Did God Guide Our Evolution?

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There are several broad strategies for responding to the question, "Did God guide our evolution?" which attempt to uphold both the science of evolution and Christian theology. I survey some of the most promising of these, and then present a longer defense of the strategy I find most plausible – the epistemological strategy which recognizes that science and theology are different ways we have developed for thinking about reality. Both have their own traditions, vocabularies, and explanatory principles, and both give a true perspective on our origins. But neither tells the whole story, and their accounts should not be fused into one.

If forced to give a short and simple answer to the question in my title, I would have to say "yes." But I am afraid that the question is not simple, so my answer would not be short. I do think that the question is a fair one, as it gives voice to what many people ask when it comes to evolution. Sociologist Elaine Ecklund found that one of the two most important questions people have about science and religion is, "What does science mean for the existence and activity of God?"[1] But ultimately, I will claim that the simple-yes-or-no-gotcha question is loaded and ill conceived, along the lines of "Have you stopped gambling with your rent money?"

The question "Did God guide our evolution?" seemingly puts us Christians who accept the science of evolution on the horns of a dilemma. If we answer "no," it sounds as if we must be deists who think that God started things up and then just watched them go; if we answer "yes," it sounds as if we have conceded to intelligent design because, as its supporters claim, neo-Darwinism is not the kind of process that could be guided.

Is there a logical problem with accepting the overwhelmingly dominant explanation of evolution for how life (including humans) developed on Earth, while, at the same time, affirming the kind of providence typically associated with Christian theism? Critics from both sides seem to think so. For example, Stephen Meyer wrote,

> Thus, any proponent of theistic evolution who affirms that God is directing the evolutionary mechanism, and who also rejects intelligent design, implicitly contradicts himself.[2]

Several of the words in his claim might be interpreted in various ways, but the clear sense of the charge is that if an individual is going to accept anything like a traditional view of God, he or she will need to adopt the intelligent design version of science which inserts God's action into the workings of science in obvious and detectable ways.

A complementary charge comes from the other side. Richard Dawkins said,

> Humanity's best estimate of the probability of divine creation dropped steeply in 1859 when *The Origin of Species* was published, and it has declined steadily during the subsequent decades, as evolution consolidated itself from plausible theory in the nineteenth century to established fact today.[3]

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Again, we might quibble with various words and concepts from this specific quote, but the clear charge from Dawkins is that evolutionary science has shown the beliefs of traditional Christian theism to be wrong and silly (and harmful, according to other things he has written).

These are the extreme cases. There are more subtle and sophisticated versions that may impulsively reject the conflict narratives, but their authors are often unsure how the peace is to be maintained between evolution and Christian theism, or what concessions will have to be made. There is an often-unresolved tension for many of us who have these twin intuitions:

- As science-minded people, the more we examine the development of life, the more we are persuaded of the efficacy and integrity of natural mechanisms.
- As Christians, the more we learn of God and his ways, the more we are persuaded that God loves us and has partnered with us to achieve God's purposes for the world.

The first of these intuitions leads us to think that science, while not infallible, has shown itself to be a reliable, truth-discovering enterprise, and that, therefore, the science describing our evolution is at least largely correct. The second leads us to believe that God had (and has) a plan for us as image bearers, and therefore God did all that was necessary to provide for our appearance on Earth. So we have a tension, because it seems as if the answer to "Did God guide evolution?" must be "no" based on the first intuition, and "yes" based on the second.

It is my aim in this article to consider a range of defensible ways of responding to this question, arguing more specifically for the one I find most persuasive. First, to give greater definition to the question, I will formalize the intuitions mentioned above into these two claims:

C1. Evolution is the best scientific explanation for the origin of *Homo sapiens*.

C2. God intentionally created human beings in God's image.

My challenge, then, is to show how I (and many other evolutionary creationists) can consistently hold to both claims. How can we reconcile our belief that evolution is at least largely correct in its explanation of our origins, with our commitment that we are not accidents—that God intentionally created us to be divine image bearers to the rest of creation?

Following are four strategies for effecting this reconciliation. There is no attempt at exhaustiveness here, and you may be able to make variations, and even hybrids, of these strategies, but I think that these at least point toward the most plausible responses we can make to the perceived dilemma.

The Semantic Strategy

In the semantic strategy, avoiding contradiction between the two claims is simply a matter of language. For two propositions to contradict, the relevant terms in each must refer to the same thing. The two claims, "The Red Sox won the World Series" and "The Boston baseball team lost the World Series" contradict each other if "Boston baseball team" refers to the Red Sox, and if "World Series" in both statements refers to the 2018 World Series. Both statements cannot be true in that sense. However, if, in the first statement, it was the "Red Sox" who won the "2018 World Series" and if, in the second statement, it was the "Boston Braves" who lost the "1948 World Series," then both statements are true and do not contradict each other. The relevant terms in each statement refer to different things. Similarly, if it can reasonably be claimed that the referents for "*Homo sapiens*" and "human beings" are different in my C1 and C2, the contradiction would be avoided.

