of contemporary scientists and philosophers who write on this topic. There is a veritable choir of distinguished experts insisting that this process is unguided; indeed, sometimes insisting that it is part of the contemporary scientific theory of evolution itself to assert that it is unguided so that evolutionary theory as such is incompatible with Christian belief.

According to George Gaylord Simpson for example, "Man (and no doubt woman as well) is the result of a purposeless and natural process that did not have him in mind."<sup>1</sup>

In this connection, the late Stephen Jay Gould and others have emphasized what they take to be the chancy, contingent, and undirected character of evolution. If the evolutionary tape were to be rewound and then let go forward again, the chances are we'd get creatures of a very different sort from the ones actually present on earth. The chances are we'd get nothing much like *Homo sapiens*. But Gould's

suggestion, I think, presupposes that God has not guided and orchestrated the course of evolution; and hence, can't be appealed to as a reason for supposing that he has not done so. Given the biological evidence and the proposition that God has indeed created human beings in his image ... [*audience cough obscures a few words*] ... Gould's suggestion is wholly implausible. For if the tape were rewound and then let go forward again, no doubt God still would have intended that there be creatures created in his image, and would still have seen to it that there be such creatures.

What about the fact that genetic mutations are said to be random? You might wonder whether genetic mutations could be both random and intended and caused by God. If these mutations are random, aren't they just a matter of chance ... blind chance? But it is no part of current evolutionary theory to say that these mutations are random in extent, implying that they are uncaused (they are said to be caused by cosmic rays for example), and still less that they occur just by chance.

According to Ernst Mayr, the dean of post-World War II biology, "When it is said that mutation or variation is random, the statement simply means that there is no correlation between the production of new genotypes and the adaptational needs of an organism in a given environment." <sup>2</sup>

Elliot Sober puts the point a little more carefully (or maybe more fully), "There is no physical mechanism (either inside organisms or outside of them) that detects which mutations would be beneficial and causes those mutations to occur."<sup>3</sup>

The point is that a mutation accruing to an organism is random, just as neither the organism nor its environment contains the mechanism or process or organ that causes adaptive mutations to occur. But clearly a mutation could be both random in that sense, and also intended (and indeed caused) by God. Hence, the randomness involved in Darwinism does not imply that the process is not divinely guided. The fact (if it is a fact) that human beings have come to be by way of natural selection operating on random genetic mutation is not at all incompatible with their having been designed by God and created in his image. Therefore Darwinism is entirely compatible with God's guiding, orchestrating, and overseeing the whole process. Indeed it's perfectly compatible with the idea that God causes the random genetic mutations that are winnowed by natural selection. Maybe all of them. Maybe just some. Those who claim that evolution shows that humankind or other living things have not been designed apparently confuse the naturalistic gloss on the scientific theory with the theory itself. The claim that evolution demonstrates that human beings and other living creatures have not—contrary to appearances—been designed, is not a part of or a consequence of the scientific theory as such, but a metaphysical or theological add-on. Naturalism implies of course that we human beings have not been designed and created in God's image, because it implies that there is no such person as God. But evolutionary science by itself does not carry this implication. Naturalism and evolutionary theory together imply the denial of divine design. But evolutionary theory by itself doesn't have that implication. It is only evolutionary science combined with naturalism that implies this denial. Since naturalism all by itself has this implication, it's no surprise that when you conjoin it with science—or as far as that goes anything else: the complete works of William E. McGonagall, poet and tragedian for example, or the Farmer's Almanac, or the Apostle's Creed—the conjunction will also have this implication [*audience laughter*].

## **Section 2: Broader Anti-Theistic Arguments from Evolution**

So Darwinism as such doesn't include or imply the proposition that the process is unguided. What about broader anti-theistic arguments involving evolution? I'm aware of three sorts of arguments proposed

here. First there is the claim that evolution undercuts the argument from design, thus reducing the rational support (if any) enjoyed by theism. Second, there is the claim that the process of evolution so wasteful and productive of suffering is not the sort of process God would use or permit. And thirdly, there is the thought that unguided evolution as a hypothesis is superior to the hypothesis that the process of evolution has been guided or orchestrated by minds (divine or otherwise), because it is simpler and more Occamistic. None of these objections, I believe, is promising. While I can't deal properly with any of them, let alone all of them in the time I have, I'll briefly outline a response to each.

