

Richard Dawkins once defined biology, the study of life, thusly: "Biology is the study of complicated things that give the appearance of having been designed for a purpose."

This appearance of design, as Dawkins and Darwin would agree, is the defining feature of life, and is therefore the phenomenon that biology as a discipline seeks to understand and account for. This fact explains why Darwin named and defined his theory the way that he did, using the analogy to human breeding that he did. The idea is that natural selection "selects" things in a way something like how human designers do to produce an appearance of design.

However, Dawkins went on to say, "Natural selection is the blind watchmaker, blind because it does not see ahead, does not plan consequences, has no purpose in view. Yet the living results of natural selection overwhelmingly impress us with the illusion of design and planning."

Now one might notice a conundrum here. If the appearance of design is an illusion, then there is objectively no actual design to explain in the first place, hence we do not need natural selection or any other putative physical cause to explain it, just as you do not use meteorology to explain why someone imagines a painting of a dragon in a cloud. The pattern is purely in the person's mind, so the explanation is purely psychological. There's nothing objectively, physically "there" to explain.

Hence, it would seem, Darwinian explanation requires design to be illusory in some sense, and yet objectively real in some sense. Can this work? Is it logically coherent? To examine these questions, we will look closer at exactly why living things look designed and why this requires an explanation, and at the logic by which Darwinism purports to explain and reduce apparent design to blind mechanism.

Biological Function

The reason the design of living things has traditionally been assumed is because of the pervasive biological function they exhibit. That is to say, the various features of living organisms, as well as organisms themselves, have various **roles**, and they exist **for** the roles or **to** perform them.

This isn't just one feature among others that life exhibits, but is rather the **defining feature** of biological phenomena, apart from which they cannot even be intelligibly described or identified as real.

For instance, the heart is an organ **for** pumping blood to the rest of the body. It's not simply that hearts pump blood, but that this is their function. When a heart fails to pump blood, we don't say that it isn't a heart, but rather that it is a dysfunctional or failing heart. And what is blood? Not just any red liquid is blood. Rather what makes blood blood (and thus the hearts that pump it hearts) is that it is a liquid with a function of delivering vital nutrients to the organs of the body in organisms with a circulatory system. A circulatory system, in turn, means a system that has

the function of circulating nutrients to a living thing's body parts. Indeed, the very concept of a "system" entails the concept of function - it means a collection of parts that are related by the way they work together to perform some function. And the red color of blood is not really part of what defines it. Rather the reddish color is a side-effect of hemoglobin, a molecule that is itself defined in terms of its function of carrying oxygen to a living thing's body parts.

As we have learned in recent decades, biological function also pervades biology at even the smallest and earliest scales. For instance, all living things have incredibly sophisticated and complex molecular error-correction mechanisms that ensure the copying of DNA to a high fidelity during reproduction. Note that the very concepts of "error" and "correction" are inherently teleological and functional, with the concept of error meaning a deviation from a proper function or purpose and correction meaning a restoration of a proper function.

At the higher or "macro" levels of biological function, we have the phenomenon of consciousness, which serves to provide animals and humans with a subjective awareness of the world around them.

And at the very highest level of biological function, there is the rational human intellect, that thing most essential to the study of biology itself, as well as every other science or rational inquiry of any sort. This is the faculty by which human beings grasp propositions about reality that we abstract from conscious information delivered by our senses, judge them to be true or false, and by grasping and applying universal abstract laws of logic to these propositions, navigate the abstract world from premises to conclusions, arriving at further truths that are entailed or implied in truths we knew already. In short, human reason has the function of ascertaining truth. Note that this is not necessarily what reason **does**, but what it is **for**. It is quite possible for a person's rational faculties to fail to do this, and in that case we say that they have "reasoned incorrectly," or that they are "deluded," or that their minds are "malfunctioning," that they are "in error" or have committed a "logical fallacy" etc. And yet reason, used correctly, is a reliable guide to truth, and this is why we use reason to ascertain truth in philosophy and science rather than, say, our spleens.

Even biological life itself is only definable and understandable in terms of biological function. While attempts to define life abound, certainly one essential component of any definition is the universal way in which living things reproduce. But note that living things are not reproduced the way a crystal formation is, by blind regularities that repeat simple patterns. Rather, living things have the **function** of reproducing **themselves**. They have different parts or components in a **system** (the reproducing organism or pair of organisms reproducing as a whole) that **work together** in order **to** reproduce the organism - or at least a child very **like** the original. As we know now, these components even include *codes* and the aforementioned *error correction* at the molecular level, concepts that are inseparable from meaning and function.

In short, every single aspect of biology is shot through with biological function at an essential, definitional level, and cannot even be coherently understood or described apart from it. To deny that biological function is objectively real is thus implicitly to deny that life even objectively exists

- to dismiss it as a subjective illusion or projection. Yet we are living things ourselves, and as we have seen our very consciousness and rational intellects are themselves examples of biological function, so to deny that biological function is objectively real is thus to deny that we ourselves really exist or that any of our scientific observations and rational conclusions are real or valid. To dismiss life as a subjective illusion is to imply that we exist only as a subjective illusion we are having of ourselves - a circular and nonsensical proposal.

Function Simpliciter

But what is function (of which biological function would be a subset) exactly? What does it mean for something to have a function? What does it mean to say that something is a *system*, whose parts work together *for* some function? Perhaps we can gain some insight into this by examining that other realm of our experience in which function plays a prominent role - that of human technology.

The first provocative thing we may note about the function of human technology is that *it has no physical existence at all!* To provide some examples to illustrate this point: The function of a table is clearly to rest items on. The function of the word “cat” written on a piece of paper is to refer readers to a type of animal. The function of a watch is to measure time. The function of a computer is to compute algorithms that are programmed into it.

Yet, using only the laws of physics, chemistry, and so forth, there is no way to establish these things. There is no law of physics that can establish that the function of a table is to rest things on. The word “cat,” from a physical perspective, is just some ink blotches on a piece of paper and has no reference or meaning. The numeric symbols on a watch likewise have no inherent meaning, nor can physics tell us that the movement of the hands is tracking time. Physics cannot tell us that a computer’s function is to run algorithms, nor can physics tell us what algorithms a computer is running, or that it is running any algorithms at all. From a purely physical and material perspective, the function of human artifacts simply does not exist, and such objects are mere aggregates of bits of matter acting according to blind, mechanistic physical laws.

In fact, the objects themselves don’t even exist as objects from a purely physicalist perspective. Nothing in physics tells us that the chunks of wood, nails, and glue comprising a table constitute a single object, any more than a tree and the ground it’s rooted in are a single object. It’s the table’s *function* that designates it a single object. Similarly, it is the function of the word “cat” that makes it a word rather than disassociated ink splotches or sounds, it is the function of telling time that makes a watch a watch, and so forth. There is nothing in the laws of physics or chemistry that entail that the various molecules and atoms and so forth comprising these objects “count” as single objects, much less that identify what the functions of these objects are.