So, do "*Homo sapiens*" and "human beings" pick out the same set of individuals? Who gets to decide? Language is fascinating and tricky, and its governance is not at all straightforward. If you look up "*Homo sapiens*" in a dictionary, you will find the definition, "the species of bipedal primates to which modern humans belong."[4] That implies that all modern humans are *Homo sapiens*, but the definition is noncommittal on the converse: are all *Homo sapiens* modern humans?

The semantic strategy might say, "No, not all *Homo sapiens* are modern humans; there is something else added to *Homo sapiens* that makes them into the true humans we see today." That could be the breath of God, a soul, the image of God, or a special relationship (the way, for example, adopted children have a special relationship to their adopted parents that they do not have with other adults). Then we could claim that it is only modern humans who were intention-

ally created in God's image, whereas *Homo sapiens* did indeed evolve the way science describes them. We might imagine that at some point God entered into a special relationship with some *Homo sapiens*, thereby conferring God's image on them and making them truly human. Denis Alexander's *Homo divinus* model might be leveraged into some such scenario (it should be noted, though, that Alexander himself does not confine the image of God or humanity to this restricted set of persons, but says that they are the only ones who are "spiritually alive").[5]

Depending on theological convictions, you might say that this creation event occurred around the time of the events depicted in Genesis 2–4, and you might even say that this initial creation event of humans was restricted to two individuals—Adam and Eve. But then there is some further explanatory work to do on the status of the other living *Homo sapiens* (which had spread around the world by then). For this model of reconciling my two claims to work, those other *Homo sapiens* cannot be humans. Are they merely animals? And presumably all of us *Homo sapiens* today are modern humans, so how does being human spread? From parents to children? That might occur through a kind of traducianism, according to which souls are propagated naturally as a result of intercourse. But then God would intentionally create only the first two, and that starts to make my C2 problematic. We could also argue that God creates all souls directly, or even opt for a relational view. But then it is not clear why ancestry would be so important, as God could enter into such a relationship with any *Homo sapiens*, not just those descended from Adam and Eve. Furthermore, one should consider that this strategy involves postulating beings who are behaviorally similar and sexually compatible, but who are not deemed human.

Such concerns could encourage us to push the creation event back further in time and make it applicable to all *Homo sapiens*. Perhaps there was a time when all *Homo sapiens* were confined to one community before the exodus from Africa, and God entered into a special relationship with all of them at once, thus conferring the divine image and humanity onto all extant *Homo sapiens* and their descendants. The science has become increasingly clear that the population of *Homo sapiens* has never dipped below about 10,000, so it is difficult to imagine what that event would have been like. And we are still left with the question of other beings which were closely enough related to us that we could successfully mate with them; this almost certainly includes Neanderthals and Denisovans, but possibly other species too.

I have concerns about solving problems like this by definitional fiat, as I think ambiguity in language is often a reflection of genuine ambiguity in reality, and definitional fiat only masks that ambiguity, rather than resolving it. The biological classification system we have inherited from Linnaeus works only by imposing artificial boundaries between species. And while "human" might be used in a theological sense, it also definitely has a nontheological usage that is widespread among English speakers, and the trend seems to be to extend this to all species in the *Homo* genus. On the Smithsonian's Hall of Human Origins website, "human" is treated as the larger category: all *Homo sapiens* are humans, but not all humans are *Homo sapiens*.[6] This seems to be the more common usage in popular science, recognizing other *Homo* species as human too.[7] We might try to change the way in which culture uses language by stipulating exactly what we mean by a term, but unless that usage catches on we cannot claim to have the true meaning of the term.

So, while there are some possibilities for reconciling my two claims through the semantic strategy, there also seem to be considerable difficulties in doing so through this strategy alone. Perhaps those difficulties are not insurmountable, but I turn here to a second strategy.

The Nomological Strategy

The next two strategies I will discuss involve rethinking or reinterpreting the science. They both affirm C1 (Evolution is the best scientific description for the origin of *Homo sapiens*), but I think that there are other ways of understanding the science than as unguidable.