Start with the claim that evolution undercuts the argument from design, thus making it less reasonable to accept theistic belief.

According to John Dupré, "Darwinism undermines the only remotely plausible reason for believing in the existence of God."<sup>4</sup>

That is...the argument from design. Now it's reasonable to think that evolution makes it somewhat easier to be rational or sensible in accepting atheism. Prior to 1859, there simply weren't decent answers to the question: if this abundant variety of life wasn't created by God, how did it get here?

In this connection Richard Dawkins says, "Darwin made it possible to be an intellectually fulfilled atheist."<sup>5</sup>

But making it easier to be a rational atheist doesn't as such make it harder to be a rational theist, and doesn't as such create a religion/science conflict. And how much support does the argument from design actually offer theistic belief anyways? Perhaps it suggests belief in the existence of a very powerful, very knowledgeable being (or group of beings). But that's a long ways from theism.

In any event, however, current molecular biology may offer the materials for a different sort of argument from design, as explained in the much maligned Michael Behe's recent book, "The Edge of Evolution." Michael Behe is indeed much maligned. His argument is one of the few serious and quantitative arguments in this area. We have the living cell, both prokaryotic and eukaryotic, with its stupefying complexity and its multitude of elaborately complex protein machines. Behe argues that unguided natural selection is probably incapable of producing these protein machines. His argument is quantitative and empirical rather than a priori. Its centerpiece is the saga of the malaria parasite, *Plasmodium falciparum*, and its long trench warfare over the human genome. I don't have the space here to outline this argument, but to me as a layman the argument seems reasonably powerful though very far from conclusive. If Behe is right, or anywhere nearly right, the probability of the existence of the cell as we find it is much greater on theism than on naturalism. And if this is so, the argument from design is reinstated at a deeper level. What current biological science takes away with one hand, it restores with the other. But the real point lies in a different direction. Belief in God is seldom accepted on the basis of the teleological argument, or indeed any argument or propositional evidence at all. Both untutored observation and current research in the scientific study of religion suggest that a tendency to believe in God (or something very much like God) apart from any propositional evidence is part of our native cognitive endowment. Furthermore, if theistic belief is true, it probably doesn't require propositional evidence for its rational acceptability. As I argued in this book, "Warranted Christian Belief," if theistic belief is true then very likely it has both rationality and warrant in a basic way: that is, not on the basis of propositional evidence. If theistic belief is true, then very likely there is a cognitive structure, something like John Calvin's *sensus divinitatis*, an original source of warranted theistic belief. In this way belief in God, like belief in other minds, has its own source of rationality and warrant and

doesn't depend on arguments from other sources for these estimable qualities. The demise of the teleological argument (if indeed evolution has compromised it) is perhaps little more of a threat to rational belief in God than the demise of the argument from analogy for other minds is to rational belief in other minds.

Second, there is a suggestion made by Gould and others that the waste and suffering involved in evolution is evidence against theism.

Phillip Kitcher puts it like this, "When we envisage a human analogue presiding over a miniaturized version of the arrangement...it's hard to equip the face with a kindly expression."

And then it goes on to suggest, "Had a benevolent creator proposed to use evolution under natural selection as a means for attaining his purposes, we could have given him some useful advice."<sup>6</sup>