Yet, despite this, we can clearly observe and ascertain the function of human artifacts. So how do we do this, and where and how does said function exist if not in the physical world?

The answer is that the function of human artifacts exists only within and by virtue of the minds and intentions of their human designers and users. The function of human artifacts is not a physical property of the physical objects themselves, although such objects do exhibit patterns that were physically placed or encoded into them by their human designers in order to make them capable of performing the function for which they were designed.

Upon closer analysis, we can see how this works. First, an individual will start with an intention or goal. For instance, say that you are an engineer in the 14th century who intends to develop a more precise and portable way of keeping time than a sundial. Next, using their knowledge and rational faculties, the individual develops within their intellect an abstract design or form of a physical object that could be used to fulfill their intention or goal. In our example scenario, this happens when you form a design in your mind of a mechanical clock. Finally, the individual imparts the form or design they came up with to matter, making the abstract form they designed concrete. In our example, this would consist of you actually building the mechanical clock that you designed.

The mechanical clock in our scenario thus has the *function* of keeping time by virtue of the fact that it *concretely* instantiates a *form* or *pattern* that was previously developed as an *abstraction* in the intellect of a rational agent for the purpose of carrying out that agent's *intention* of keeping time.

The *perception* of function of a human artifact works in reverse. For instance, let's say that you lose the clock that you built in an open field, and I, a smart but uneducated 14th century peasant who has never heard of clocks, happen to run across it. First, by examining the physical object closely, I may note that it evinces patterns of symmetry, use of materials, the appearance of numeric characters, and so forth that are incongruent with the surrounding natural world and thus indicate that it is probably a designed human artifact. As I examine it further, I will eventually reconstruct within *my own intellect* the same abstract pattern that previously existed in *your* intellect before you physically instantiated that pattern in the clock, or at least a close approximation of that pattern. Eventually, as I approximate an increasingly complete approximation of the pattern while continuing to analyze it, I will most likely infer your *intention* in building the clock, and thus the clock's *function* of keeping time in a precise and portable way.

So when creating function in human artifacts, the order of events goes like this: **Intention -> Development of abstract form to fulfill the intention -> Physical instantiation of the form in a physical object**. When discerning the function of human artifacts created by others, the order of events goes like this: **Observation of a physical object that instantiated an intended form -> Reconstruction of the abstract form that fulfills the intention -> Inferring the intention**.

This dynamic doesn't just apply to the building of clocks, but rather is a completely general pattern that applies to the creation and recognition of ALL human artifacts. In fact, it is occurring *as you read this*, because human speech and writing are also human artifacts.

I start with an intention to communicate particular ideas or meaning. Next, I form in my intellect a pattern of words that would fulfill that intention. Finally, I impart that form to matter by writing, typing, or speaking those words, thereby imbuing the sound waves or paper or what have you with the *function* of communicating my intended meaning. As you read my words, you are reconstituting the form/pattern that existed in my intellect within your own intellect, and from that pattern are arriving at the ideas/meaning I intended to communicate (aka the *function* of my written words).

With this analysis out of the way, there are a few observations we can make about function as it pertains to human artifacts:

- The function of a human artifact is not a physical property of the physical object itself, nor is it grounded in any other sort of property intrinsic to the artifact itself. Rather, the object has function by virtue of the fact that a pattern that pre-existed in someone's intellect was intentionally instantiated in it to fulfill someone's intentions. We may call the function of human artifacts "extrinsic function" because their function exists by virtue of something extrinsic to the objects themselves - namely the thoughts and intentions of the object's designer.
- It's therefore impossible in principle for anything that lacks abstract thoughts and intentions to produce function, at least in the same sense that human artifacts have, regardless of the physical properties of an object.
- You may have noticed that while unconscious physical forces cannot in principle create an artifact (since an artifact's function is extrinsic and dependent upon the intentions of its creators and users), the same is not true regarding the destruction of artifacts. An artifact's physical properties, while not *sufficient* to ground its function, are at least *necessary*, since an artifact cannot carry out its intended purpose when it loses the physical characteristics that enabled it to do so. Hence, unconscious physical forces can destroy the function of artifacts when they wear down those characteristics.

Intrinsic Function

Having examined the function of human artifacts, we may ask if this type of function accounts for the function we see in biology (the objective reality of which, as discussed previously, cannot be coherently denied without denying the existence of life itself). At first glance and from a certain angle, it might seem like it does. For one thing, there are many examples of biological function that are uncannily similar to the function of human-designed artifacts on a conceptual level. For instance, humans invented pumps and electrical timers before we discovered that hearts **are** a type of pump regulated by a type of electrical timer. We had invented rotary outboard motors before discovering that the bacterial flagellum is a sort of rotary outboard motor. We had invented codes and error correction mechanisms before we discovered that the

genetic code is a code and that genetic transcription is protected by error correction mechanisms. And so forth.

Yet, on further analysis, discrepancies appear. Recall that consciousness and human rationality are both examples of biological function, and recall also that the function of human artifacts is not grounded in anything intrinsic to them, but rather in the thoughts and intentions of their designers.

But my consciousness is clearly something intrinsic to me. I have conscious experience regardless of whether you or anyone else intended for me to have it. It may well be the case (I would argue is the case) that my consciousness could not have existed had God not intended it to exist, but nevertheless, my consciousness is genuinely a property of me, a power that I have, and not something that only exists extrinsic to me by virtue of a designer's thoughts or intentions about the matter comprising me. I think, therefore I am. Not someone else thinks, therefore I am.

The same principle applies even more clearly to the function of human rationality. If I, using my mathematical knowledge and logical reasoning, conclude that $1+2=3$, then it is simply an objective fact that I am correct, regardless of what anyone else thinks. If I conclude that $1+2=10$, or if I persistently commit the logical fallacy of affirming the consequent, then it is simply a fact that I am *incorrect*, that I am *deviating from proper reasoning*, that I am *deluded*, or whatever other ways you may express that my mind is *not working according to its function*, regardless of what anyone else thinks or intends.

Again, in this case the function of my rational faculties, and my fulfillment of or deviation from that function, are objective and intrinsic facts about *me*, as is my power to reason correctly or incorrectly. These are not merely facts about someone else's thoughts about me when designing me. And in the case of rationality, to deny these things is to deny that anyone is ever objectively right or wrong, or that anyone really reasons correctly or incorrectly as a matter of objective fact, which is simply to abandon all rational inquiry (science included) and to steep oneself in deep postmodernist relativism.

Given these things, we may say that while human artifacts are all examples of *extrinsic* function, at least some cases of biological function (including at least human consciousness and rationality) are examples of *intrinsic* function - that is, function that exists as a property of an object in and of itself, not merely by virtue of an intellect's purposes for it. With this distinction in hand, there are a few more things we can say about intrinsic function.

- If our conscious, rational intellects are an example of intrinsic function, and if the extrinsic function of artifacts exists only by virtue of the intentions and thoughts of conscious rational intellects, then extrinsic function is a derivative of intrinsic function. Hence, anything that cannot in principle create extrinsic function cannot in principle create intrinsic function.