First is the nomological strategy. According to it, there are laws (hence, "nomological") applicable to the process of evolution which have not yet been fully uncovered and understood. Once they are, we will see that evolution is much more predictable than has been previously characterized. Stephen Jay Gould famously claimed, "Replay the tape a million times from a Burgess beginning, and I doubt that anything like *Homo sapiens* would ever evolve again."[8] But challenging this view is Simon Conway Morris who

says, "Contrary to received wisdom, the emergence of human intelligence is a near-inevitability."[9]

If Conway Morris is correct, then the nomological strategy has promise. Indeed, it appears that we will end up with something like a fine-tuning argument from biology. Just as we have discovered physical constants that were highly improbable and yet necessary for our existence, so too the process of evolution seems to be designed so that creatures like us are guaranteed to emerge. Of course, there is some debate about just how similar these creatures would have to be to us. Did we need to have five fingers on each hand? Probably not. Did we need to have the capacity for moral responsibility? Definitely. In between those extremes, there might be disagreements over how much similarity a creature must have to us in order to fulfill God's intention of creating organisms to bear God's image. Did we have to be warm-blooded? Walk upright? Have opposable thumbs? These characteristics are part and parcel of the kind of creatures we are now, but perhaps the capacities required for image bearing could have been realized in very different kinds of beings.

So, does this strategy succeed in reconciling the two claims? For the scientific claim C1, it gives a fascinating interpretation of the evidence. Convergence is now a well-attested phenomenon in evolution, whereby very similar traits have evolved multiple times on different parts of the evolutionary tree—things such as eyeballs, and wings, and even REM sleep. But it seems to me too soon to claim that these convergences imply that human beings (whether *Homo sapiens* or something sufficiently like us) were inevitable. It is definitely worth paying attention to the ongoing research in this area.

For the theological claim C2, the nomological strategy front-loads God's intention to create us: God did not intervene along the way, but instead set up physical laws at the beginning of the process guaranteeing that creatures like us would develop. That, in itself, is not necessarily a problem; I think it is a legitimate understanding of how "intentions" might be carried out. But it does seem to suggest a deistic view that most of us evolutionary creationists think should be avoided for theological reasons. Did God just start things up and then sit back and watch it all unfold? That is the view attributed to "theistic evolution" in the book by that title recently produced by proponents of intelligent design.[10] But I do not know anyone who identifies as an evolutionary creationist who would accept that as an accurate description of their beliefs. So I join with the contributors to that book in rejecting views of evolution that make God a spectator to what matter can do on its own.

A recent defense of a nomological view that comes close to making God a spectator was presented by philosopher Chris Barrigar in these pages.[11] He calls his view a "front-loaded" strategy in contrast to the "punctuated" strategies he rejects. I am sympathetic to Barrigar's critique of the punctuated strategies, as I will discuss in the next section, but I also have concerns with his front-loaded strategy. His first step in avoiding the conflict between C1 and C2 is a semantic move that rejects *Homo sapiens* as synonymous with humans. It need not have been *Homo sapiens* that developed on Earth, so long as something with the capacity for *agape* emerged.

Then he employs the front-loading, or what I have called the nomological strategy, to ensure that the right kinds of beings will develop. As long as the initial conditions of the created world are right, and if there are sufficiently large numbers of opportunities, then there is a very high probability that the right kinds of beings will eventually emerge somewhere without God's intervention in the process. Barrigar says, "God allows the created order to evolve on its own, to 'make itself' (to use Polkinghorne's phrase) from initial conditions which lead to the probabilistic emergence of *agape*-capable beings."[12]

Barrigar's account is sophisticated and subtle, and definitely worth further consideration. However, I find myself leaning away from it because of the implications for God's distance from the created order. Barrigar is committed to Trinitarian orthodoxy and thus does not want to accept the deist label. To counter this charge he claims, "God is at all times actively engaged with creation by sustaining the continuing existence of creation (presumably by sustaining the physical fields and forces undergirding the universe)."[13] To my mind, it is with this bald assertion (nothing further is said about how we might understand God's sustaining activity) that the view becomes problematic. Using the same logic that led Barrigar to reject the punctuated views, we must ask, "Why would God not make the created order such that it can sustain itself? And how are we supposed to understand the nature of God's activity in sustaining the physical fields and forces?" Evidently

God just does it. And if that kind of response is open to us (which it would have to be eventually in order to stave off an infinite regress), I think that there are better ways of understanding God's activity.

The Causal Joint Strategy

I am calling this next approach the causal joint strategy, because it looks for some point of interaction that allows for the seamless integration of God's action into the natural order of causes, yet without intervening in the sense of overriding natural law. This is not intended as an explanation for miraculous interventions by God, for which there would be no scientific description, but for the regular ongoing providence by which God governs the created order. More specifically for our topic, this noninterventionist mode of divine action is an attempt to show how God could guide the process of evolution without that action showing up as anomalous scientific data.

For this to work, nature itself must be such that it can provide necessary, but not sufficient, conditions for some events. That is to say, the causal structure of nature must not be determinate. So, from the perspective of science, a complete description of the initial conditions of a system along with a comprehensive knowledge of the natural laws would still be insufficient for predicting the later states of the system with 100% accuracy.