I'm not sure how such advice would be received [audience laughter], but of course we don't require current evolutionary theory (or current science at all) to tell us that the animal world is full of predation, death, pain and suffering. Alfred Lord Tennyson noted that "nature is red in tooth and claw" well before 1859 and no doubt some suspected it even earlier [audience laughter]. Still current science gives us reason to believe that suffering and death have afflicted the human and animal world for a much longer time that was ordinarily thought before the nineteenth century. It has therefore given us information about the extent and duration of animal suffering ... including human suffering. The first thing to see here I think is this is a special case of the so-called "problem of evil": a problem that is alleged to afflict theistic belief. Sin and suffering do indeed constitute a problem or perplexity for theism, although it may be hard to specify precisely what the problem is. Most atheist thinkers have given up the idea that the existence of sin and suffering is logically incompatible with theistic belief. Some kind of inductive or probabilistic anti-theistic argument is presumably what's at issue. It has proven surprisingly difficult, however, to give a really plausible statement of a probabilistic argument from evil. And as these arguments become more complex, they also seem to become less convincing. Surely, however, sin and suffering create some kind of problem or at least perplexity for theists. The existence of so much suffering and hurt in God's world certainly seems to call out for an explanation of some sort. And what current biological science adds to the problem is that predation, suffering, and death have been going on for a very long time. But does this put any additional pressure on the various theistic or Christian responses to suffering and evil? My own favorite response is the "O felix culpa" response, according to which all of the really good possible worlds involve divine incarnation and atonement (or at any rate atonement). But then all the best possible worlds also involve a great deal of sin, and as a consequence a great deal of suffering. Some of this suffering is on the part of non-human creatures. Christians think of suffering, both human and non-human, as due in one way or another to sin, although not necessarily to human sin. There are also Satan and his minions who may, as C.S. Lewis suggests, be involved in one way or another in the evolution of the non-human living world. But learning that sin and suffering has been going on for longer than we had originally thought shouldn't raise any additional difficulties for the "O felix culpa" response. Suppose we learn that our world with all its problems heartaches and cruelty will endure for millions of years before the advent of the new heaven and the new earth. That wouldn't have much bearing, one thinks, on the viability or the satisfactoriness of this response to evil. The new heaven and the new earth, after all, will exist for a vastly longer period than our current sad and troubled old world. Officially at least, it will be such a long period that the length of time our current sad and troubled old world exists isn't any proportion of it at all. But the same goes, I should think, for our learning that our world (with all the ills there too) has gone on much longer than originally thought. Current science shows that suffering, both human and animal, has gone on much longer than previously

thought; but it doesn't thereby diminish the value of Christian responses to the problem of evil, and in this way doesn't exacerbate that problem much if at all.

Finally, there is the claim—perhaps made more often in the oral tradition than in print—that the hypothesis of unguided evolution is simpler and more in accord with Occamistic injunctions than the hypothesis that God or other intelligent beings have guided the course of terrestrial evolution. Here, two points are relevant. First, even if unguided evolution is more Occamistic than guided evolution, it isn't at all clear that the former is—all things considered—superior as the hypothesis to the latter. It involves fewer kinds of beings, yes, but that isn't the only relevant consideration. Another is their respective likelihoods, that is, the probabilities of the living world—more exactly, the variety of the living world—coming to be by way of these two hypotheses.

(1) Let 'D' be the proposition that the variety of the living world is come to be by Darwinian processes.

(2) 'E': the biological evidence

(3) 'G': the proposition that evolution is guided

(4) 'U': the proposition that it is unguided

Then our question is which is greater: the probability of 'D' on 'E' and 'G', or the probability of 'D' on 'E' and 'U'?

It is, of course, overwhelmingly difficult to make anything like reasonably precise judgments here; but perhaps we can make sensibly comparative judgments. Consider first:  $P(D/E\&G)$ . Clearly God could have created living things by way of natural selection: causing the right mutations to arise at the right time, preserving the right populations from disaster, and so on. He could also have allowed other intelligent creatures to be involved in the whole process. Again, it is overwhelmingly difficult to estimate the probability that this is the way in which it has in fact happened. But  $P(D/E\&G)$  is perhaps not terribly low. What about  $P(D/E\&U)$ ? Going all the way back to St. George Mivart, critics have expressed serious doubt as to whether the eye, for example, could have come to be by way of unguided natural selection operating on random genetic mutation. Could have that is, apart from absolutely stunning improbability. The eye, the mammalian brain, and other organs remain difficult problems for unguided evolution; but the really hard problem here for unguided Darwinism isn't the development of macroscopic organs such as eyes and hearts. The hard problem rather is at the microscopic molecular level: the stupefying complexity of the living cell, both prokaryotic and eukaryotic.

So for example, Bruce Alberts (President of the National Academy of Sciences when he wrote this) says, "Nearly every process in a cell is carried out by assemblies of 10 or more protein molecules...Indeed, the entire cell can be viewed as a factory that contains an elaborate network of interlocking assembly lines, each of which is composed of a set of large protein machines..."<sup>7</sup>

It's only in the last half century or so that this enormous complexity has come to view. The eminent scientist Ernst Haeckel sums up nineteenth century opinion when he declared the cell "a simple little lump of albuminous combination of carbon."