- Any object (such as a human being) that has intrinsic function exists as a distinct object objectively. Contrast this with how a piece of matter comprising a watch (or any other human artifact) counts as a watch only by virtue of the intentions and thoughts of its designers and users. The matter comprising you, on the other hand, is conscious and rational regardless of what I or anyone else thinks it “counts” as.
- An object possessing intrinsic function has de novo powers that cannot be reduced to the aggregate behavior of its parts, making it a single irreducible object *objectively* speaking. In the case of an artifact with only extrinsic function like a computer, by contrast, everything the object does or can do is reducible to the aggregate mechanistic behavior of its parts, and therefore those parts only “count” as a single object by virtue of the extrinsic intended function for which they were put together.
- Those familiar with Aristotelian and Thomistic philosophy will probably have noticed that what I describe as “intrinsic function” maps to what A-T philosophy refers to as a “substance” - an object that is objectively irreducible to the sum of its parts by virtue of having powers that are irreducible to the aggregate powers of its parts. In modern analytic philosophy, “emergence” is often used to express a similar idea.
- Based on what I have said in this section, one might conclude that consciousness and rationality are the only examples of what I have called intrinsic function in biology, and that the rest of biological function is more akin to that of artifacts. However, the reverse is most likely true. Notice that our consciousness and rational faculties form a unified whole with our more “machine-like” physical faculties (our digestive system, circulatory system, respiratory system, etc) and depend on them for their normal operation. This implies that all of these biological functions are likewise expressions of intrinsic function. Furthermore, one may note that lower animals have biological functions very similar to ours, so we may suppose that they are examples of intrinsic function as well. If we suppose that some form of evolution is true, that makes this line of inference even stronger. Indeed, this probably holds true all the way down to the level of the simplest single-celled organisms. If you were to take the simplest cell and disassemble it into its constituent parts, our most advanced science would have no clue how to go about putting those parts back together to recreate a living cell. It’s quite likely that it can’t be done in principle, because even the simplest life has powers that are irreducible to the sum of its parts. Some of the functional activity that goes on in a cell may not even be computable.

Function and Darwin

With the concept of function and its indispensability to biology thus explicated, we are in a position to understand and evaluate Darwin.

The basic premise of Darwinian explanation is quite simple, and goes like this: “Blind natural processes can select for some traits to survive in future generations while weeding out others, in a way that is analogous to how human breeders deliberately select some traits to breed while weeding out others. Breeding by humans is a type of design, and design produces function. Thus, given enough time, this natural selection produces all the biological function we see, much how the selection of human designers produces function.”

On the face of it, this seems fairly intuitive, but is it really coherent, and can natural selection so defined produce real function as required for any objective concept of biology and human reason, as described above?

The first thing we can say for certain is that Darwinian processes so defined cannot possibly produce the extrinsic function that human artifacts have, even though this was clearly the type of function Darwin was trying to capture with his analogy to human breeding. Why? Recall that there is nothing about human artifacts in and of themselves that demarcates them as being singular objects or of having function. They are objects with functions only by virtue of instantiating forms that were first conceived in the minds of their human designers and then conferred onto them to fulfill some intention, and when we recognize such an artifact as an object with function, it is because we are actually grasping within our own intellects the form that pre-existed in its designer's intellect.

But since blind natural processes do not have any minds, intellects, or intentions (by definition, or they would be intelligent designers and not blind), they cannot confer any forms from their intellects onto matter, and hence there is no pre-existing form in a designer's intellect for us to recognize and grasp. It follows (given a blind and naturalistic account of life combined with an extrinsic account of any function) that when we see biological organisms as distinct objects with function, we are merely projecting something that is not objectively real onto them, like when we imagine faces in clouds.

So if natural selection cannot account for extrinsic function by definition, then what about intrinsic function, that is to say the function that is inherent to something that is objectively a singular object by virtue of having objectively real powers not reducible to the aggregate of its parts, such as the case with consciousness and human rationality? Darwinian natural selection is even less capable of accounting for that. As outlined above, extrinsic function is derivative of intrinsic function, so anything incapable of producing the former is incapable of producing the latter. Moreover, it is core to Darwinian explanation that living things are merely aggregates of mechanistic matter thrown together haphazardly over time, and that there is and can be no objectively singular cohesive wholes with powers over and above their parts towards which natural selection is leading.

Redefining Function

Because Darwinism is not compatible with the existence of function as we know it in biology, and yet the objective existence of biological function is a necessary precondition for the very existence of living organisms (not to mention consciousness and human reason) as described above, there have been many attempts since the time of Darwin to come up with some Darwinian definition of function that is both somehow objectively real yet also purely materialistic and mechanistic.

All of these necessarily come down to trying to define biological function as that which is “selected for” by “natural selection.” As mentioned above, this can seem to make intuitive sense at a casual glance, because of the analogy that Darwin made between natural selection and the intelligent selection of human breeders.

The problem with this, however, is that an analogy is not the same thing as explanation, and all analogies break down when pushed too far. For instance, the set of screwdrivers that I keep in my shed is in some respect analogous to the mathematical set of all positive integers, but that doesn't mean that I have an infinite number of screwdrivers or that any of the positive integers can be used to tighten a Philips #4 size screw.

Likewise, an analogy between the way blind natural forces “select” some animals and the way breeders select traits does not imply that “natural selection” can actually produce real function, because the analogy breaks down precisely at the point that would allow it to do so - namely the lack of intentions and an intellect capable of generating abstract forms to fulfill those intentions prior to imparting them to matter. (One might also point out here that even human breeders have not succeeded in producing **biological** function - no new biological structures that serve a purpose and are integrated into an organism - but only at tweaking existing biological functions in organisms up or down and “hijacking” them to fulfill extrinsic functions desired by humans.)

The failure of the analogy manifests in various ways when one tries to actually precisely define what it means for “natural selection” to “select for” a function.

For instance, if the “biological function” of some organ is just whatever it was selected for, where “selected for” refers to environmental causes, it then follows that we must know the organ's evolutionary history of environmental causes before we can know what its function is. But since these allegedly occurred millions of years in the past and are unobservable, it is to attribute to human beings a sort of ESP to say that we perceive the function of anything in biology (which hardly congeals with the materialism behind Darwinism). Further, this gets the order of inference totally backwards. The whole reason that a history of Darwinian selection is posited to explain an organ's existence in the first place is to account for the function we perceive **now**.

A related issue is that such a definition of function implies that nothing in biology can have a function if it doesn't have an evolutionary history of being “selected.” So, for instance, a proponent of such an account would say that hearts have the function of pumping blood because natural selection “selected” them “for” pumping blood, eg. perhaps because such an oxygen delivery mechanism allowed organisms with hearts to outrun predators (or prey) better

than organisms without hearts or something like that. But by this definition, the very first heart to occur **didn't** have such a function, because it hadn't yet been "selected."