The most promising version of this strategy is Robert J. Russell's, which he calls non-interventionist objective divine action (NIODA).[14] He identifies quantum indeterminacy as the causal joint in nature, because from the perspective of science (at least within the Copenhagen interpretation), quantum events are not determined by the prior state of the system, and are genuinely random. The equations we have for describing quantum states give only a range of possibilities or potentials for the future of that quantum system. But perhaps God can determine one of these potential outcomes by causing the quantum wave to collapse in a manner that would bring about a desired end. In this way, God would work within the natural system, achieving results that are within the parameters of what could possibly have been expected from the perspective of science alone.

A question to be asked of this strategy is whether determining the outcomes of some quantum level events is scalable to bring about macroscopic outcomes. Typically, we understand that the many, many random quantum events going on "even out," so that macroscopic behavior is predictable. But there may be an opening for quantum influence in the evolution of a particular species. One of the factors (not the only one) driving the evolution of new species is the random errors, or mutations, that can occur in copying the genetic code. Many of these mutations involve quantum processes such as the breaking of a hydrogen bond in the DNA molecule. It is there, according to Russell, that God can act outside the view of science, actualizing one of the potential outcomes and thereby guiding the evolution of species.

So, based on this strategy, we can reconcile C1 and C2 by understanding that the science does indeed describe the evolution of *Homo sapiens* accurately, while also affirming that God works within the cracks in nature to ensure that we humans emerge from the process. This is an elegant way of incorporating God's intentional action into the course of nature, and it will be attractive to many.

I am not sure, though, that it is correct to call it "noninterventionist." Science may not be able to detect God's action in individual mutation events, but the strategy does assert that things turn out differently than if God had not acted.[15] That sounds like an intervention. Perhaps we are just fussing with words here, and the label "intervention" does not need to be avoided at all costs. But, for the integrity of science, Russell wants to avoid the detection of divine intervention. I wonder, though, whether such detection is inescapable in the long run. That depends on the number of interventions required for God to keep evolution on track to produce us. If evolution turns out to be more predictable along the lines the nomological strategy suggests, then there might be very few of these interventions required, and they would blend into the overall possibilities and not look remarkable. But if there are many interventions required in this process, then it might start to look suspiciously as if there were an intelligence tinkering with the process to bring about a desired end (and, of course, playing into the strategy of intelligent design), because the outcome is too improbable for how we understand the science itself. That would mean we are not really affirming C1, namely, that evolution accurately describes our origin.

We could insist, then, that there are relatively few interventions required. The problem with occa-

sional intervention is that it does not help much with removing the charge of deism. As Aubrey Moore noted more than a century ago, "a theory of occasional intervention implies as its correlative a theory of ordinary absence."[16] So, just as with Barrigar's nomological strategy, there still remains the need to supplement this with another approach that does not confine God's action to very rare occasions.

I have one more concern with the causal joint strategy that echoes my concern with Barrigar's description of God's sustaining action, and I think that, for this approach, it is the most challenging. In claiming to find a causal joint as the locus of interaction between two different kinds of activity, I am reminded of the most famous of these in the history of science and philosophy: Descartes's proposal that the pineal gland serves as the place where the immaterial mind interacts with the material body. That just seems like a category mistake, and I cannot help wondering if something similar is going on here.

It appears to me that the causal joint strategy pushes for a scientific explanation of how God affects the course of nature, thus reducing God's action to one of the physical causes. Russell resists that charge against his view, but I wonder if that undercuts the strategy and ultimately leaves it unsatisfying. To the question, "How does God guide evolution?" it gives the scientific-sounding answer, "by causing mutations during DNA replication." Then we ask, "How does God cause mutations?" and we get the equally scientific-sounding "by collapsing the quantum wave in just the right way." But can we not then ask, "So how does God cause the quantum wave to collapse that way?" I do not think there is a scientific-sounding answer to such a question. Instead, we are reduced to saying something like, "Well, God just does it." But if we can opt out of the scientific discourse in answering the question about quantum events, why can we not just go there immediately when asked, "How does God guide evolution?" and answer, "God just does it"? How does it help to break down the natural process into smaller bits and say of them, "God just does it"?

My critique of this strategy depends substantially on the coherence of my preferred strategy, so I turn to it now.