Of course, it's widely assumed that in fact the cell must have come to be in that fashion. But there is little by way of serious argument for the conclusion that its coming to be in this way is less than prohibitively improbable. On the other hand, as I said above, Michael Behe has proposed a serious and quantitative argument for the opposite conclusion. Given the stunning complexity of the living cell with

its enormous complication, together with what we know about mutation rates, the age of the earth, population size, and the like: it seems reasonable or maybe not unreasonable to estimate that  $P(D/E\&U)$  is exceedingly low. Perhaps orders of magnitude lower than  $P(D/E\&G)$ . If this is right then even if we accept 'U' as Occasmistically superior to 'G', it is inferior to 'G' in that the relevant likelihood is lower. But again, the real point lies in a different direction. The theistic noetic structure already, of course, includes the existence of God. Relative to that noetic structure, therefore, there is no additional Occamistic cost in the hypothesis of guided evolution. As an analogy: suppose we land a spaceship on a planet we know is inhabited by intelligent creatures. We find something that looks exactly like a stone arrow head, complete with grooves and indentations apparently made in the process of shaping and sharpening it. Two possibilities suggest themselves. One: that it acquired these characteristics by way of erosion let's say. And the other: that it was intentionally designed and fashioned by the inhabitants. Someone with a couple of courses in philosophy might suggest that the former hypothesis is to be preferred because it posits fewer entities than the latter. He'd be wrong, of course. Since we already know the planet contains intelligent creatures, there is no Occamistic cost involved in thinking these structures designed. The same would go for evolution. Theists already accept divine design, and do not incur additional Occamistic cost by way of thinking of evolution as guided. This objection to guided evolution would have more by way of teeth if we theists and atheists alike were starting from an agnostic position, and then the theists proposed to postulate the existence of a divine designer in order to explain the course of evolution. That would be substantially like offering a theistic argument. And then the availability of a non-theistic alternative hypothesis—providing the relevant likelihood wasn't too overwhelmingly small—would indeed undercut the argument. But of course, in this context the theist isn't presenting a theistic argument. She already accepts divine design, and hence the fact that guided evolution involves more entities than unguided evolution, is no reason in favor (with respect to her noetic structure) of the latter. Since that is so, there is no conflict here between theistic religion and evolutionary science.

I've argued that contemporary scientific theories of evolution taken as including Darwinism do not entail the claim that natural selection is unguided. But suppose I'm mistaken, or suppose instead that current evolutionary theory itself evolves in such a way that this claim becomes part of it. This could certainly happen. We can easily imagine the authorities in the textbooks stating the theory as such a way as to explicitly include the claim that natural selection is unguided by any personal agent. After all, many (perhaps most) biologists believe that it is unguided. Would that show that there is scientific evidence against theism? Hardly. We could imagine physics evolving in the same direction: all the physics textbooks behind them endorsing general relativity ... adding that the behavior of large-scale physical systems is never guided by any personal agents. In either case, it wouldn't follow that there is scientific evidence against theism. Annexing a proposition  $p$  to one for which there is evidence doesn't automatically confer evidence on  $p$ . I learn that Feike is a Frisian lifeguard. That increases the probability that he can swim. It also increases the probability of the proposition: Feike can swim, and the next toss of this coin will land heads. But it does not increase the probability that the next toss of this coin will land heads. And even if, contrary to fact, there were scientific evidence for unguided evolution (and hence for atheism), that would by no means settle the issue. Suppose there is scientific evidence against theism. It doesn't follow that theism is false or that theists have a defeater for their beliefs or that theistic belief is irrational or in some way problematic. Perhaps there is also scientific evidence or otherwise for theism.

Second but more important: as I mentioned, if theism is true it is likely that it has its own intrinsic and basic source of warrant. Something like the *sensus divinitatis* proposed by John Calvin or the natural but

confused knowledge of God proposed by Thomas Aquinas. If so, the warrant for theistic belief doesn't depend on the state of current science. Indeed, what Christians and other theists should think of current science can depend quite properly in part on theology. For example, science has not spoken with a single voice about the question of whether the universe has a beginning. First the idea was that it did, but then the steady state theory triumphed, then big bang cosmology achieved ascendancy, but now there are straws in the wind suggesting a reversion to the thought that the universe is without beginning. The sensible Christian believer is not obliged to trim her sails to the current scientific breeze on this topic—revising her belief on the topic every time science changes its mind. If the most satisfactory theistic or Christian theology endorses the idea that the universe did indeed have a beginning (isn't eternal let's say), the believer has a perfect right to accept that thought. If so, then even if there were scientific evidence against theism and no propositional evidence—arguments let's say, scientific or otherwise—in favor of it, it still might be both rational and warranted.

