

Is Theism Compatible with Evolution?

Introduction

Ever since the publication of *The Origin of Species*, the majority of theists have taken the position that there is no real conflict between the Genesis account of human origins and the theory that all life forms including humans evolved gradually. Nevertheless, a vocal minority of theists have always dissented from that judgment, insisting that one cannot take seriously the scriptural account accepted by Jew, Christian, and Muslim alike, and also accept the evolutionary hypothesis. Moreover, there have always been thinkers hostile to theism who have been only too happy to concur with the alleged inconsistency. They have been as happy to dismiss theism on the ground that it's incompatible with science as those theists have been to dismiss evolution on the ground that it's incompatible with theism.

It seems to me that a good part of the blame for the persistence of the inconsistency charge is the fault of those who, like myself, take the compatibilist view. I say this because for the most part it's been left disconcertingly vague just how a proper understanding of *Genesis* can be complimentary rather than inconsistent with an evolutionary account of human origins. Of course, there have been thinkers who've defended a compatibilist view simply by not taking the early chapters of *Genesis* seriously. Some, for example, have dismissed them as so poetic as to teach nothing about human origins. This seems wrong in several directions at once. For one thing, while these chapters surely contain symbols, figurative speech, and poetic turns of phrase, they are just as surely not a poem. There are parts of the Bible that do speak of God's creating within a poem (Job 38: 7, Psalm 104: 5-9, e.g.), and they don't sound like *Genesis* at all. Moreover, the presence of such poetic material in the early chapters of *Genesis* - indeed, even if they did constitute a poem proper - would not prevent them either from making factual assertions or having cognitive content.¹

My first order of business, therefore, will be to examine the text in order to give a detailed account of what it teaches concerning human origins. In doing this I will be at pains not to import far-fetched hypotheses in order to make *Genesis* sound acceptable to modern science, but to take it on its own terms. That is, I will be attempting to hear *its* purpose and focus rather than impose what a 21st century reader might expect from a scientific discussion of origins. In that sense, I will be seeking a "literal" (but not *literalist*) interpretation of the text. After all, the literal meaning of a text must be ascertained from its grammar, form, historical setting, internal structure, and universe of discourse. It's not whatever any reader thinks of upon first reading it. So I'll begin with the reasons why I find that when the text is taken on its own terms there is no conflict between what it teaches and such ideas as an old age for the earth and the gradual development of its life forms.

My second order of business will be to tackle how religious belief should be seen to relate to science *generally*. This will require identifying features that characterize all religious beliefs, not just theism. On this score, I will end up disagreeing both with fundamentalism and with those theists who, while rejecting the fundamentalist program of reading science out of scripture, nevertheless wish to infer religion from science. The latter think that being a theist in science requires showing that the findings of science either entail God's existence or make it probable. Over against both these views, I find that clarifying the general nature of religious belief allows us to discover that there is a deeper epistemic relation between it and science that is at once more basic and more pervasive than mere logical consistency or inconsistency between specific theories and specific religious tenets. Moreover, this relation is of great importance to both scientific beliefs and belief in God despite the fact that neither one is inferred from the other.

I. Genesis and the Alleged Points of Incompatibility

The items of the *Genesis* text that are most often alleged to be incompatible with an evolutionary account are: 1) the teaching that the entire universe was created in six days, 2) the teaching that humans appeared suddenly, and 3) the teaching that the first woman was formed from the first man. I will also comment briefly on a few other alleged points of conflict after these three are treated.

A. Background Assumptions

Crucial to the interpretation of any literary work is what we assume to be its central theme and purpose. Mistake that, and everything will be misunderstood in detail! So what is the central theme of the biblical corpus? Surely it can be nothing other than the self-revelation of God to humans. Moreover, it is equally important to recognize that the form most of that revelation took, and thus the form in which it has been recorded, is that of *covenant*. The collected works comprising the theistic scriptures claim to be the divinely superintended record of the progressively revealed editions of the covenant God has offered to the human race. There were editions of the covenant revealed to Noah, Abraham, Moses, and David, for example. (There are even what were later to become covenantal elements present in God's pre-redemptive dealings with Adam and Eve.²) For Christians, these scriptures include the New Testament so there is another – final – edition of the covenant forged and fulfilled by Jesus. For Muslims, they include the Koran so there is also the covenant offered to and through Mohammed. But in every case the central unifying theme is still the covenantal offer of God's love, forgiveness, and everlasting life to all who respond by loving him with all their heart, soul, mind, and strength and loving their neighbors as themselves. For this reason, these scriptures must be understood as having an essentially *religious* character. They are intended to teach the truth about the covenant maker, God, the covenant receiver, humans, and always have their focus on how humans are to stand in proper covenant relation to God. There is thus a religious slant to everything so much as mentioned in them. Whether they record historical events, state genealogies, engage in poetry, or speak of the end of the world, their governing purpose is to teach us how to stand in proper relation to God.

The importance of this point becomes especially clear in the light of what happens when it is forgotten. Some theists have been tempted to look past the religious focus of scripture when investigating various topics, and focus instead on the fact that God has superintended its writing and preservation. The temptation goes like this: since God has inspired and preserved these writings they must be trustworthy, so why not use them as a short-cut to find out other things we'd like to know? We have questions about prehistory, biology, geology, astronomy, etc., and there's no way (or no easy way) to find answers to them. But suppose there are statements or hints about these things in Scripture! Since it's inspired by God, wouldn't everything even alluded to have to be infallibly true? In fact, even if we have ways of investigating certain topics, shouldn't we at least start by canvassing the Scripture to see what it says about them? This attitude, now associated with fundamentalism, was actually fostered by such pioneers of modern science as Newton, Boyle, Locke, and others. I call it the "encyclopedic assumption". It leads to regarding the scriptures as an encyclopedia to be consulted on virtually any topic whatever, rather than seeing its inspired character as pertaining to their own *religious* purpose. Avoiding this mistake is especially important for reading *Genesis*, as it is this assumption that leads to reading its opening chapters as a short scientific treatise rather than what it really is, namely, *prologue to the covenant given through Moses*. If we see it as covenant, there is no excuse for missing the thoroughly religious focus of every part of it. It starts by distinguishing God the Creator from

pagan deities, which were all deifications of various aspects of the natural world. Rather than deifying anything in the universe, *Genesis* proclaims God to have created everything other than himself.³ That it does not intend to describe what we would have seen had we been there to observe the early stages of the universe is evident from the way it stresses God's total control, repeating over and over again that everything comes to be at his command. Before each creative episode we find "And God said, 'Let there be....' There is no concern for the processes set in motion or the time they may have taken. All the text says about what an observer might have seen is: "And it was so." Finally, not only its content, but the very reason for this prologue is religious; it was intended to identify the Mosaic covenant as the latest installment in the dealings God had initiated with humans ever since their creation.