Further, by this definition, if a creature identical to a human being in every way were to come into existence without an evolutionary history (something that is at least logically conceivable, whether or not one believes it), his heart would have no function. This gets even weirder when you consider what we said previously about intrinsic function, with examples like consciousness and rationality. Given the redefinition of biological function in terms of natural selection, and the fact that consciousness and rationality are examples of biological function, we end up with the bizarre implication that you could be completely identical to the way you are down to the last particle, but if you didn't have an evolutionary history, you wouldn't be conscious or rational!

But all of these conceptual problems are just symptoms of a much deeper one, which is that when you try to cash out what it means for "natural selection" to "select for" some function in terms of concrete causality rather than thinking of it in terms of analogies to real human selection, it turns out to be conceptually empty.

A Darwinist may say (for one possible explanation) that hearts have the "function" of pumping blood by virtue of having been "selected for" this activity by natural selection "because" organisms with blood being pumped to their organs could better outrun predators. However, "because" in this sentence cannot possibly have the same sort of meaning as it does in the sentence "I selected blue for my bridesmaids' dresses because it matches my wedding's Frozen theme," in which "because" refers to the *intentions* (to have a Frozen-themed wedding) that ground the function of the *selected* dress color. That is, "because" and "selected" cannot refer to some pattern or goal that natural selection had in mind, since "natural selection" isn't actually a concrete entity and doesn't have a mind or intentions. Rather, this must be cashed out in terms of blind and mechanistic causation.

To attempt to do this, the Darwinist may say that having hearts "caused" the organisms that had them to survive and reproduce better than those that didn't, or conversely (and more accurately) that not having hearts "caused" the organisms that didn't have them to die without surviving and reproducing more than those that did. But here "cause" cannot mean the same thing that it does in most areas of science, such as when we say that the earth's gravity causes thrown objects to fall back down. That is, we aren't talking about a direct cause-and-effect relationship of one concrete entity acting on another. Not having a heart does not cause organisms that don't normally have hearts to die in any direct causal sense. The vast majority of organisms are single-celled creatures without hearts, in fact, so they survive quite well.

Thus, when using "caused" in the sense needed to attempt to define biological function in naturalistic terms, the Darwinist is implicitly appealing to hypothetical scenarios that **didn't** happen as part of the definition. For instance, in the example under discussion, to say that hearts are "for" pumping blood "because" that is what caused organisms with hearts to survive and reproduce better than ones without, one is implicitly saying that had the first organisms with hearts NOT had them, they would not have survived and reproduced as well as they did to pass

hearts down to later organisms, as a result of not having the survival advantage of pumping blood. In other words, the ability to pump blood is the determining factor that resulted in hearts persisting rather than a hypothetical alternative scenario in which they didn't persist.

Now, appealing to hypothetical scenarios that could have happened but didn't as causal factors in an organ's function is quite an odd move to make in what is purportedly a materialistic and "scientific" account of it. This is compounded by the fact that we actually have no direct knowledge of what the causal factors that produced hearts (or any other functional structure in biology, really) are. All of the evolutionary scenarios proposed are purely hypothetical guesswork based on the function that such structures seem to exhibit now. So such purportedly physicalist definitions of function are implicitly based on hypothetical alternatives to what are themselves hypothetical scenarios. Darwinian attempts at "cashing out" the concept of biological function in physical causal terms are thus far, far afield of the concept of causality used in the physical sciences that Darwinism is intended to reduce biology to.

Furthermore, there actually is one situation with which we are all familiar in which unrealized hypotheticals actually CAN be said to be causal factors in an object's function - that scenario being human design. Typically, when we produce a design pattern for something in our minds to fulfill some intention or goal of ours, we mull over various alternatives before arriving at the one that we think is best. We then instantiate the form that we settle on (or select) into matter rather than any of the alternatives, and its function is defined by our intentions in realizing that design. In that sense, then, the forms that we considered but rejected actually **are** causal factors in determining the resulting artifact's function.

The takeaway from all this is that even in attempting to "cash out" Darwin's analogy to intentional human design and give a "scientific" and "physicalist" definition of biological function, the Darwinist is implicitly still appealing to real, intentional design. He is implicitly reifying "natural selection" as a real concrete entity, and still implicitly attributing literal powers of intention and thought to it. He has not abandoned or "cashed out" Darwin's analogy at all. Indeed, it is impossible to even **try** to give a materialist or physicalist account of biological function that doesn't implicitly deny its existence altogether, without sneaking real design in the back door. One cannot even get off the ground without doing so.

What this means is that "natural selection" as envisioned by Darwin and his successors - a blind, mechanistic, natural process that nevertheless creates biological function - is actually an incoherent and unintelligible idea, and hence it *simply does not exist*. I am not saying that it is real but limited to "microevolution" as many creationists or ID proponents would argue. Rather, the concept is simply misbegotten and illegitimate from the outset, based inextricably on a category error, and should be entirely jettisoned and reconceptualized. I realize this is a provocative claim, but I'll flesh it out more later.

But why has it persisted for so long if it's incoherent? Well, part of that is sociological and ideological - there has for a long time been a desire to subsume biology into the allegedly mechanistic and non-teleological "scientific" picture that was especially prevalent in Darwin's

day and perceived to be ascendant thanks to the revolution in the physical sciences, and in particular the then still somewhat fresh discoveries of Newton, Galileo, Descartes, etc and the mechanistic clockwork universe they were thought to have given support for (Ironically, this picture has largely been torn to shreds in the physical sciences since that time, leaving Darwinism itself as its primary redoubt).

But another and probably even greater major reason has been illustrated by the preceding paragraphs already: It is quite literally **impossible** to even **begin** to conceptualize biological function in non-teleological terms, and even in attempting to do so, those attempting it implicitly and necessarily reify natural selection as a literal designer, attributing real intentional rational agency to it, which then prevents them from realizing just how incoherent the position they are attempting to advance really is. Darwinism has been “rescued” by its own incoherence, in other words.

Irreducible Complexity

As we have seen thus far, the function of an object cannot be grounded in its material form alone, nor can it be produced by a blind and mechanistic process in principle. However, an object's material form is not irrelevant to its function either. The material construction of an object plays a *necessary* but not sufficient role in *grounding* its function.

For example, as discussed above, there is nothing about the physical construction of a table that determines that its function is to rest objects on. There is nothing about the shape of ink marks on a piece of paper spelling “cat” that determines that they have the function of communicating the concept of a cat. These functions are determined by the designers and users of these objects.

At the same time, however, it is the case that if a table I built were to get burned to ashes in a house fire, it would lose its function, as it would no longer be physically capable of carrying out the function it was designed for.

Similar considerations apply to what we have called intrinsic function. For instance, while my consciousness cannot in principle be accounted for in terms of the aggregate of mechanistic processes, and while my rational faculties cannot be accounted for in material terms at all, it is also the case that there are material prerequisites for these things to function, such that I can temporarily lose the bodily exercise of consciousness and reason if I get knocked unconscious, or permanently lose them (along with all other biological function) when I physically die.