### **Section 3: Naturalism versus Evolution**

Naturalism comes in more than one variety. Here, as I said, I take it to be the view that there is no such person as the God of the theistic religions or anything at all like God. So taken, naturalism is not a religion. Nevertheless, it is a crucial part of the naturalistic worldview which in turn plays at least one of the most important roles of a religion. This worldview functions as a sort of myth in the technical sense of that term. It offers a way of interpreting ourselves to ourselves; a way of understanding our origin and significance at the deep level of religion. It tells us where we come from, what our prospects are, what our place in the universe is, whether there is life after death, and the like. We could therefore say that it is a quasi-religion. What I propose to argue next is that naturalism and current science are incompatible, so that there is a religion (or quasi-religion) science conflict sure enough, but it is between science and natural not science and theistic religion. What I'll argue is that naturalism is incompatible with evolution in the sense that one can't rationally accept them both. Since I've given this argument elsewhere I can be brief.

First, note that naturalists are all (or nearly all) materialists about human persons. A human person is a material object through and through with no immaterial self or soul or subject. For present purposes therefore, I'll assimilate materialism to naturalism. The central premises of the argument are as follows: where 'N' is naturalism, 'E' is current evolutionary theory, and 'R' is the proposition that our cognitive faculties are reliable. The argument goes like this:

- (1) The probability of R/N&E is low
- (2) One who accept N&E concedes that 1 is true as a defeater for R
- (3) This defeater can't be itself defeated
- (4) One who has a defeater for R, has a defeater for any belief he takes to be produced by her cognitive faculties including N&E itself
- (5) Therefore, N&E is self-defeating and hence can't be rationally accepted

These premises need defense, perhaps the first in particular; so, suppose there are beliefs. This isn't essential to the argument for (1), but it will facilitate a brief statement of it. From the point of view of materialism, a belief will presumably be an event or structure in the nervous system—perhaps in the brain. It will be a structure involving many neurons connected in various ways. This structure will

respond to input from other such structures: from sense organs and so on. It may also send signals along a structure of nerves to muscles and glands thereby causing behavior. Such a structure will have at least two kinds of properties. On the one hand, it will have neurophysiological properties—called “NP properties”—specifying, for example: the number of neurons involved in the structure; the rate of fire in various parts of it; the change in rate of fire in one part in response to the change in rate of fire in another; the way in which it is connected with other structures, and muscles; and the like. But if it is a belief, it will also have a property of quite a different sort: a mental property. It will have a content. It will be the belief that  $p$  for some proposition  $p$ . NP properties are physical properties; having such and such a content is a mental property. There are three ways in which, given materialism, mental and physical properties can be related. First, non-reductive materialism: while mental properties can't be reduced to physical properties, they supervene on them. And take supervenience to be like this: properties of sort A supervene on properties of sort B just if necessarily, if entities  $x$  and  $y$  differ with respect to their A properties then they differ with respect to their B properties. A necessity involved could be either broadly logical metaphysical necessity or nomological necessity—giving us two varieties of supervenience: logical and nomological—and hence two possibilities as to the relation of mental properties to physical properties. The third possibility for that relation is reductive materialism: according to which ever mental property is identical with some physical property.

Now, in order to avoid inter-specific chauvinism, suppose we think not about ourselves but about a population of creatures (perhaps in one of those other cosmoi proposed by inflationary scenarios) who resemble us in holding beliefs, changing beliefs, making inferences and so on. Suppose also that naturalism holds for these creatures, and that they have come to be by the processes specified in contemporary evolutionary theory. Now ask about  $P(R/N\&E)$ —specified not to us but to them. And consider that probability with respect to each of the three suggestions about the relation of mental and physical properties.