B. The Days of Creation

If we keep the text's religious focus in mind while examining its organization, it then looks even less like an encyclopedic source of scientific information. It speaks of God's creating as taking place in six days, and reports the days as follows: Day 1, God separates light from darkness; Day 2, God separates sea from atmosphere; Day 3, God separates land from sea and creates plants; Day 4, God creates the sun, moon, and stars; Day 5, God creates sea life and birds; Day 6, God creates plants, animals, and humans. There is an obvious correspondence here between days 1, 2, 3 and days 4, 5, 6. Day 1 speaks of the difference between light and darkness as the planned precondition for the appearance of the sun, moon, and stars on Day 4. Day 2 offers the separation of atmosphere from sea as the precondition for the appearance of sea life and birds on Day 5. And the appearance of dry land and plants on Day 3 is the precondition for the creation of animals and humans on Day 6. (Here we may recall St. Augustine's comment that the "days" of *Genesis* were not intended to be taken temporally since they have God creating light on the first day while the sun, moon, and stars don't appear until the fourth.) This match-up of the first three days with the second three is too striking and essential a feature of the account to be accidental. But if it's not accidental, it shows two very important things. The first is that the intent of the text is to supply a *teleological*, not chronological, account of God's ordering of the earth and its life forms. The order here is an order of purpose, not time. Its main burden is to stress that the purposes behind creation were God's, as was the accomplishment of those purposes. There was no blind chance or fate involved, nor was God limited by pre-existing material he had to work with. What it presents is thus more like a religious birth announcement of the universe and humans than it is like a scientific description. And the main point of that announcement is focused on its Father's loving and redeeming purposes, rather than on revealing answers to scientific questions about the early stages of the universe.

The second thing the correspondence supports is that the "days" are to be taken as a literary framework for speaking of God's creative activity.¹⁸ The reason is both obvious and simple when the connection of this account to the Sinaitic covenant is kept in mind: since that covenant requires that humans work six days and rest on the Sabbath, God's work is represented as done the same way. God's work thus becomes the model for how humans are to work. The stress of the text, then, should not be seen so much on the word "day" as on the ordinals designating the covenantal arrangement for the work week. What is religiously important is "first", "second", etc. as contrasted with the "seventh", not whether the "days" can be construed as a geological eras or taken to be twenty four hour periods in which the entire universe appeared. There are a number of other reasons for regarding this as the right interpretation that space will not permit, but one is worth mentioning at this point. Traditional theism has always understood scripture to teach that God brought into existence not only space, matter, and the laws that govern the universe, but also time. In that case no literal account *could* be given in terms drawn from human experience as to just how God brought all into existence and ordered it. Absent time,

space, matter, and all natural laws, we have only the limiting idea that God is the reality without which nothing else could be, and any account of God's bringing them about would necessarily be anthropomorphic. So the text draws its language *from* the human experience of a workweek, and does it in a way that sets up a covenantal rule *for* the human workweek in relation to the Sabbath rest. When viewed from the standpoint of this religious focus, then, there is no excuse for treating *Genesis* as a source of scientific information. It is not good science or bad science because it is not science at all. It is not concerned with how old the earth is, when and how life forms first appeared, or what role the processes of created nature may have had in bringing them about. It is always about God's purposes and chiefly his purposes concerning how humans can stand in proper relation to himself.

C. The Formation of Humans

This same point holds true for its account of the first appearance of humans. That, too, is phrased in anthropomorphic language. But to see what the text intends to teach we must keep in mind the importance of the question: what is a human? This is actually a crucial issue for *any* account of human origins though it has rarely received the attention it deserves. Are we asking when tool-making creatures first appeared? Are we asking when rational beings or language users emerged? Are we asking when creatures with an ethical sense of right and wrong made their debut?¹⁹ Here we confront a philosophical assumption that regulates how scientific findings are to be interpreted. For what we really want to know about any discovered remains from the genus *Homo* is: how like us were they? Answering that depends on what we take to be essential to ourselves and, obviously, whatever definition is accepted will determine how we answer the question of when humans first appeared. Now it is precisely on this point that *Genesis* is as clear as one could want. From the point of view of the text, a human is a creature in the image of God created for fellowship with God. *The question as to when the first humans appeared is therefore the same as that of the appearance of beings with religious consciousness.*

Taking this definition of humans as our point of departure, the account of the making of Adam and Eve should be read as partly figurative. That is, the text teaches its view of the *nature* of humans by means of a story about God "making" them. Thus the remark that God created Adam "of the dust of the ground" is not intended so much a description of an event as it is a comment on Adam's nature. To be sure there is activity of God involved here (I will explain that presently), but the point of the expression is not to *describe* God's act but to convey that Adam is made of the same stuff that everything else is made of. Humans are not and never can be anything more than creatures of God. They are not little bits of divinity stuffed into earthly bodies which are therefore merely "the prison house of the soul". They can never have any existence but what is granted them by God. In short, they are mortal. This is born out by the way not only *Genesis* but also the rest of the Hebrew scriptures use the expression "the dust of the earth". It always connotes human mortality (e.g., Ps. 22: 15 & 29, 30:9, 40:25, 103:14, 104:29; Ecc. 3:20, 12:7; Isaiah 26:19; and Daniel 12:2). That is why the sentence of death as punishment for disobedience to God is expressed "from dust you came and to dust you will return". The point is that standing in right relation to God is not an extra added to human life, but the most basic condition for it. For sure, humans depend on the sun, air, water, food, etc., but those are penultimate dependencies. The ultimate condition for human life is to be in the right relation to the One on whom all the penultimate conditions depend, and who directly offers humans a loving, life-guaranteeing, relationship.

