

Good Theology and Bad Design or Bad Theology and Good Design?

A scientific and philosophical assessment of supposed "poor design" examples in the natural realm

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by Casey Luskin

One of the most common objections to intelligent design theory is the claim that if certain aspects of the biological realm were actually designed, that they must imply a very poor designer, certainly not the God of the Bible, for they function at a level below the most optimal energetic level of efficiency. While the main thrust of intelligent design theory is that life has been designed by some intelligence (though the nature of the intelligence i(I)tself cannot be scientifically investigated), it is certainly the position of many proponents of intelligent design theory that life was in fact designed by the Judeo-Christian God, and thus is the work of an infinitely intelligent and loving supernatural Being. Thus this issue is very pertinent to the discussion over intelligent design as the question arises, "if thought, care, and purpose went into our production, why the supposed design flaws?"

Such an argument rests upon two major assumptions:

- 1) Energetically speaking, sub-optimally operating functions of the biological world actually exist.
- 2) The existence of such "sub-optimal" functions necessarily implies that they were not designed by an infinitely loving and wise God.

Both of these assumptions will be called into question.

The most famous alleged examples of "bad design" are expounded by Richard Dawkins in "The Blind Watchmaker" and Stephen J. Gould in "The Panda's Thumb". Dawkins believes that the vertebrate eye is wired "backwards" and gives the appearance of random evolutionary wiring, rather than the optimal design God (who Dawkins thinks acts and thinks with the purposes of modern-day engineers) would give it. According to Dawkins, "light, instead of being granted an unrestricted passage to the photocells, has to pass through a forest of connecting wires, presumably suffering at least some attenuation and distortion (actually probably not much but, still, it is the principle of the thing that would offend any tidy-minded engineer!)".¹

Dawkins claims that the fact that the neural layer sits over the eye is evidence of poor design for it inhibits vision, however, this fact results in an insignificant reduction of vision⁸ (as even Dawkins admits) which never gets noticed unless you are doing that old trick where you close one eye and stare at a dot until it disappears (due to the location of the optic nerve). In fact, the presence of the neural layer in front of the photo receptor cells actually prevents over-bleaching of the receptor pigments, which would incapacitate the visual apparatus.⁸ Furthermore, it turns out that vertebrate eyesight is actually so advanced that the eye requires a very large supply of blood in order to provide high levels of visual information to the brain. In order to keep fresh blood flowing to the photo-receptor cells in the retina, it is necessary that each cell be directly plugged into blood capillaries from the rear. As a result, the only way for it to reach its level of functionality is to have the optical nerve extend out over the retina.² If the vertebrate eye were arranged the other way as Dawkins suggested, "these two opaque layers [the neural layer and the blood capillaries] would have to be interposed in the path of light to the photoreceptors which would leave them in darkness!!"⁸ In other words, if Dawkin's had been our intelligent designer, the eye wouldn't function at all.

Stephen J. Gould argues that the "thumb" of the Panda (which really consists of uniquely modified wrist bones) functions much worse for grasping objects, such as bamboo shoots, than does the true opposable thumb found in humans and therefore Gould says it has poor design. This poor design is not the work of God but rather the result of an unfortunate set of mutations plaguing the panda.

As it turns out, however, the human opposable thumb is not at all well designed to accommodate 12 hours/day of scraping leaves from bamboo branches (which is what Pandas do) however the panda's thumb can accomplish this function without a problem. A recent study used MRI and computer tomography analyzed the panda thumb and concluded the following:

"The radial sesamoid bone and the accessory carpal bone form a double pincer-like apparatus in the medial and lateral sides of the hand, respectively, enabling the panda to manipulate objects with great dexterity."³

Although writing from an evolutionary perspective, the authors still marvel at the functionality of the panda thumb saying, "[t]he way in which the giant panda .. uses the radial sesamoid bone -- its 'pseudo-thumb' -- for grasping makes it one of the most extraordinary manipulation systems in mammalian evolution."³ If pandas had to use humanlike opposable thumbs to strip bamboo for 12 hours per day and were American evolutionist lawyers, they'd probably sue God for negligent design. Looks like pandas have weak grounds for such a lawsuit. Is this poor design?

These writers (Gould and Dawkins) are at least putting intelligent design on the table for discussion, however their arguments rely

upon assumptions about how God ought to operate (i.e. a theology) which are suspect, so that their critiques hardly give the issue a fair treatment. As Phillip Johnson writes,

"'The Panda's Thumb,' relies on a few selected examples and a spectacularly shallow theology to establish the 'fact of evolution' ... Gould thinks that a supernatural designer could have found a more elegant solution to the panda's need for an efficient bamboostripping tool; therefore the thumb is not designed; therefore it is the product of evolution."⁴

Johnson's essential point is that in making his argument, Gould pits his own reason against God's and is writing the rules of what God can and cannot do. Both Gould and Dawkins employ a theology mandating that the Designer must design all things to operate with maximum energetic efficiency, an assumption no religious doctrine necessarily teaches. Since Gould and Dawkins themselves invoke a theology to exclude intelligent design from their possible explanations of life, it is fair to use theology to rebut this challenge of the simple idea that life was designed by an intelligence.