Consider first logical non-reductive materialism: call it ‘LNM.’ Mental properties are distinct from physical properties but supervene upon them where the necessity involved is broadly logical. What is  $P(R/N\&E\&LNM)$ ? Well these creatures have evolved; we may therefore assume that their behavior is adaptive in their circumstances and that accordingly the neurophysiology producing that behavior is also adaptive. But natural selection doesn't give a fig about true belief just as such. It rewards adaptive behavior and punishes maladaptive behavior, but doesn't care about the truth of a belief. As Patricia Churchman says, “Truth, whatever that is definitely takes the hindmost.”<sup>8</sup>

So truth in a particular belief  $B$  held by one of these creatures. We may assume that  $B$  is adaptive and that its NP properties are adaptive. But of course nothing so far follows about the truth or falsehood of the content that supervenes on these properties. If the supervening content is true, excellent. But if it is false that's just as good. Its falsehood in no way interferes with the adaptivity of the NP properties. We should assume therefore that the probability of that belief being true (given  $N\&E$  and LNM) is about a half; but then the probability of their faculties being reliable would be low. If you have a hundred independent beliefs and the probability of each is a half: the probability that three-fourths of them are true (which is a modest enough requirement for reliability) will be less than one out of a million. So  $P(R/N\&E\&LNM)$  therefore is low. But the same thing holds (and for the same reasons) for  $P(R/N\&E\&NMN)$ —where ‘NMN’ is the version of non-reductive materialism where mental properties supervene upon physical properties with nomological necessity. That leaves reductive materialism, which we'll call ‘RM’. What is  $P(R/N\&E\&RM)$ ? Here the property of having such and such a content is identical with some physical property—presumably a neurological property. Again consider any

particular belief B held by one of these creatures. We may suppose that having this belief B is adaptive, and adaptive by virtue of its content as well as its other physical properties. But once again, it doesn't matter whether the content associated with B is true or false. We may assume that the physical property identical with the property of having B's content is adaptive. The content associated with B is, of course, true or false. If it happens to be false, this in no way compromises the adaptivity of B. Once more then, we must suppose that the probability of that belief's being true is about a half. But then it would be unlikely that the cognitive faculties of these creatures are reliable. It follows therefore that P(R/N&E) with respect to these hypothetical creatures is low. But then of course the same goes for us: P(R/N&E) is low specified to us as well. The next step to note is that anyone who sees that P(R/N&E) is low and also accept N&E has a defeater for R in her own case—a reason for rejecting R, for giving it up, for no longer believing it. This defeater cannot itself be defeated. That is because the defeater for this defeater would have to take the form of an argument; but, of course, one who accepts N&E will also have a defeater for the premises of this argument as well as for the proposition that if the premises are true so is the conclusion. Another way to put it: any argument for R will be epistemically circular in that reliance on the argument presupposes that the conclusion of the argument is true. But anyone who has a defeater for R has a defeater for any belief that has been produced by her cognitive faculties, including of course N&E itself. Hence, one who accepts N&E and sees the truth of that first premise has a defeater for N&E. N&E, therefore, is self-defeating and cannot rationally be accepted. If so, however, there is a conflict between naturalism and evolution. Their conjunction cannot rationally be accepted. Evolution, however, is one of the pillars of contemporary science. Hence, there is a science/religion or perhaps science/quasi-religion conflict in the neighborhood of evolution alright. But not between evolution and theistic religion. The real conflict is between evolution (that pillar of contemporary science) and naturalism. Thank you [*audience applause*].

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<sup>1</sup> Simpson, Gaylord. *The Meaning of Evolution: A Study of the History of Life and of Its Significance for Man*. Rev. ed. Yale University Press, 1967. 345.

<sup>2</sup> Mayr, Ernst. *Toward a New Philosophy of Biology: Observations of an Evolutionist*. Harvard University Press, 1989. 99.

<sup>3</sup> Sober, Elliot. "Evolutionary Theory without Naturalism." *Oxford Studies in Philosophy of Religion*. 3. Oxford University Press, 2008.

<sup>4</sup> Dupre, John. *John Darwin's Legacy: What Evolution Means Today*. Oxford University Press, 2003. 46.

<sup>5</sup> Dawkins, Richard. *The Blind Watchmaker*. W. W. Norton & Company, 1986. 6.

<sup>6</sup> Kitcher, Phillip. "The Many-Sided Conflict Between Science and Religion." *The Blackwell Guide to Philosophy of Religion*. William E. Mann. Wiley-Blackwell, 2004. 268.

<sup>7</sup> Alberts, Bruce. "The Cell as a Collection of Protein Machines: Preparing the Next Generation of Molecular Biologists." *Cell*. 92. (1998): 291.

<sup>8</sup> Churchman, Patricia. "Epistemology in the Age of Neuroscience." *Journal of Philosophy*. 84. (1987): 548.