The same figurative language is employed in the account of the formation of Eve by a rib transplant from Adam. Here too, her nature is expressed in a "making" story intended to convey that she was of the same nature as the man. That this is the intent of the account is shown from

the context. After commenting that there was no proper mate for the man in the animal world, Adam's reaction to her is that "she is bone of my bone and flesh of my flesh" – that is, the same *kind* of creature as he. So the surrounding context includes the comments "For this reason a man leaves his father and his mother and unites with his wife....", and "her desire shall be toward her husband...". Moreover, chapter two sees both the man and the woman as created for fellowship with God since both are held responsible for breaking that fellowship. Thus it seems there is good textual reason to reject any reading of chapter two that takes the remarks about God forming Adam of the dust of the ground to intend that God made a mud model of a human, blew on it, and it hopped up and walked around. Yet it is something almost that crude some theists seem to place in opposition to evolutionary theory.

What then is the right understanding of the action of God that caused humans to appear? Here the text is, I think, even clearer. That act was *God's speaking to Adam and making himself known to him*. God had brought into existence beings "from the dust of the ground", seen to it that they acquired the capacity for religious consciousness, and then actualized that capacity in the first being in whom it appeared by offering him a gracious, personal relationship. That was the last step in making that being fully human.

In this way *Genesis* employs what I'll call the "commonsense" view of causality. In ordinary speech we often say one event is the cause of another not because it includes all the necessary conditions for the other but because it was the last thing that needed to be added to all the other necessary conditions so as to produce the effect. Just so, the focus of the text is on that last step. Without a religious consciousness, no being is human in the full sense of the term. When God actualizes that capacity and Adam responds, he becomes the first human; whereas a moment before there was no human, now there is. The action by which God did this is described in the words "God breathed on him the breath of life and man became a living soul". Now the word for breath here is the same in Hebrew as the word for "spirit", so there is a pun here intended to convey several things at once: it is by the spirit (breath, command) of God that man has appeared from the dust of the earth, and it is by the breath (spirit, word) of God that man hears the offer of God's love and can stand in right relation to him. One has produced a biologically living creature; the other has produced human life in its fullest sense – the sense that never ends so long as the covenantal relation to God remains intact.

So I find that the text does indeed teach that there was a single act of God in time and space which brought it about that at one moment there were no humans but at the next moment the first human was produced.²⁰ For while Adam's formation out of "the dust of the ground" could have been a long process, God's gracious word (breath) in making Adam his covenant partner was not. Once again the surrounding context supports this reading. Notice that in the brief synopsis of the origin of humans given in chapter 1, the account of the formation of humans is immediately followed by the statement that God blessed them and gave them responsibilities (later these are both covenant relations). And in the recapitulation of this story in chapter 2, God's breathing on Adam the breath of life is followed by a more detailed repetition of those responsibilities: he must "cultivate the garden and keep it" (i.e., take care of the specially protected environment that is the setting of his probation), and he must not "eat the fruit of that tree".

Thus the account of human origins has a clearly religious focus. It does not regard "human" as synonymous with any strictly *biological* structure or capacity, and it is clueless with regard to any biological processes or the time they may have taken to contribute to the appearance of religious beings. In fact, I'll go further than that: *Genesis* is not merely unaware of the physical and biological conditions for the appearance of humans, it is *uninterested* in them. I have no

doubt that if we could speak to Moses (and whoever else authored it), and were to ask about the processes and time span involved, his answer would be: “You want to know *WHAT?* I’ve just given you the greatest news any human could ever have! I’ve reported to you that the Creator of the universe offers us his love, forgiveness, and everlasting life, and what do you say? You want to know how *long* it took God to make us? Have you been listening at all?”

Now it might be objected at this point that even if my construal of *Genesis* thus far is right, there are still other possible incompatibilities left unresolved. What of the origin of Eve, for example? Even if the rib-transplant is figurative, are we to take seriously the suggestion that her humanity was somehow derived from Adam’s? And if the evolutionary account is right, shouldn’t we expect that a number of beings would acquire the necessary and sufficient qualifications for humanity (whatever those are taken to be) at about the same time? So even if there were *a* first human, wouldn’t there be many others in short order?

Let’s take Eve’s formation first. If the interpretation offered above is correct then the transplant of Adam’s rib not only conveys their common human nature, but also has further religious import. For since it is contact with God’s self-revelation that is the last step in becoming human, Eve’s humanity does derive from Adam’s in the sense that whereas he received the covenant directly from God she received it from Adam. As for there being other humans at about the same time, *Genesis* agrees! From chapter four onward, the children of Adam and Eve are represented as traveling among, in fear of, and marrying from, other people. Virtually everyone upon first reading those chapters has wondered, “Where did those other people come from?” But although the question is obvious, it’s not one the text is interested in answering. It is narrowly *covenant* history, not broadly human history. It is worth noting, however, that if there were an evolutionary process that produced many nearly-human beings at about the same time, and if coming into contact with God’s offer of the covenant was the last step in their becoming fully human, then the existence of other newly-human beings (owing to the spread of religious belief) would be exactly what we would expect. Adam and Eve would still be the progenitors of all humanity in the religious sense; they were the first to know God, the ones who represented all humanity in being placed on religious probation, and were likewise the first recipients of God’s offer of a covenant of redemption following their fall.²¹