The Epistemological Strategy

I have called this strategy "epistemological" because it develops the claim that science and theology are different ways of knowing. Some people like to say that there are different "levels of explanation"; I have become partial to calling them different "discourses." All of these descriptors point toward what the British philosopher Roger Scruton has called "cognitive dualism."[17] That is not to say that reality is dualistic, but rather that we humans have developed two different broad ways (with lots of sub-ways) of thinking about reality, and these two ways have their own traditions and vocabularies. I prefer to call these two broad ways of knowing the scientific and the personal.[18]

On this strategy, the method of reconciling C1 and C2 comes down to recognizing that they come from different discourses. There are similarities here with the semantic strategy in attempting to dissolve the apparent conflict. But instead of simply claiming that the words "human" and "*Homo sapiens*" mean something different, I am claiming that C1 and C2 are embedded in traditions that have come to describe different aspects of reality. More specifically, the scientific claim C1 tells the story of human origins one way, and the theological claim C2 (which is part of the personal discourse, since it describes the actions of a personal agent) tells that same story in a different way. Each abstracts from reality different features that are appropriate to its discourse, and communicates through its particular lens on the world. As such, these are not competing descriptions but complementary, and neither tells the whole story.

Some history of the idea

This idea of two discourses is not a new one that I have invented, but rather draws on a tradition that has recognized the need for different ways of describing our experience of persons in a world that is increasingly explained with science. Immanuel Kant claimed that when we look at the world through our understanding, we see chains of causal connections that subject everything to necessary laws, leaving no room for freedom. But persons must be viewed through a different lens, that of practical reason, which sees us as responsible and beholden to the laws of reason.

C. Lloyd Morgan was a British psychologist and administrator, who gave the Gifford Lectures in St. Andrews in 1922. In 1904 he gave the Lowell

Lectures in Boston and developed them in his book, *The Interpretation of Nature*, which gives an elegant defense of the claim that we understand the world through two different modes of interpretation.[19]

The Jewish philosopher Martin Buber said, "The world is two-fold for man in accordance with his two-fold attitude."[20] He called these images the "You-world" and the "It-world" depending on whether we treat our experiences as originating from a subject (a You) or an object (an It). Applying this specifically to our experience of other human beings, he describes our two-fold experience as follows:

> When I confront a human being as my You and speak the basic I-You to him, then he is no thing among things nor does he consist of things … Even as a melody is not composed of tones, nor a verse of words, nor a statue of lines—one must pull and tear to turn a unity into a multiplicity—so it is with the human being to whom I say You. I can abstract from him the color of his hair or the color of his speech or the color of his graciousness; I have to do this again and again; but immediately he is no longer You.[21]

Mid-twentieth century philosopher Wilfred Sellars observed,

> The philosopher is confronted not by one complex many-dimensional picture, the unity of which, such as it is, he must come to appreciate; but by *two* pictures of essentially the same order of complexity, each of which purports to be a complete picture of man-in-the-world, and which, after separate scrutiny, he must fuse into one vision.[22]

What I have called the personal discourse or image, conceptualizes and organizes our experience in such a way that we can see a human being "as" a personal agent who acts intentionally, has free will, and is morally responsible. We see her as a subject and explain what she does by appeal to the reasons she had for her behavior. But then we can take the same human being and put her under the microscope, recognizing that she is a complex material organism made of particles of matter that obey physical laws. This way of conceptualizing and organizing our experience of her is represented as the scientific image, and when we see her as an object, we explain her actions by appealing to the kinds of causes recognized in the various sciences.

The epistemological strategy can apply this two-fold way of organizing and interpreting our experience to the problem of divine action.[23] God is a personal agent (or tri-personal, according to the Christian Trinitarianism I espouse), and God's actions are thus most properly described and explained using terms from the personal discourse. That is, we ascribe reasons to God for acting in certain ways; we say God has intentions and will. Such terms are not scientific and are not reducible to scientific terminology. Indeed, the success of the scientific revolution came at least in part because of the narrowing of the aims of science to provide natural explanations in terms of what Aristotle called efficient and material causes. But personal action is explained by final causes—reasons—which are part of the personal discourse. Charles Taylor says, "The great achievement of the seventeenth-century scientific revolution was to develop a language for nature that was purged of human meanings."[24]

It has been the tendency to treat the scientific discourse as the real description of things and to treat whatever does not fit within that discourse (e.g., free will, morality, meaning) as folk psychology and fictions. But that is to succumb to scientism. Philosopher of science Mary Midgley discusses the technical language of science compared to the "language of everyday life," saying,

> There is still no reason to expect that one of their messages will turn out to be real and the other illusory. These two languages are not rivals, competitors for a prize marked "reality." They merely do different work. Their differences simply show that when we talk about the same topic, we are considering it from different angles and asking different questions.[25]

So the epistemological strategy sees the evolutionary account of the origin of *Homo sapiens* as a description of our origins from the perspective of science. It gives us an accurate picture insofar as the concerns of science are involved, but it is not a complete picture. Theology gives a description of our origins from the perspective of the personal discourse, appealing to God's reasons and intentions. It too is accurate, but also incomplete in itself.