It's conceivable that at least some of these material preconditions of function could come into existence in the absence of actual function. For instance, it's presumably at least a logical possibility that an object exactly like the table I built could come into existence by a series of spectacularly unlikely freak accidents (eg a tornado in a junkyard scenario). Said “table” wouldn't really be a table, since it wouldn't have been intended as such and wouldn't have

function (at least until someone found it and decided to use it), but it would look like one to us. Similarly, one may conceive of at least some of the physical structures required for consciousness, rationality, and other biological function coming into existence by chance.

Note that attempting to account for the physical structures associated with some function in the absence of the objectively-existing function itself is ultimately an unintelligible goal, since there is nothing about the arrangement of an seemingly functional structure that needs explaining in the absence of real function. It's akin to realizing that a dragon seen in a cloud is just the product of your imagination and not an objectively-real thing in need of explaining, but then attempting to explain the imaginary dragon in terms of meteorological processes anyway. Still, one may try to ask this question regardless.

However, the incoherence of natural selection as a concept, which we have looked at so far from a general philosophical point of view, is also reflected empirically whenever we attempt to account for specific examples of functional structures in biology.

There's a reason for this. Function, whether we are talking about intrinsic function or the extrinsic function of human artifacts, always has multiple requirements, or parts, that must be satisfied in order for the function to be instantiated. For instance, when I write a paragraph to communicate some meaning, there are multiple words and sentences that "work together" to communicate my meaning, and they must be present "all at once" so to speak, or else the intended meaning cannot be communicated. I am able to do this because as an intelligent agent, I have an intended goal or function in mind, and I arrive at a pattern or form of a paragraph that would fulfill my intentions prior to instantiating it on paper (or screen). The same can be said for any other human artifact, whether it be a painting, a statue, a computer, or anything else. There are always multiple necessary attributes, or parts, which must be present for the intended function to be realized.

The same is true of the examples of intrinsic function that I described above, such as human rationality and consciousness. While we cannot in principle account for rationality or consciousness in terms of the mere aggregate of the biological parts that comprise us, certainly there are multiple factors that must be present for them to be realized. For instance, consciousness wouldn't "work" if we didn't have brains, if we didn't have senses to deliver experiences to us, and so forth. Rationality wouldn't work if we had no inputs to think about, no ability to express our thoughts through volitional control of our mouths and limbs, and so forth.

The same issue is seen everywhere in biology. Any biological structure that performs some function has multiple parts that must be present and have certain attributes in order for that function to be realized, physically and conceptually. And just as (as we have seen) function cannot be intelligibly defined in blind and mechanistic terms, so the physical structures in biology that instantiate function present insuperable conceptual difficulties when we try to explain how they could have come into existence via only blind and mechanistic causes.

This property of functional structures has come to be known as “irreducible complexity,” a term coined by biochemist and Intelligent Design proponent Michael Behe, who uses the bacterial flagellum as his seminal example. However, the conceptual problem itself goes back much further, and was addressed by Darwin himself, who endeavored to explain (or explain away) the origin of the vertebrate eye, which at the time was the most difficult known example of irreducible complexity. Here is how he attempted to deal with it in *The Origin of the Species*:

“To suppose that the eye with all its inimitable contrivances for adjusting the focus to different distances, for admitting different amounts of light, and for the correction of spherical and chromatic aberration, could have been formed by natural selection, seems, I freely confess, absurd in the highest degree. When it was first said that the sun stood still and the world turned round, the common sense of mankind declared the doctrine false; but the old saying of *Vox populi, vox Dei*, as every philosopher knows, cannot be trusted in science. Reason tells me, that if numerous gradations from a simple and imperfect eye to one complex and perfect can be shown to exist, each grade being useful to its possessor, as is certainly the case; if further, the eye ever varies and the variations be inherited, as is likewise certainly the case; and if such variations should be useful to any animal under changing conditions of life, then the difficulty of believing that a perfect and complex eye could be formed by natural selection, though insuperable by our imagination, should not be considered as subversive of the theory.”

Note that Darwin here acknowledges that the unintended assembly of the eye as we know it seems absurd and is insuperable to the imagination. This is a good way of putting it. The issue is not merely one of personal incredulity (to use a term employed by Richard Dawkins) as when you exclaim “I can’t imagine that Jenny would say something like that!” Of course, you *can* imagine Jenny would say something like that, you just find it implausible.

The issue is that we literally *cannot* imagine it. When one tries to form a mental image of a functional eye with half of a lens, for instance, one’s mind draws a blank. The same happens when one tries to imagine a functional eye with a lens that cannot change focus, or that has some sort of “in between” point between being able to change focus and not being able to do so, given that the way the lens of the eye reshapes itself to change focal distance is itself an irreducibly complex function involving multiple specialized functioning parts working in tandem, and would be entirely useless if the entire lens could not be reshaped to modify its curvature, or did not do so quickly when needed. Likewise, it is impossible to imagine a lens being useful in a creature that did not already have the cognitive apparatus to process high-resolution images.

And here I’ve only briefly touched on one facet of the eye. In fact, the problem is unfathomably more difficult than was already known in Darwin’s day, with every component of the eye being constructed on top of subsystems that are themselves irreducibly complex down to the microscopic level, capable of processing and directing individual photons, and yet would be useless without the other components, and without the likewise unfathomably complex cognitive apparatus that allows creatures to resolve, process, and act upon visual signals.

Attempting to form a mental picture of putative transitional states is very much like attempting to form a mental picture of a square circle - one’s mind simply cannot do it. And yet, according to Darwinian

gradualism, such states must have not only existed, they must have existed for quite a long time, for many generations.

But the fossil record really provides no help here. While it's true that we do see many different types of eyes both now and in the fossil record, and while it is true that we see likely candidates for transitional organisms in the fossil record, what neither the fossil record nor genetic analysis ever do is provide us with answers to what functional transitional forms to irreducibly complex structures could have looked like.

I submit that these things seem logically impossible because they *are* in fact logically impossible, and that the fossil record doesn't help us because they never existed. Evolution really does, and must, proceed in "jumps," however that happens. What Darwin is asking people to do in the above quote is not merely to grant that natural selection with deep time can do things that seem to violate common sense, as with the case of heliocentrism (which while counterintuitive was still easy enough to conceptualize), but rather that it can do things that violate logic.

One might more easily imagine a creature with fully functioning lensed eyes, and the cognitive architecture required to use them, simply arising from the muck all at once by sheer chance. While implausible to the extreme, this at least does not force one to try to picture incomprehensible M.C. Escheresque biological structures of unclear function somehow persisting for many thousands of generations before evolving into the ones we actually see.

Another strategy that has been proposed to explain irreducibly complex structures is indirect evolution. The idea here is that a structure that "evolved for" one function somehow gets reused for another one. So, for example, a structure that happened to be very similar to the lens of an eye "evolved for" something unrelated to vision, but then by some fluke genetic mutation it just happened to get combined with an organism's simple light-sensitive spot to form the first crude camera eye.