I conclude, therefore, that on religious grounds there is no need for a theist to reject the evidence for an old age of the universe and the earth, or the theory of a gradual diversification of living things.²² The acceptance or rejection of such ideas should be decided on the scientific evidence alone. Nor is it a good objection to point out that evolutionary theory gives aid and comfort to nontheists who deny that the processes and laws of nature are the creations of God. Of course there’s an atheistic version of evolution, just as there is a theistic version; for a materialist the natural processes are the ultimate explanations of everything, just as for a theist they are but penultimate explanations. But that same difference holds true for the interpretation of other theories. Atomic theory, for example, was invented and advocated by thinkers (Democritus, Leucippus, Epicurus, et al.) who took atoms to be the ultimate realities that explain the existence of everything else. That is not, however, good reason for a theist to reject belief in atoms any more than it would be a good reason for nontheists to reject atomic theory because Newton and Plank believed them to be created by God. Evolution is a parallel case. A theist is as much within his intellectual rights to accept evolutionary theory while believing those processes to have been created by God as he is to believe atomic theory while holding atoms to have been created by God. Physics can’t show that matter and space are or are not God’s creatures, any more than biology can show life forms are or are not created by God. Both beliefs are *brought to* science not *derived from* it. And both are *religious* beliefs.

II. The Nature of Religious Belief

Since there is not the space here to defend that last sentence in detail, I can now only summarize what I have defended elsewhere about the nature of religious belief.²³ Suppose we start by observing that every religious tradition regards something or other as divine. The question is whether there is anything true of all putative divinities that could serve to define “divine”? If we look for a common element shared by the natures of every putative divinity then the answer is surely, “no”. But if we look instead at the *status* of divinity we find a very different state of affairs. The difference between these two approaches is like the difference between two ways we could answer the question, “Who is the President of the U.S.?” One way would be to describe the person holding the office, the other would be to describe the office itself. The difference is important. If an election were in dispute as to who had won, different people would describe the President differently, but everyone’s idea of the office would remain the same. This is an exact parallel to what I’ve found to be the case for religious beliefs. While there are a host of contrary descriptions of who or what is divine, there is a startling unanimity about what it means to be divine. For no matter how differently the putative divinities are described, the *status* of divinity is always *that of having unconditional reality*. The divine is therefore that on which all nondivine reality depends (if it is also believed there is any nondivine reality). The status of divinity, then, is accorded to whatever is believed to be uncaused and unpreventable, or self-existent, or just there. The terms for the status differ; and some traditions don’t bother with any of them. They simply trace everything back to a source that has no explanation and drop the subject. In that case the status of divinity has been conferred tacitly by default, but it’s still the case that the divine is being regarded as having independent reality. So the crucial question is whether the converse is also true. Are all beliefs in anything as having independent reality religious beliefs? I believe an affirmative answer is unavoidable.

Many people have a difficult time with this point because their idea of religious belief is narrowly culture-bound. They have a prototype in mind – the tradition they’re most familiar with – and they judge all beliefs as religious or not to the extent they resemble that prototype. So it is necessary to review briefly why such prototypes, along with some of the most widespread ideas of religious belief they generate, are misleading. Let’s start with the idea that it’s necessary that a belief be embedded in a cultic tradition and associated with worship for it to count as religious. Is this the case? Surely not. Aristotle argued for and believed in a being he called “god”, but whom he didn’t worship. Likewise the Epicureans, who believed in many gods. Moreover, there are forms of Hinduism and Buddhism that include no worship. Is it necessary for a religion to believe in gods or a God at all? Once again, the answer is “no”; there are forms of Hinduism and Buddhism that believe in no gods whatever. (Being an atheist is like being a vegetarian: the terms convey what is not believed to be divine or not to be eaten, while leaving in the dark what the person does believe to be divine or does like to eat.) Is it necessary for a belief to be associated with ethical teaching to count as religious? There are counterexamples to this proposal too. Ancient Roman religion is one example; another is the Shinto tradition of Japan. Is what makes a belief religious whether it is taken on faith rather than being proven on the basis of argument and evidence? That can’t be right either. Many theists have accepted arguments for the existence of God but it would be absurd to say their belief in God was therefore not religious! Besides, there are many principles necessary to science that also have no proof – the rules of proof, for instance. But, you say, what if a theory assumes *matter* to have that status? Isn’t materialism the reverse of religion? Again, that is a narrowly culture-bound notion. The ancient Greek mystery religions worshipped what they called “the everflowing stream of life and matter”, and one form of Hinduism presently regards matter as divine (along with souls). The only thing these beliefs have in common with other religious beliefs is that they take matter to have the same status of ultimate

reality that the other religions assign to God, Brahman, the Tao, Wakan, Zurvan, Mana, and so on.

To sum up: no matter how hard we try to find other common characteristics to religious beliefs, they always turn out to have exceptions. The only thing they all have in common is being about what has the *status* of unconditional reality, so that's the only thing that could define them. To be sure, there is a difference in the *employment* of such beliefs when they occur in religious traditions from when they occur in theories. In a cultic tradition the main point of knowing what we and everything else depends on is to acquire the right personal relationship to the divine. In a theory it is sought mainly to explain, rather than acquire a personal relation. But even this difference is one of emphasis rather than exclusion. The divinity beliefs involved in theories can't fail to carry some personal implications for life, just as divinity beliefs embedded in cultic traditions serve also to explain. The upshot is that there is no good reason at all for denying the religious character of any divinity belief no matter in what context it occurs. Whatever is given the status of unconditionally independent reality is metaphysically ultimate, and thus divine, no matter how it is conceived. To put the same point from another angle, no idea of what is metaphysically ultimate could fail to have religious import if for no other reason than it is either God or a surrogate for God (or for Brahman-Atman, or for the Tao, etc.).