Some illustrations of cognitive dualism

To further explain what I mean by cognitive dualism and the two discourses, I point to a few illustrations. A familiar one is John Polkinghorne's example of explaining why the kettle is boiling:[26] we can explain and describe the event scientifically by

talking about closed electrical circuits, excited molecules, and vapor pressure; or we might explain the boiling kettle by saying that I wanted a cup of tea. The first explanation appeals to physical or material causes—parts of the scientific discourse; the second is a personal explanation which appeals to reasons to explain the event. Unless we are going to claim that reasons are ultimately and completely reducible to material causes (e.g., they are just certain neurons firing), then there will remain two different levels of explanation—neither of which tells the whole story of the event. They do not conflict with each other so long as we recognize that they are describing different aspects of reality. Similarly, evolution is a scientific theory appealing to physical causes; talking of God's intentions and design is a theological account of the history of life that appeals to personal reasons as explanations.

Another way of thinking about these two discourses is that they are like different maps of reality.[27] A map abstracts various features of reality (and ignores others) and presents them in a way that highlights what is important for a particular purpose. A political map shows the boundaries of different levels of political organization. A topographical map shows the elevation and other features of the landscape. And, of course, we might have maps of streets, population concentrations, or underground plumbing for a particular area. None of these is a comprehensive presentation of all aspects of reality—indeed, that would be useless to us. Instead, each map is a tool for depicting one aspect of reality. My claim, then, is that science and theology are like different maps, drawing our attention to different aspects of reality.

Slightly different is to compare cognitive dualism to different styles of art. Think of two paintings by Picasso: *The Old Guitarist* and *Guitariste*.[28] These are both pictures of someone playing a guitar, but they are of very different styles, abstracting from the actual thing, and re-presenting some aspects to us. In *The Old Guitarist*, the colors used and even the angular and exaggerated lines of the body highlight a mood that is captured in the picture. *Guitariste* comes from Picasso's cubist period, which to the untrained eye does not look at all like someone playing a guitar. But the goal of cubism was to develop a new way of seeing the most fundamental shapes of a more complex object: therefore, we have the figure represented in squares and triangles and circles. So too with science and theology. They are abstractions of different aspects of reality.

Distinguishing from NOMA

One of the criticisms often raised against this strategy is that it is just like Stephen Jay Gould's non-overlapping magisteria (NOMA) approach to science and religion. I do not think that is right. Gould hoped he could bring peace to science and religion conflicts by restricting science to facts, and religion to values. He said,

> To summarize, with a tad of repetition, the net, or magisterium, of science covers the empirical realm: what the universe is made of (fact) and why does it work this way (theory). The magisterium of religion extends over questions of ultimate meaning and moral value. These two magisteria do not overlap.[29]

It always seems to me that religion gets the short end of the stick in that way of thinking: science gets to tell us the truth of things, while religion is just feelings and values. Now, that is a simplification of NOMA, but the key difference is that in the view I am proposing, both science and theology are making factual truth claims. When I say I believe that God intentionally created human beings in God's image, I am claiming that to be a fact, and it is true or false depending on whether it is an accurate description of reality.

I have to admit that the epistemological strategy sometimes acts like an independence model according to Ian Barbour's four-fold typology (of which NOMA is an extreme example),[30] but not absolutely so. For most of the objects of inquiry, one of the discourses (or levels of explanation, or ways of knowing) will prove to be a more appropriate guide to learning about it. Science does not have much of relevance to say about the atonement or the *Filioque* clause added to the Nicene Creed; theology does not have much to contribute to understanding tectonic plates and germ theory. But if we are asking the questions "What does it mean to be human?" or "When in natural history did sin begin?" then both science and theology have something relevant to say, and if we attempt to answer these questions with just one of them, we are going to get an incomplete answer.

So, evolution is the best scientific explanation for the origin of *Homo sapiens*. This is scientific language, and evolution appeals to physical causes, and within that

domain it does a very good job of explaining where we came from. But it does not tell the whole story. Theology offers a personal explanation: we believe God to be a person, and therefore it is appropriate to use verbs from the personal universe of discourse, which are not reducible to scientific causes. We can truly affirm that God guides, God designs, God creates.

Conclusion

Did God guide evolution? If my analysis is correct, the framing of the question leads to problems by combining terms from the scientific discourse with terms from the personal discourse. This might be all right in more colloquial contexts, but when we probe deeper, we find there are problems with combining these terms. Instead, when seeking greater clarity, we should ask about the origin of ourselves, and then realize that we have to answer with two different stories: one that gives the scientific details of the evolution of *Homo sapiens*, the other that gives the personal story of God's loving intentions for human beings. We hold those two stories up for inspection like two different paintings of the same thing. We learn more about the object by considering both—even allowing for dialogue between the artists—but not by fusing them into one hybrid picture.