While maximum energetic efficiency is a goal of many race-car designers, it is not necessarily the singular design specification of an infinitely wise and perfect Being who has many complex purposes and plans for His creation (perhaps such as, say, the permanent conquering and destruction of evil). Anyone who claims sub-optimal design must be prepared to give up that belief if future studies show that a broader look at the situation actually reveal that the system is not sub-optimally designed; Gould would most likely re-think his Panda's thumb arguments before re-using them today. Accordingly, true sub-optimality can never be proven, for one never knows that there isn't a higher level of order in which the apparent sub-optimality is actually perfectly fulfilling the exact function it was intended to perform.

This issue has now essentially boiled down to the age-old "problem-of-evil" argument stating that a kind, loving, all-powerful God (i.e. the Designer) cannot coexist with evil (i.e. sub-optimality). This objection not only assumes that the evil must be the sole responsibility of God, but it denies the need for and meaning of free will and assumes there could not some higher purpose for which God (the intelligent designer) has allowed for the evil (sub-optimality) to currently exist!

A classic example of this flawed reasoning can be seen in the writings of Charles Darwin himself:

"I cannot persuade myself that a beneficent and omnipotent God would have designedly created the Ichneumonidae [a large family of parasitic wasps] with the express intention of their feeding within the living bodies of caterpillars..."⁵

Darwin himself cannot understand how there could be a good purpose for the existence of the Ichneumonidae, yet the Encyclopaedia Britannica says: "the group [Ichneumonidae] as a whole is beneficial to man because it parasitizes many insect pests."⁶ It turns out that when the caterpillars eat corn seedlings, a hormone is released by the plant which attracts the wasps which destroys the caterpillar, ultimately saving the corn plant.⁷ Thus while on the surface it appears that the wasps weren't designed with the well-being of the caterpillars in mind (i.e. it appears to have sub-optimal design), from a higher order perspective we see that their purpose is not only beneficial to corn plants, but also to humans and the ecosystem as a whole! Without the wasps, the caterpillars might endlessly reproduce, thus destroying any chance for corn to grow, human to eat the crops, and in the end, for the caterpillars themselves to survive.

This case also illustrates the thought processes behind such arguments: in saying what God can and cannot do he is putting his own wisdom and reasoning above God's. In Darwin's mind, it would have been impossible for God to have made things the way Darwin saw them. Does this mean that Darwin sees things correctly? The key words here are "the way Darwin saw them" for Darwin claims that his own reasoning powers and knowledge set are sufficient to exclude the possibility that God could have created the Ichneumonidae. As God says to Job, "Where were you when the foundations of the earth were laid?" (Job 38:4). Where was Darwin when God designed the ecosystem? Does Darwin have a large enough knowledge set to make qualified judgments about these issues? If in fact our knowledge set is limited when compared to that of the Creator of the universe, or even when compared to what we think is out there in the natural world, perhaps we ought to reserve judgment until we have a complete and accurate physical and metaphysical picture of what's really going on in the world.

People may falsely trust their own reasoning and knowledge set, however, I do not mean to brush aside all examples of evil, sub-optimality, and suffering by lightly responding that they all simply have a greater good purpose which may or may not be understandable at this time. No, this ultimately is not the proper response. Sadly, for us all, evil and sub-optimality are real—they are here today. It would be naive, foolish, destructive, and irresponsible to pretend that we live in a perfect world masquerading as an imperfect one. However, from the standpoint of the evolutionist looking at evil and saying—"look, you say your good God did this!", it must be recognized that the Bible had had an adequate answer for why there is evil and imperfection for thousands of years previous.

The text of Genesis states that in the beginning God when created everything, it was "good" (Genesis 1:31). Now I'm not sure what exactly what "good" means, but it doesn't necessarily mean "perfect" in the sense that all was necessarily free from all forms of sub-optimality. Now the skeptic right here would throw in the point that "Couldn't an all knowing God know how to create the world without these sub-optimality?". The answer is Yes, He does know how to create a "perfect" world, but He chose not to. And He didn't choose not to because He didn't love us, but rather because He does love us (more on this later)! Even the loosest framework-hypothesis** interpretation of Genesis admits that suffering and evil are ultimately the result of humanity's freely chosen rebellion (sin) against God. Free will in the moral sense is the ability to freely choose what is right and wrong. Since relationships can only be real and have true love if there is free choice involved, and since God wants to have real loving relationships with humans, God had to give us free will. Thus God gives us the choice to choose what is right (God, love, selflessness) or what is wrong (hatred of God,

selfishness, evil) so our relationship to Him can be real. To summarize, evil doesn't have to exist, but the opportunity to choose it must exist if the relationship is to be real (and we're not just robots). Unfortunately, we collectively have chosen evil and suffering and sub-optimality have entered the world as a result. The result is what we call a fallen world full of imperfection.