Stated formally, then, this definition of religious belief is as follows:

A belief, B, is a religious belief IFF:

1. it is a belief in something or other as divine, or
2. it is a belief in how to stand in proper relation to the divine, where
3. "divine" means having utterly independent reality.²⁴

Taking this definition as point of departure, I will now argue that: 1) any theory of reality is bound to contain or presuppose a divinity belief, and 2) any theory of science is bound to contain or presuppose some view of reality. For this reason I contend there are no religiously neutral theories; all at least presuppose some divinity belief by conceiving of the natures of their postulates in ways that differ relative to what they take to be divine. Please notice how sharply this differs from the fundamentalist program of importing theistic beliefs such as the special action of God (miracles) into scientific explanations. The claim is that *whatever* is regarded as metaphysically ultimate *regulates* how a theory conceptualizes the nature of its postulates. This is what I see as the most pervasive and important (and neglected!) of all the relations divinity beliefs have to science. I will now try to clarify this position. Then I will end with a brief statement of why theists should be explicating this relation of belief in God to the theories of the sciences, rather than trying to infer support for belief in God from features of the universe.

III. Religious Belief, Metaphysics, and Science

The central issue for metaphysics is to offer a theory of the ultimate nature of reality. It therefore seeks to answer the question: what kind(s) of things are there? This has traditionally been done by picking a particular *kind* of properties and laws the world exhibits to our experience, and enthroning that kind as the nature of the entities that either 1) comprise everything, or 2) are what everything else depends on. In the brief list of sample theories that follows, I'll use italicized adjectives to designate the kinds and un-italicized nouns to designate the entities proposed as having independent existence: *mathematical* numbers, *physical* matter, *sensory* perceptions, *logical* Forms. There have also been dualist theories combining two metaphysical ultimates: *logical* Forms and *physical* matter, *sensory* perceptions and *logical*

categories, *logical minds* and *physical bodies*, etc. Some of the names that go with these theories include Pythagoras who held that all is comprised of numbers and their relations; Plato and Aristotle who said the world or our experience is produced by the relation of Forms to matter; Hobbes, Smart, the Churchlands, and other materialists who have said all is physical; Hume, Mill, Mach, who held that all is sensory; and Kant and the logical positivists who held that all we experience is sensory/logical. In every case the key belief driving the elaboration of these theories is what they regarded as divine.

But even if one or another divinity belief functions as a regulative presupposition to any theory of reality, is it really the case that scientific theories are in turn regulated by some metaphysics? Can't the natural sciences finally declare their independence from philosophy? To see why this is impossible we need only ask this question: is it possible for any science to explain without specifying the nature(s) of its postulates? If not, then the nature ascribed to any postulated entity or process would (along with specifying the range of its explanatory power) reflect its metaphysical underpinnings. A postulated entity would have to be of the same nature as reality *generally*, or have its explanatory power relativized to something else of that same nature. Consider, for example, how this works out in physics. Ernst Mach held reality to have an independent *sensory* nature and for that reason held atoms to be "useful fictions."²⁵ Einstein held external reality to be a combination of physical matter and logical/mathematical order, so he took atoms to be purely physical entities postulated by purely rational thought.²⁶ Over against these views, Heisenberg held atoms themselves to be not only physical but also essentially mathematical in their own nature (a view he himself said "fits with the Pythagorean religion")²⁷. This is why he took the "Copenhagen interpretation" of the uncertainty relations: whatever isn't mathematically explicable can't be real. Each of these views takes atomic theory to be something significantly different from the others, and their differences stem precisely from how the nature of an atom is conceived in each case. In turn, the concept of an atom's nature is regulated by what is presupposed about the nature of reality generally, and the general nature of reality is regulated by what is presupposed to have divine status.

In this sense, the theories of science can never be religiously neutral. They may or may not *contain* a declaration of what is being regarded as divine, but they cannot avoid at least presupposing something in that role.²⁸ For that reason the right understanding of the relation of divinity beliefs to science can never be that of harmonizing them, as though divinity beliefs and science have two independent but equally reliable sources of information. No interpretation of any theory can fail to be consistent with its own presuppositions, just as it cannot fail to be inconsistent with all contrary presuppositions. Harmonization is thus either unnecessary or impossible. Here Calvin had it right rather than Augustine; it's not that there are two books from God to be read independently, the book of nature and the book of Scripture. Rather, it's that in proclaiming the transcendent Creator Scripture supplies the "spectacles" through which the book of nature must be read. Thus the same hypothesis (e.g., there are atoms) can have as many interpretations as there are metaphysical ideas of the nature of reality, and there will be at least as many ideas of the nature of reality as there are divinity beliefs. The understanding of nature is not neutral, unbiased, and the same for all. It is religiously controlled, not only for the theist but for everyone.

For these reasons, and in this sense, I maintain that there is a distinctly theistic perspective for the interpretation of all theories. The central point of the perspective is the full force of the Creator/creature distinction: *no kind of things in the universe has independent reality*. Nothing in creation is what everything else depends on; that status belongs only to God. The perspective is therefore radically *non-reductionist*.²⁹ I presume that by this time it's clear I mean metaphysical reduction here rather than theory reduction, or convenience reduction, or whatever.

But let me try to be more precise. Reduction explanations come in two main flavors, eliminative and causal dependency. On the eliminative version a particular kind of properties and laws is asserted to be the nature of reality on the ground that all the other kinds of properties and laws exhibited to our ordinary experience are either identical to the kind favored as the nature of reality or are not real at all. The causal version, on the contrary, claims that the one or two kinds the theory defends as the nature of reality generate all the other kinds of properties and laws we experience. The reason for calling the first explanatory strategy “reduction” is obvious: all but one of the kinds of properties and laws exhibited to our pre-theoretical experience are denied, so that the kinds of properties things actually have is drastically reduced in number. (As a result the number of types of things and events considered real is inevitably reduced as well.) The causal version is also reductionist, but in a subtler manner. This version allows that things really have as many distinct kinds of properties as they can plausibly be said to have, but it reduces the status and importance of the dependent kinds relative to the one(s) supposed to produce them. Along with most theists, I contend that the first version should be rejected as flat-out incompatible with both our divinity belief and our experience of the world around us, and as philosophically indefensible. But unlike most theists, I call for the rejection of the second version as well because it gives some part or aspect of creation the status of being that on which all (the rest of) creation depends – the status of divinity that belongs only to God.³⁰