Beyond the near-incomprehensibility of trying to imagine something like that happening, and the implausibility of it actually forming anything functional or reproducible, the bigger problem here is that it's an appeal to raw chance rather than to natural selection. The *whole point* of postulating natural selection as the cause of biological function is that its alleged pseudo-designer attributes (as per Darwin's analogy likening it to human breeders) are supposed to make the existence of all the sophisticated biological function we see more likely than pure chance. To propose pure chance as an explanation for biological function is to provide no explanation at all, but merely to acknowledge that there is no actual explanation.

And yet, on further analysis, one may see that this objection actually applies to explanations that cite natural selection as well. For instance, following Darwin, it is common for Darwinists to try to postulate that modern vertebrate camera eyes evolved from a "light sensitive spot" in some very primitive organism in the deep past, perhaps a jellyfish (animals in the Cambrian explosion already exhibit both camera and compound eyes).

But why should this be considered any more likely than an indirect explanation? The vertebrate eye has little *physical* similarity to a light-sensitive spot in a simple organism. Billions of cells of different

types working together in hundreds of intricate parts to focus, direct light particles, resolve images and so forth are a very, very different thing from a protein that absorbs light in a jellyfish.

The similarity between these two things is *conceptual*, not physical - they both have a *function* of processing light in some way for an organism's benefit. But that is irrelevant to natural selection, because *natural selection is not supposed to be a literal designer with an intellect, and as such it does not have concepts*. At no point is "natural selection" (or rather, blind environmental pressures) "selecting" a light-sensitive spot, or anything else, for how useful it might be in some future complex and integrated camera eye. *Human* technology evolves conceptually rather than physically (That is, new iterations of technology build on and extend design concepts from previous iterations rather than descending from them physically), but that is precisely because humans have intellects with concepts.

Thus, these sorts of explanations are examples of the dynamic I described above: Explanations for biological function only seem to make sense because those providing them implicitly reify "natural selection" as a literal designer with rational agency.

Indeed, Darwin anthropomorphized natural selection even more explicitly a few pages later in *Origin Of The Species*, in continuing to try to account for the eye:

"We must suppose that there is a power always intently watching each slight accidental alteration of the transparent layers; and carefully selecting each alteration which, under varied circumstances, may in any way, or in any degree, tend to produce a distincter image."

The personification of natural selection as a literal designer with intentions is about as egregious as it can get here, the very word "intently" being employed. And yet if the "power" in question is supposed to merely be blind environmental pressures, they certainly cannot have selected eyes for future integration with parts they did not have. One may object that Darwin is only trying to give an account of how, given an already-existing vertebrate eye with all of its integrated parts, environmental pressures might make some variations more common than others. But if that's all that's meant, such teleological and anthropomorphic language is wholly unnecessary and superfluous to expressing it. Indeed, human breeders were already aware of these things long before Darwin.

It seems that Darwin was trying to have his cake and eat it too, reifying his breeder analogy by granting natural selection the powers of a rational agent while "officially" denying it, and being rather obscurantist about whether he was trying to account for the origin of the eye's function or merely some limited amount of variation among eyes.

Ultimately, the root of the problem is what we have already discussed: The only reason the eye, or any other biological structure, requires any explanation is that it exhibits function - indeed, biological structures are DEFINED by their function - and function cannot be intelligibly defined in blind, non-teleological terms.

As it turns out, though, Darwin appears to have understood this problem on some level, because immediately after his first quote above, he gave himself an out with the following rhetorical dodge:

How a nerve comes to be sensitive to light, hardly concerns us more than how life itself originated; but I may remark that, as some of the lowest organisms, in which nerves cannot be detected, are capable of perceiving light, it does not seem impossible that certain sensitive elements in their sarcode should become aggregated and developed into nerves, endowed with this special sensibility.

In other words, in Darwin's telling here, if natural selection cannot in principle explain the origin of biological function (and he acknowledges that this is the case for the origin of light-sensitive nerves), that just means it is absolved of any responsibility for explaining it in the first place and that he therefore doesn't need to concern himself with it! One may observe that if Darwin and his successors were to apply this line of thinking in a logically consistent way, it would leave his theory with little to no explanatory value whatsoever, placing every interesting feature of biology (and thus the "origin of the species" generally) outside its purview.

Note also that Darwin justifies this by likening the origin of optical nerves to the origin of life itself, which he also famously absolved himself of any responsibility to account for, and which we turn to next.

Some additional points for this section:

- It is often said that by introducing natural selection, Darwin provided the "mechanism" of evolution. But this isn't really true, because natural selection isn't a mechanism in the sense normally used in science. Take the bacterial flagellum and the human eye, for instance. Whatever physical events resulted in their existence must have been radically different, because they are radically different, aside from both having function. Hence any physical mechanisms involved in their origin must have been radically different. To attribute them both to "natural selection" then isn't actually to provide any physical information about how they came about. Rather it is to assert that whatever the actual details, the function of both came about unintentionally and mechanistically, which as we have seen previously is incoherent on further explanation. Hence "natural selection" is an *explanatory* or *psychological* mechanism for explaining away biological function, not a physical mechanism.

Abiogenesis

Following Darwin, both Darwinists and anti-Darwinists have generally granted Darwin's premise that the origin of life falls outside the purview of Darwin's theory of evolution by natural selection, since the latter only concerns what happens after life gets started. After all, so the argument goes, no natural selection could not have taken place before there were living things to select.

However, I maintain, on closer examination this attempted bifurcation is specious. No legitimate line can be drawn between the origin of life and its subsequent evolution on a Darwinian view. What happened at the origin of life, and in its subsequent evolution, are inseparable and have direct implications for each other, and any explanation that seeks to account for one must account for the other in similar terms.

There are multiple ways to see this. For instance, there is a school of thought among origin of life researchers called the RNA World hypothesis, according to which the earliest life forms used self-catalyzing RNA alone to reproduce themselves, with a transition to DNA and protein enzymes somehow occurring later.

Put aside for now the questions of how this could happen and whether such a hypothesis actually solves any problems rather than just creating new ones. The salient point for our purposes is that given the premise that Darwinian theory is only responsible for explaining what happened after the Origin Of Life, then Darwin's theory is responsible for explaining the origin of DNA and catalyst enzymes if the RNA World hypothesis is true, yet it is not responsible to account for those things if the RNA World hypothesis is false and the first lifeform had DNA replication.

But since the RNA World hypothesis is mere guesswork and we have no idea whether such a thing happened or even could happen, this implies that we have no idea whether Darwinian theory is supposed to explain DNA replication or not, much less whether it actually explains it.

The same goes for just about every other fundamental feature of life, since we simply don't know what the first lifeform was like. The Darwinist may accept or punt on responsibility to explain any number of fundamental features of life, simply by imagining that they were present in the first organism or not, and the materialist OOL proponent can do the same thing in the other direction in a sort of shell game. But such decisions are totally arbitrary.