Some people appear to think that unless you combine these stories or discourses into one, you have not really given a proper account of an issue.[31] Of course, wherever possible, we want to present unified and coherent accounts of our experience. But ultimately, we are perspectival beings and perhaps should not expect to see all aspects of reality in one unified view.

There is precedent for this in the disciplines of science and theology themselves. In science, we ask: "Is light a particle or a wave?" When we conduct one kind of experiment, it gives us one answer; and when we carry out another, we get a different answer. We could say the same thing about general relativity and quantum theory: they both seem to be true, but we cannot figure out how to put them together. These examples show that the concepts we have at our disposal do not allow us to describe reality completely; instead, these are true but incomplete perspectives on reality.

The same is true in theology for the doctrine of the Incarnation: Is Jesus human or divine? How appropriate that the very center of our faith is one of those subjects of inquiry that cannot be described comprehensively by just one set of concepts. Instead, we describe one aspect as well as we can, and then we have to "change registers" and speak differently.[32]

We might think of these examples as putting on different eyeglasses through which we look. Depending on which glasses we put on, we will see light either "as" a particle or "as" a wave; compare this with doctrines of Jesus "as" human or "as" divine. Note, this does not mean that these are false descriptions but, rather, that our observations are theory laden because of the "glasses" we look through. And we do not have specific conceptual glasses that let us see both perspectives at the same time.

I claim that this is the same situation for the question of whether God guides evolution. When I look at the evidence through my scientific glasses, I see the data that conform to scientific practice and principles. They are impressive, and there is every expectation that the problems or anomalies that are brought up by the scientific investigations and explanations will have scientific solutions. As Christians, we should loudly proclaim the success of this scientific story, in the same way we proclaim the marvels of the conception, gestation, and birth of a baby. But we must also proclaim clearly that science does not tell the whole story. When I look at the same natural world through my theology glasses, I see another aspect of reality—one that shows God's care, providence, and yes, even God's guidance of the grand story of creation.

Therefore, back to my two claims:

C1. Evolution is the best scientific explanation for the origin of *Homo sapiens*.

C2. God intentionally created human beings in God's image.

I do not think that we contradict ourselves by affirming both, as long as we recognize that they come from different discourses, presenting unique perspectives on our origins, and that neither tells the whole story.

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Notes

[1]Elaine Howard Ecklund and Christopher P. Scheitle, *Religion vs. Science: What Religious People Really Think* (New York: Oxford University Press, 2018), 2.

[2]Stephen C. Meyer, "Scientific and Philosophical Introduction: Defining Theistic Evolution," in *Theistic Evolution:*

A Scientific, Philosophical, and Theological Critique, ed. J. P. Moreland, Stephen C. Meyer, Christopher Shaw, Ann K. Gauger, and Wayne Grudem (Wheaton, IL: Crossway, 2017), 43–44.

[3]Richard Dawkins, "Why There Almost Certainly Is No God," *Edge:* Conversations, October 25, 2006, https://stage.edge.org/conversation/richard_dawkins-why-there-almost-certainly-is-no-god.

[4]"*Homo sapiens*," *Dictionary.com*, accessed March 12, 2019, https://www.dictionary.com/browse/homo-sapiens.

[5]Denis Alexander, *Creation or Evolution: Do We Have to Choose?* (Grand Rapids, MI: Monarch, 2014), 290.

[6]"What does it mean to be human? Species," Smithsonian Institution, accessed March 11, 2019, http://humanorigins.si.edu/evidence/human-fossils/species.

[7]For example, David Reich speaks of "ancient human genomes" which include Neanderthals and Denisovans, in addition to *Homo sapiens* (*Who We Are and How We Got Here: Ancient DNA and the New Science of the Human Past* (New York: Vintage Books, 2018), xvi); as does Yuval Noah Harari who claims there are at least six human species (*Sapiens: A Brief History of Humankind* [New York: Harper, 2015], 5). But there is a minority report, as typified by Alexander H. Harcourt, who says, "I use the word 'human' for only *Homo sapiens*" (*Humankind: How Biology and Geography Shape Human Destiny* [New York: Pegasus Books, 2015], 10).

[8]Stephen Jay Gould, *Wonderful Life: The Burgess Shale and the Nature of History* (New York: W.W. Norton & Company, 1989), 289.

[9]Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (New York: Cambridge University Press, 2003), xii.