Of course, by insisting that only God be accorded that status we do not thereby avoid making creation dependent. But it is not the *dependency* of things or the kinds of properties they exhibit that we are rejecting, but only their *reduced status relative to one another*. While a theistic view regards creation as dependent on God and thus less real than God, nevertheless it does not elevate any kind(s) of properties and laws found in creation above the others; it does not overestimate any one or two kinds and thus correspondingly underestimate (or eliminate) all the others. Instead, by regarding all aspects of creation as equally real because equally and directly dependent on God, theism can affirm the dependency of created reality without reducing the status of any of its kinds of properties and laws relative to any other.¹⁷ And it is exactly the reduced status of these kinds relative to one another that makes for serious theory differences in science, since it is precisely the deification of some kind of properties and laws, and the consequent reduction of all other kinds to it, that results in the competing metaphysical isms listed above (think of the three views of an atom). By offering the alternative of an irreducibly pluralistic metaphysics, theism can present a salutary gift to the scientific enterprise, and it is to this more pervasive and constructive project I would urge theists to turn their attention. The project should include both the development of new non-reductionist theories in the sciences, and the elaboration of nonreductionist interpretations of existing theories – including the theory of biological evolution.

IV. What About Evidence For Intelligent Design?

What about evidence for intelligent design? This question raises the complex debate concerning what is traditionally called “natural theology”. As with most of what I’ve touched on so far, it too is a topic there is not the space to treat adequately. So once again I’m forced to summarize points that deserve lengthy supporting arguments without being able to state those arguments here.

One of the most disturbing things about the attempts to argue from features of the world to God’s existence is the way many Christians justify that project by appeal to scripture, especially to Romans 1:18 – 20. This text says that ever since God created the world he’s been making himself known to humans, and that in addition to his covenantal self-disclosures the creation itself (somehow) reflects his “power and divinity”. But the fact that creation, if viewed

rightly, will be seen not to be divine and thus to witness to God’s divinity, is no license to suppose God’s existence can be *inferred* as certain or probable from specific features of the natural world. In fact, the context of this remark emphasizes (v.25) that most of humanity “changed the truth about God into a lie and worshipped and served something created instead of the Creator.” And that, the same author says elsewhere (I Cor. 1: 20-21; II Cor. 4:4; Eph. 4:18), has resulted in spiritual blindness on the part of those who deify some aspect of the created universe. Taken together, these texts amount to saying that although the universe may exhibit dependency on God, those who regard some part of it as divine are thereby blinded to the exhibition. Their false divinity belief blocks the acquisition of the true one.

So should theists engage in the project of *arguing* that the world is in fact designed? Even the great skeptic David Hume thought the world surely gives that appearance, and called anyone to whom it didn’t appear that way “stupid”. But Hume found that fact insufficient to infer God’s existence, and instead took the appearance of design as misleading - like the appearance that the sun rises and sets. And anyone who takes part (or all) of the universe to be divine will no doubt agree with him. No matter what the evidences for the inference to intelligent design, the fact that something else is believed to be divine will prove decisive for the nontheist. A crucial point to keep in mind here is that religious beliefs are not hypotheses, so pointing to confirming consequences of them cannot provide an argument to the best explanation as it can for theories. Divinity beliefs are always prior convictions brought to science, and advocates of every divinity belief can point to features of our experience that are what would be expected if their belief were true. For that very reason none of those features will appear convincing to people holding contrary religious beliefs. In every case thinkers will see the truly important confirming factors to be those that confirm whatever divinity belief they themselves hold. This is not only the case between theism and nontheism, but between contrary nontheisms. Have advocates of the major isms of metaphysics ever succeeded in converting their opponents purely by argument and evidence? No. Ditto for the competing perspectives for science these isms provide. As Michael Polanyi put it:

All formal rules for scientific procedure must prove ambiguous, for they will be interpreted quite differently according to the particular conceptions about the nature of things by which the scientist is guided...[In cases of theory disputes] it appears that the two sides do not accept the same ‘facts’ as facts, and still less the same ‘evidence’ as evidence...For within two different conceptual frameworks the same range of experience takes the shape of different facts and different evidence.¹⁸

So it’s true that for the theist the order exhibited in the universe will, indeed, count as confirming evidence; reading nature through the spectacles of Scripture, it will be plain that “the heavens declare the glory of God and the firmament shows his handiwork”. But it is a horse of a different paint job to try to make what counts as *confirmation of* belief in God into a compelling *argument for* that belief. In one sense, it’s understandable why theists have been drawn into such a project. Many naturalist and materialist defenders of evolution have pointed to the random and chaotic history of life forms as counting against their having been created by God. It is tempting, then, to argue the contrary. So some theists have shifted their gaze. Instead of looking at the apparent randomness of the processes, they look instead at the end products of those processes and stress their orderliness. But is there a religiously neutral argument to show which of these is the more important evidence? No. The decisive factor in each case is what is already believed to be divine.

A second objection to this project concerns an assumption shared by many in both the atheist and theist camps of the debate, namely, that if God exists, God would think and plan in basically the same way humans do. Each side looks for what would be signs of *human* rationality or design, and proceeds either to deny their presence in the evolutionary process or assert their presence in its products. Meanwhile, Scripture has all along warned that what looks random to us is still under the Lord's control (Prov. 16:33). The proper theistic response to the charge that there doesn't appear to be a plan behind evolutionary history is not to try to show one, but to say that knowing there is such a plan depends on first knowing God. For us, as for Adam, it is only by encountering God's covenantal word that we can come to know him and, in consequence, to read nature rightly.³¹ Here again I want to urge that essential to that right view of nature is not only the insistence that all is the product of God's plan and power, but also a non-reductionist interpretation of all creation. This program cannot be objected to on the ground that it imports religion into science. In bringing a nonreductionist view to bear in every scientific concept, a theist would be doing nothing different from what reductionists are doing on behalf of whatever they regard as ultimate (divine) reality in their theories, namely, allowing their view of ultimate reality to regulate their concepts of dependent reality.²⁰ The theist simply does this on behalf of a different idea of ultimate reality, the idea that it is nothing less than the same transcendent Creator who has offered a covenant of redemption to the whole human race. This is why I think Tillich was right when he said:

The famous struggle between the theory of evolution and the theology of some Christian groups was not a struggle between science and faith, but between a science whose faith deprived man of his humanity and a faith whose expression was distorted by biblical literalism...A theory of evolution which interprets man's descent from older forms of life in a way that removes the infinite, qualitative difference between man and animal is faith not science."³²

We need, therefore, to challenge *every* metaphysical reduction: that consciousness can be reduced to biology, that biology reduces to physics, and especially that the physical aspect of the world is metaphysically ultimate. The challenge to that religious belief is more than merely respectable, for the materialist divinity-belief has serious difficulties. For openers, we may pose the question as to whether it is possible so much as to conceive of the physical side of reality as really independent of all the nonphysical properties and laws we experience things to have. What is left of the very idea of "physical" if we strip from it every connection to, say, the quantitative, biotic, sensory, logical, and linguistic properties that are also exhibited to our experience? Try to do so as a thought experiment. Is anything left? Isn't trying to combine "physical" with "independently existing" like trying to combine "triangle" with "four-sided"? We know what each term designates when taken alone but when we try to combine them, they both evaporate. Notice that if correct, this undermines both the eliminative and causal versions of the reductionist strategy for explanation. I believe it is along this and other lines of criticism that naturalism and materialism can best be challenged, rather than by trying to infer God from nature.

But in any case theists need not throw out evolutionary theory on religious grounds, and still less should they be tempted to do so because of a materialist confession of faith that may be expressed in conjunction with it. We should never let a scientist who is not a theist get away with passing off his naturalist Faith *as* science. Richard Lewontin, for one, admits this difference:

It is not that the methods and institutions of science somehow compel

us to accept a material explanation of the world, but on the contrary, that we are forced by our *prior* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counterintuitive... Moreover, that materialism is absolute, for we cannot allow a divine foot in the door... (*New York Review of Books*, January 7, 1997, p. 31)

The proper response to that is to point to the benefits for science of the nonreductionist strategy for explanation resulting from our prior adherence to our belief in God. From that perspective a theist may appropriate every element of truth that evolution or any other scientific theory may uncover, so long as it is regarded as the creation of God and for that reason is interpreted within a nonreductionist conceptual framework.²²

NOTES

- ¹ See Wright & Fuller, The Book of the Acts of God (Garden City: Anchor Books, 1957), pp. 17–59.
2. Comp. G. Vos, Biblical Theology (Grand rapids: Eerdmans, 1948), pp. 19–44; and Wright & Fuller, *ibid.*, pp. 47–59.
- ²3. This distinguishes the biblical creation story from all pagan accounts in which some part or force of the natural world is regarded as divine. It is worth noting, however, that after God calls the universe into existence from nothing, the formation of life forms is not described that same way. Instead the wording suggests some natural process was involved in that God commanded that the *waters* bring forth life.
- ¹⁸4. For a detailed defense of this view see N. H. Ridderbos, Is There a Conflict Between Genesis 1 and Natural Science? (Grand rapids: Eerdmans, 1957).
- ¹⁹5. Roger Lewin has noticed the importance of how “human” is defined, and reports that the currently popular idea is to regard the capacity for ethics as the defining difference. In explaining this he includes the ability to ask the question “why are we here?” as a prime example of ethical consciousness. But as we shall see shortly, this question goes beyond ethics alone and is religious. See *Human Evolution* (New York: Freeman Co., 1984), 24, 25, 98 ff.
- ²⁰6. This strikes some people as odd, but wouldn’t it have to be true on virtually any account of human origins? Some individual would have to have been the first to qualify as human no matter how “human” is defined! It will not do to object that perhaps the defining qualities are relational, as Aristotle and Marx held. For, clearly, pre-humans already lived in social groups. Whatever distinguishes humans would therefore have to require new capacities in individuals even if those could only be actualized socially.
- ²¹7. Although there is a long theological tradition taking Adam and Eve to be the biological ancestors of all humans, I can find no warrant for it anywhere in the Hebrew scriptures or the New Testament. The closest thing to any assertion on the topic is Adam’s remark calling Eve “the mother of all living”; but that is in connection with her being promised that one of her descendents will be the Messiah. So it appears that this refers to the full sense of “life” that includes the right relationship to God, rather than to merely biological descent. The point is even clearer in the New Testament where Jesus is said to be the Messiah and so to be the “new Adam”. His headship of the human race is explicitly and exclusively religious, since he was not the ancestor of anyone.
- ²²8. Other alleged incompatibilities are that *Genesis* teaches there were no such things as death, weeds, or pain in childbirth until Adam and Eve disobeyed God. That is a patent misreading. As the first to be put on probation relative to God’s covenant, Adam and Eve were placed in a specially protected environment *Genesis* calls “the garden of God”. Once exiled from that place of special protection, they were subject to all the vicissitudes of life from which they would otherwise have been shielded. That this is the viewpoint of the text can be seen by comparing Gen. 3:24 with Joshua 5:13-15. In the first, an armed angel of God blocks Adam and Eve from the tree of life while in the second an angel leads God’s people into the Promised Land – another area of special protection. See esp. Joshua’s remark at Numbers 14:9.
- ²³9. See chapter 1 of Knowing with the Heart: Religious Experience and Belief in God, (Downer’s Grove: InterVarsity Press, 1999) and chapters 1 and 2 of The Myth of religious Neutrality (Notre Dame: University of Notre Dame Press, 1991).
- ²⁴10. This definition was held by virtually all the presocratic thinkers; see Werner Jaeger’s The Theology of the Early Greek Philosophers (New York: Oxford University Press, 1960). It was held by both Plato (Tim. 50 ff., Phil. 53-54) and Aristotle (Meta. 1064a34, 1074b1-13), and has been rediscovered often since. In the past century alone has been held by: William James, The Varieties of Religious Experience (New York: Longmans, Green, 1927), 31,33; A.C. Bouquet, Comparative Religion (Baltimore: Penguin, 1973), 21,38,45,48; Mircea Eliade, Patterns in Comparative Religion (New York: New American Library, 1974), 24-30; Herman Dooyeweerd, A New Critique of Theoretical Thought (Philadelphia: Presbyterian & Reformed Pub. Co., 1955), I: 57; N.K. Smith, The Credibility of Divine Existence (New York: St Martin’s, 1967), 396; Paul Tillich, Systematic Theology (Chicago: University of Chicago Press, 1951), I: 9,13; Hans Kung, Christianity and the World Religions (Garden City: Doubleday, 1986), xiv; and C.S. Lewis, Miracles (New York: Macmillan, 1948), 16-20, 99-107.
- ²⁵11. “If ordinary ‘matter’ must be regarded merely as a highly natural, unconsciously constructed mental symbol for a...complex of [sensations], much more must this be the case with the artificial hypothetical atoms and molecules of physics and chemistry.” From “The Conservation of Energy” in Ernst Blackmore’s *Ernst Mach* (Berkeley: University of California Press, 1972), 49.
- “One must not attempt to explain sense-perception. It is something so simple and fundamental, that the attempt to trace it back to something simpler, at least at the present time, can never succeed.” *Knowledge and Error*, (Dordrecht: Reidel, 1975), 441.
- ²⁶12. “Our psychological experience contains...sense experiences...even the concept of the ‘real external world’ of everyday thinking rests exclusively on sense impressions...what we mean when we attribute to the bodily object ‘a real existence’... [is] that, by means of such concepts...we are able to orient ourselves in the labyrinth of sense perceptions.” *Ideas and Opinions*, (New York: Bonanza Books, 1954), 290-291.
- “I cannot conceive of a God who rewards and punishes his creatures, or who has a will of the kind we experience in ourselves...I am satisfied with the mystery of the eternity of life and with...a glimpse of the marvelous structure of the existing world together with...the Reason that manifests itself in nature.” (*Ibid.* p. 11).
- ²⁷13. *Physics and Philosophy*, (New York: Harper, 1958), 72-73.