But the objective reality is that Darwinian theory, if it is to be an explanatory theory at all, is responsible for explaining the origin of life. Remember, the entire point of Darwin's theory is to provide a comprehensive materialist reductionist account for biological function by explaining it in terms of random variation (or mutation) and "natural selection." Given a materialist reductionist framework, the origin of life simply is and can only be seen as the very first random mutation that occurred, and is thus within the purview of Darwinian explanation just like every other random variation.

Furthermore, if Darwinian theory is to succeed as a general account of biological function, then it must account for the biological function of the very first living organism. If the first organism's function cannot be reduced to mechanistic, materialist terms (and as we have seen, it cannot in principle), this has obvious implications for all the other function we see in biology. It is not reasonable to grant that the first living organism had real, irreducible biological function but that everything following it is a materialist illusion, particularly given that evolution culminated in creatures with intrinsic function like consciousness and rationality as discussed above.

Finally, recall from the previous section that Darwin used the same excuse to absolve his theory of responsibility for explaining the origin of optic nerves that he did to absolve it of having to explain abiogenesis. While he was wrong to wash his hands of both of these things, he was right to lump them together. Indeed, ALL examples of biological function are logically in the same boat with the origin of life when it comes to Darwinian explanation. This is because blind environmental pressures cannot possibly "select" anything "for" some as yet unrealized future function it might be a useful component in, so the usefulness of any structure for some future function is a matter of pure chance. The origin of any new function is thus, on Darwinian grounds, a matter of pure luck, just like the

origin of life, no matter how gradual the happenstance origin of the parts that happened by pure luck to come together to instantiate the new function.

Further, to attribute the origin of functional structures in biology to chance, or blind and mechanistic causes generally, is to imply that all the biological function we perceive is an illusion that we have merely imposed on the world, which as we saw earlier is to imply that life in general is an illusion, and hence that we ourselves do not objectively exist and that there is nothing for us to explain.

But once biological function as a category is rightly seen as being outside the explanatory capacity of Darwinian theory, there is precious little left, if anything, for the theory to explain.

“Micro-evolution” vs “Macro-evolution” - an unfortunate terminology

My assertion that natural selection as imagined by Darwin is simply an unintelligible concept and does not correspond to anything real is bound to seem crazy to some. After all, don't we see natural selection in action? Don't we see some strains of viruses spread and others die off? Don't we see variations in finch beaks on different islands? Don't human beings come in different skin tones as adaptations to different levels of sunlight in different regions of the world? Etc, etc.

A frequent response from Darwin skeptics is to say that these things are examples of “micro-evolutionary change,” which falls within the capacity of natural selection, whereas large-scale “macro-evolutionary change” does not. The Darwinist will typically reply that the skeptic has given away the store by granting that natural selection can do anything at all, and that given enough time, micro-evolution simply “adds up” to macroevolution.

There are two major problems with this. The first and less serious of the two is that there are not merely two “levels” of evolution (micro and macro), but rather an unlimited hierarchy of levels, and no level can be extrapolated or “added up” to any higher one. To make an analogy, let's say I write a computer program that outputs random strings of letters in the English language. It does not follow from this that my program is able to generate meaningful English words. Let's say that I modify my program to generate meaningful English words, randomly picked from the dictionary. It does not follow from this that my program provides a way to generate meaningful English sentences (indeed it does not). Let's say that I modify it to generate meaningful English sentences (perhaps pulled randomly from different written works). It does not follow that it provides a way to generate meaningful paragraphs. And a program that generated meaningful paragraphs would not by virtue of that have the ability to generate meaningful chapters, and one that did that would not by virtue of it have the ability to generate meaningful books.

The same is true in biology. Even if we were to grant that some blind and mechanistic process called “natural selection” could generate some level of biological function, we could not logically extrapolate this to explain any higher (or more “macro”) level of function, and even if we granted that it could generate some higher level, it still could not be extrapolated to any higher level than *that*. Indeed, as microbiology has revealed in recent years, the “lift” here is orders of magnitude more difficult and multilayered than it is for the English language.

But the bigger problem here is that approaching the problem as one of “degree” of evolution is wrong-headed in the first place, and that “natural selection,” seen as a blind, mechanistic process that generates function, is simply unintelligible.

Charles Lyell, Darwin’s contemporary and mentor, pointed out to Darwin (and Darwin acknowledged him to be correct in this) that the creative agency implicit in his terminology rendered “natural selection” an incoherent concept, and that his analogy to human breeding was inapt, because these things attributed a deliberate, creative cognition to it that a blind and automated process could not possibly have. Rather, he suggested, Darwin should have referred to his proposed mechanism as “natural preservation.” Natural preservation, he pointed out, can preserve function once it exists, but cannot in principle create it.

This understanding, I believe, is crucial to making sense of the aforementioned examples of adaptation we see in living creatures. On close inspection, we can see that they never really involve the creation of new biological function that did not exist before, but rather the preservation of existing function. Further, in most cases, the adaptations required to preserve biological function consist of diminishing or breaking some other function that has become unnecessary for an organism in a new environment. This is unsurprising, because random modification of something is far more likely to break it than to fix it.

For instance, both dark-skinned and light-skinned people produce melanin, and both are able to synthesize vitamin D from absorbed sunlight. No function was created or lost as human skin tone was lightened in human beings who migrated to northern climates far from the equator. However, the ability to synthesize sufficient vitamin D was *preserved* by the *diminishing* of the ability to produce melanin, allowing more sunlight to be absorbed in less sunny climes. But this has the side-effect of increasing sunburn and skin cancer when such people visit sunnier climes. Cave fish *preserved* the various structures that function to take in sufficient energy to live by losing their vision, which is a major energy draw but useless in a pitch-black cave. Pathogens and antibiotics *preserve* their (or their host’s) vital functions not by generating de novo functional structures, but by mutating until the binding sites targeted by the other are broken. And so on.

Now, such natural preservation can result in directional change as a side-effect, and to the extent that Darwin was the first to observe it and attribute it to natural selection (or more accurately, natural preservation), he can be said to have discovered something real. Yet, on closer examination, people were not totally unaware of natural preservation prior to Darwin. The observation that progeny tend to carry on the traits of their ancestors, and that this can be controlled to get particular results, is the entire basis of the animal breeding and plant cultivation which has been going on for many thousands of years, after all. What was mainly unique to Darwin (albeit with ancient predecessors in Greek atomists like Lucretius and Epicurus) was the idea that such natural preservation of existing function somehow worked as the equivalent of a rational, conscious agent that “selected” or “added them up” to produce new integrated structures with new function, an idea that is incoherent on closer inspection as we have seen.

The “Engine Of Evolution”

None of what I have said here implies that evolution didn't take place, if "evolution" is understood broadly as the premise that lifeforms that we have today are derived, with modifications, from lifeforms that preceded them, going back to a universal common ancestor. Indeed, I think that the general observed hierarchy of species that have originated over time, and the genetic similarities between them, generally support this overall picture.