[10]"In brief summary form, then, the form of theistic evolution that we are respectfully taking issue with is this belief: God created matter and after that did not guide or intervene or act directly to cause any empirically detectable change in the natural behavior of matter until all living things had evolved by purely natural processes." Wayne Grudem, "Biblical and Theological Introduction: The Incompatibility of Theistic Evolution with the Biblical Account of Creation and with Important Christian Doctrines," in *Theistic Evolution: A Scientific, Philosophical, and Theological Critique*, ed. Moreland, Meyer, Shaw, Gauger, and Grudem (Wheaton, IL: Crossway, 2017), 67.

[11]Chris Barrigar, "God's *Agape*/Probability Design for the Universe," *Perspectives on Science and Christian Faith* 70, no. 3 (2018): 161–75.

[12]Ibid., 165.

[13]Ibid., 171.

[14]Robert J. Russell, "Quantum Physics and the Theology of Non-Interventionist Objective Divine Action," in *The Oxford Handbook of Religion and Science*, ed. Philip Clayton and Zachary Simpson (New York: Oxford University Press, 2008).

[15]Technically, for any particular event, things could have turned out that way if God had not acted, but in order to ensure that things happen that way, God needs to act.

[16]Aubrey Moore, *Science and the Faith: Essays on Apologetic Subjects*, 6th edition (London: Kegan Paul, Trench, Trübner & Co., 1905), 184.

[17]Roger Scruton, *The Soul of the World* (Princeton, NJ: Princeton University Press, 2014).

[18]I should note that the philosopher Wilfred Sellars called these the "scientific" and the "manifest" images in his classic paper, "Philosophy and the Scientific Image of Man," in *Empiricism and the Philosophy of Mind,* Wilfred Sellars (London: Routledge & Kegan Paul, 1963). 1–40.

[19]C. Lloyd Morgan, *The Interpretation of Nature* (London: Macmillan & Co., 1905).

[20]Martin Buber, *I and Thou*, trans. Walter Kaufmann (New York: Touchstone Books, 1970), 82.

[21]Ibid., 59.

[22]Wilfred Sellars, "Philosophy and the Scientific Image of Man," in *Empiricism and the Philosophy of Mind*, 4–5.

[23]I think the strategy might also be fruitfully applied to the question of mind-body dualism, to free will, and to other issues in which persons are deemed to be effectual agents.

[24]Charles Taylor, "Gadamer on the Human Sciences," in *The Cambridge Companion to Gadamer*, ed. Robert J. Dostal (New York: Cambridge University Press, 2002), 130.

[25]Mary Midgley, *Are You an Illusion?* (New York: Routledge, 2014), 27–28.

[26]The example was probably not original to Polkinghorne, but he popularized and used it to great effect, beginning (so far as I can tell) with "Is Science Enough?," *Sewanee Theological Review* 39 (1995): 11–26.

[27]For an elaboration of this metaphor, see Bethany Sollereder, "Lost in a World of Maps: Relations between Science and Theology," *BioLogos*, published October 17, 2015, https://biologos.org/articles/lost-in-a-world-of-maps-relations-between-science-and-theology.

[28]An image of *The Old Guitarist* can be found at: https://en.wikipedia.org/w/index.php?curid=31832131; *Guitariste* can be found at: https://en.wikipedia.org/w/index.php?curid=39013881.

[29]Stephen Jay Gould, *Rocks of Ages: Science and Religion in the Fullness of Life* (New York: Ballantine Books, 1999), 6.

[30]Barbour's four categories are conflict, independence, dialogue, and integration. See his *Religion in an Age of Science* (San Francisco, CA: HarperSanFrancisco, 1990). For critique and refinement of this view see Ted Peters, "Theology and Science: Where Are We?," *Zygon* 31, no. 2 (1996): 323–43; Christian Berg, "Barbour's Way(s) of Relating Science and Theology," in *Fifty Years in Science and Religion: Ian G. Barbour and His Legacy*, ed. Robert J. Russell (Aldershot, UK: Ashgate, 2004): 61–75; and Mikael Stenmark, "How to Relate Christian Faith and Science," in *The Blackwell Companion to Science and Christianity*, ed. J. B. Stump and Alan G. Padgett (Malden, MA: Wiley-Blackwell, 2012), 63–73.

[31]The quote given above from Wilfred Sellars says explicitly that we must "fuse into one vision" the two pictures delivered by the scientific and personal discourses. Alister McGrath, whose account of these issues has much in common with my own, also seems to suggest that our goal should be to develop a "unified theoretical account" of the multiple perspectives. And, "Any attempt to achieve a broader vision of reality than that offered by a single discipline must, however, find some way of holding such insights together in the first place if a grander vision of reality is to emerge." McGrath, *The Territories of Human Reason: Science and Theology in an Age of Multiple Rationalities* (Oxford, UK: Oxford University Press, 2019), 60, 74.

[32]This metaphor comes from Rowan Williams, *The Edge of Words: God and the Habits of Language* (London, UK: Bloomsbury, 2014).

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