²⁸14. By “presuppose” I mean (roughly): a belief, q, presupposes another belief, p, IFF in order to know or believe that q one must know or believe that p on grounds other than q. In *The Myth of Religious Neutrality* I have defined “presuppose” more precisely and demonstrated the regulative role of divinity-presuppositions for major theories in mathematics, physics, psychology, sociology, and politics.

²⁹15. Such nonreductionist metaphysics is not merely a future hope. The Dutch philosopher Herman Dooyeweerd constructed just such a theory and applied it to a number of scientific problems and theories. See *A New Critique of Theoretical Thought*, (Philadelphia: Presbyterian & Reformed Pub. Co., 1955, 4 vols.). I have summarized his theory’s main points in the last four chapters of *The Myth of Religious Neutrality*.

³⁰16. Many theists have thought to neutralize this point by maintaining a reductionist theory but adding that whatever it is all created reality reduces to, this in turn depends on God. Two objections: 1) From the theistic standpoint, this ploy runs afoul of the repeated biblical claims that belief in God affects every sort of knowledge and all truth (Ps. 111:10; Prov. 1:7; Luke 11:52; I Cor. 1:5; Eph. 5:9). In violation of this teaching, the ploy renders belief in God a fifth wheel making no difference to the content of a theory. 2) From the standpoint of philosophy, there are a host of insurmountable difficulties in bringing off any reduction and I will shortly add another to the list. Reduction remains a vain hope not a reality. See my “On the General Relation of Religion, Metaphysics, and Science” in *Facets of Faith & Science*, Ed. J. M. van der Meer. (Lanham: University of America Press, 1996), 57-79.

¹7. The expression “equally real” in this sentence does not mean to deny that some kinds of properties are preconditions for the appearance of others/ So, for example, it is not denied that a thing has to have physical properties in order to have biotic properties. The nonreductionist view I have in mind allows this to be true while still maintaining there exist biotic laws and objective biotic potentialities in nonliving things which are necessary (but not sufficient) for the appearance of distinctly biotic properties in living things. Important distinctions need to be made in this connection between the active and passive ways things can possess properties, as well as between the actual and potential ways. See *The Myth of Religious Neutrality*, pp. 212 – 216.

¹8. *Personal Knowledge*, (New York: Harper & Row, 1962), p. 167.

³¹19. Cmp Calvin: “As to the question, How shall we be persuaded that [Scripture} came from God?... It is just the same as if we were asked, How shall we learn to distinguish light from darkness, white from black, sweet from bitter? Scripture bears on the face of it such evidence of its truth as white and black do of their color, sweet and bitter of their taste.” (*Inst.* I, 7, 2). “[Thus] they who strive to build up a firm faith in scripture by disputation are doing things backwards...” (I, 7, 4) “Scripture, carrying its own evidence along with it, deigns not to submit to proofs and arguments, but owes the full conviction with which we ought to receive it to the testimony of the Spirit of God.” (I, 7, 5)

²0. This point also serves to answer another objection to the claim that scientific theories are religiously regulated. The objection is that a scientist may very well work with a theory as a skeptic, without actually believing it to be true. In that case, the objection goes, wouldn’t the theory fail to be religiously regulated? The answer is that so long as the theory employs reductionist *concepts*, it still exhibits the sort of regulation I’ve been pointing to. A scientist may, indeed, not believe a particular hypothesis being tested. But so long as its initial conditions, background assumptions, or the nature of its postulated entities are conceived reductionistically, the regulative force of some divinity belief remains in force.

³²21. *The Dynamics of Faith*, (New York: Harper & Row, 1957), 83.

²2. This position therefore provides a clear stand respecting the debate as to whether theists should join with naturalists in employing a common “naturalist methodology” in science. If this meant only that theists should not offer miracles or other special interventions of God as scientific explanations, I would agree entirely. But that is not all that’s at stake. We’ve now seen why there is a theistic (nonreductionist) perspective for science that is at least as different from all the various reductionist perspectives (materialism, dualism, positivism, pragmatism, historicism, etc.) as those are from one another.