This basic idea of evolution well predated Charles Darwin, and was heavily advocated by his grandfather Erasmus Darwin. However, it didn't really "catch on" until Charles, as the hypothesis was seen as lacking an "engine" or mechanism that would drive it, in the manner of the deterministic laws of regularity that drove the then-current Newtonian physics. Darwin was seen as having provided such a mechanism in "natural selection."

But if natural selection is incoherent and does not exist as I have argued, then what IS the engine of evolution?

If what is requested here is a blind mechanistic regularity that in and of itself grounds and accounts for the existence of biological function, then there is and can be no such thing in principle. Indeed, if living organisms and their various organs are examples of *intrinsic* function (or substances) as I have argued (and this cannot be coherently denied in the case of human beings), then even intelligent design of the type we are familiar with - that which produces the extrinsic function of human artifacts - is insufficient in principle to account for it. The source of biological function must be intrinsically and irreducibly purposive in a way that transcends our own intelligence. It must be *more* than intelligence as we know it, not less, and indeed our own intelligence must be derivative of it. Classical theism would work best here, I think, though perhaps one could go in some sort of pantheistic route as well.

Precisely how new biological function was imparted to living organisms during the origin of life and subsequent evolution of life is an open question. Perhaps there are undiscovered "laws of biology," analogous to the laws of spontaneous generation that were once postulated to produce flies from rotting meat until Louis Pasteur proved this false, by which dazzlingly complex living forms are encoded in the physical fabric of the universe, and spontaneously spring forth whole under the still-undiscovered right conditions. Perhaps some sort of structuralism is true, such that the "fitness landscape" of life was set in such a way that natural preservation somehow HAD to stumble on predetermined complex forms. Perhaps God simply created the universe in such a way that specific, unfathomably unlikely occurrences were made to happen (this idea becomes more plausible under the understanding that God stands outside time and that creation involves creating the universe at every moment in time, not simply "winding it up" at the start and leaving it). Perhaps God directly intervenes in the created order to modify genotypes and phenotypes at certain moments, or even to miraculously form new creatures de novo using existing genotypes as a basis (as when miraculously forming the fetal Christ in Mary's womb).

My own view is that these questions are most likely insuperable, as all of the above scenarios would look pretty much identical to us now, looking back at unrepeatable events that happened millions of years ago. The one exception would be if there are indeed "laws of spontaneous generation," in which case there is some possibility that we might accidentally stumble on a secret that causes a complex cell, or some complex new biological organ, to self-assemble seemingly from nothing in front of our eyes, given some specific preconditions.

The main upshot for research purposes is that we should see living organisms as real functional wholes, and that as we look deeper into life we should expect to see ever more elegant, forward-looking, and integrated layers of function and purpose all the way down that we can study and perhaps mimic to some degree for our own ends, rather than slapdash kludges. We should expect that a blind and mechanistic origin of life, and the origins of subsequent functions, will become even more puzzling and inconceivable the more we know about the details of what their origins entail. We should expect that the fossil and molecular records, while likely continuing to provide evidence of common descent, will continue to give us no insight into how new sophisticated functional structures could have possibly been assembled unintentionally over time.

Methodological Naturalism

The most common objection I've seen to the types of arguments I have made in this piece is that science, as a rule, must restrict itself to naturalistic causes, where "naturalistic" basically cashes out to meaning blind and mechanistic, not involving anything irreducibly mental or purposive.

One issue with this "rule" as applied to biology is that, as we have discussed, biological function is the defining feature of life, and cannot in principle be reduced to blind and mechanistic causes. Thus, a consistent methodological naturalism in biological science would forbid one from even acknowledging the existence of living organisms, much less studying them! The entire discipline of biology would have to be jettisoned.

Additionally, we might ask WHY methodological naturalism must be a "rule" in science. What possible logical justification could there be for such a restriction? After all, it looks on the surface like little more than question-begging, and a rationale for it is rarely given. It is typically just blithely asserted as a brute fact about science.

If we look at the world of technology, we can see the original justification. When building a clock, or a computer, or a rocket ship, or any other piece of technology, you must necessarily rely on known regularities in nature that you make use of and exploit to carry out your desired function.

When carrying out research for technological application then, you are interested only in regularities that you can exploit. This does not imply that exceptions to these natural regularities (such as intentional intervention) do not exist. It's simply that for purposes of technological applications, you must rely on the rules, and not unreliable exceptions. Any such anomalies must be abstracted from the regularities and put to the side.

Thus, methodological naturalism was originally meant to be a constraint on **applied** science (the kind with direct engineering application) specifically. There is no rational basis for it outside of that particular framework. To try to assert it as a constraint on questions of origins is simply a category error and a blatant attempt to beg the question in favor of an incoherent metaphysical view.

Indeed, since as we have seen, biological function cannot be reduced to blind and mechanistic categories in principle, methodological naturalism **guarantees** that we cannot attain the true explanation for its existence.

Finally, scientists and philosophers have a tendency to break up the various big unanswered questions of life as if they were separate questions in separate domains, when in fact these issues are actually just different aspects of the same big question.

For instance, the puzzling existence of consciousness and human reason are treated as if they were subjects merely in the philosophy of mind, or perhaps in cognitive science. The origin of life is treated as if it were a question of chemistry, separate from the subsequent evolution of all further biological function, and vice-versa. The extreme fine-tuning of the cosmological constants for life are treated as if they were a matter of cosmology only. And so forth.

In reality, however, all of these questions are closely tied together, and it is not rational to consider them in isolation. It is no coincidence that all of these big questions concern the same topic - life - and human life in particular, and considering them in isolation from the big picture is a pernicious side-effect of the reductionist thinking that has become pervasive over the past couple of hundred years, but which stands as an obstacle to clear thinking here.

When thinking about the origin of the first life, one should not see it as just the intractable chemical problem of how a self-replicating nanofactory could have come about. One must bear in mind that what came into existence was something that could become the basis for all the other dazzling biological function that followed, which defies comprehension even more than the simplest known cell. One must keep in mind further that what they are trying to explain became the basis for consciousness, which defies any mechanistic physicalist explanation, and for human reason, which defies material explanation altogether. When one realizes that there is no possible naturalistic explanation for the origin of life, it ought to color one's view of evolution.

When one comes to the realization that human reason and consciousness cannot be explained in material terms, that the human soul must be immortal, and so forth, one should realize that this has direct implications for any explanation of human origins, and hence for any possible theory of evolution and life's origin that could possibly be adequate to account for life taking the path of producing a body capable of these things.

When pondering the fine-tuning of cosmological constants, one must bear in mind that the only reason the particular constants we have require explanation is that they permitted the existence of conscious, rational creatures capable of asking such questions and grasping such concepts in the first place.

When one steps back and recognizes these in their totality as one interconnected issue, free of the artificial blinders of methodological naturalism, there is only one conclusion that can rationally be drawn: That function and purpose are irreducible to blind mechanism, and that our universe was created from outside by a rational Being who guided its history for the end of creating Man in His Image.