The arguments used by Dawkins and Gould are grounded in the assumption that God everything in this universe must be perfect and everything must have 100% perfect unhindered energetic efficiency--All the power and none of the pain! Biblical theology predicts that in a fallen universe full of self-chosen evil, imperfection will be found. Thus Gould's and Dawkins' alleged sub-optimality arguments, even if valid, hardly make a dent in Biblical theology. Running straight to the Biblical theologian saying "see, look, I found imperfection!" would evoke a response like "Duh, like we didn't already know it was there, it's the result of sin! But why are you so worried? God has it all under control." The true root of the evolutionist's objection is the refusal to acknowledge that imperfection might not be God's fault, and that God be actually be able have it all under control (He is after all, God). Accepting either of those premises is an inherently spiritually humbling act that not all of us are always willing to perform. It is this refusal, coupled with an unwillingness to accept the clear and unavoidable limits to our metaphysical knowledge that stem arguments like those of Dawkins and Gould.

Though Genesis teaches that imperfections persist in the world because of sin, Biblical theology also teaches that although these imperfections exist today, God is mercifully in the process of destroying evil and ending this imperfection once and for all. We are extended a life-raft-salvation through the atoning death Jesus Christ--to get out of this ocean of imperfection. If we choose to grab hold on to it, we are saved from all ultimate lasting effects of the imperfection and evil of this world. Since our sin is the cause of evil in this world, God requires its death. However, because He loves us, He sent His Son, Jesus Christ, to die in the world's place, to show us He loves us, and simultaneously to remove the ultimate effects our sin from our lives, effectively conquering evil. Christian theology teaches in John 3:16 that, "God so loved the world that he gave his one and only Son, that whoever believes in him shall not perish but have eternal life." All one has to do is believe in Jesus as savior from sin and evil, and we will be saved from this evil. We got ourselves into this mess, and God wants to pull us out. Since our relationship to Him must be real, our getting pulled out ultimately requires a choice on our part to believe that He will pull us out and then ask Him to do so.

God promises to one day re-create the universe in a more perfect form perhaps not totally unlike the 100% energetic-efficiency world hoped for by Dawkins and Gould. Since evil exists before the creation of the universe (due to the rebellion of various spiritual beings against God), and doesn't afterwards, it appears that something about this universe has something to do with something relating to the ultimate and complete destruction of evil. If this is the case, then perhaps all of these apparent sub-optimality in biological design really are designed to perfectly fulfill their intended purpose: namely, to be a cog in the machine of the universe, a tool, in part, playing a perfectly designed role in God's plan for the ultimate and complete destruction of evil.

This is such an important and also complex issue that it comes up time and time again at IDEA Club meetings. However, the author feels that this is such an important issue that if you'd just like to discuss it further, he's willing to take anyone who sees evil as a big wall between themselves and their only ticket out of evil (belief in God's salvation) to lunch! So, if you've got questions, comments, gripes, or issues with God and evil and you want a free lunch, e-mail the author at "casey@ideacenter.org". Evil is something we are all struggle through and try to explain, and thus it is something worth hearing each other's perspectives over. Perhaps by going to lunch you'll gain a new and different perspective!

Gould's and Dawkins' arguments do raise a final interesting point about the implications of the actual existence of such sub-optimal designs. If evolution is doing its job, then given enough time, mutation and natural selection dictate that sub-optimality should not exist. Any sub-optimally functioning features ought to be either selected out or improved upon. If evolutionary forces are the only ones at work, the presence of sub-optimal designs implies that things tend to get stuck on adaptive peaks and cannot naturally evolve further--a prediction of arguments for irreducible complexity. What initially appeared to be an argument against intelligent design can just as easily be turned around as an argument against an evolution history--especially if the supposed sub-optimality have supposedly persisted for millions of generations.

The evolutionist is now in a self-contradictory position, for persistent sub-optimality imply a limitation to the natural creative power of evolution--something evolutionists desperately disavow. If imperfections do persist, then according to the way evolution, by definition, works, they must not be truly sub-optimal features. Thus, to the evolutionist, sub-optimal designs ought to make them turn their heads and say, "wait a second, I put all that faith in natural selection and it goes on to produce this awkward useless feature?" However, if intelligent design is involved, then theology is no longer excluded from the explanatory grab-bag, and a whole new door of potentially fruitful explanations for the origin of alleged sub-optimality is opened.

Theistic models of intelligent design define optimality as that which matches God's purpose, which is ultimately loving and wise. Nothing should exist which isn't in concert with that purpose, or a result of the actions and interactions of good or evil forces within the metaphysics of that model. Positively arguing against a theistic ID model through sub-optimal design requires a correct metaphysic, understanding of theology, and a bigger knowledge set than humans have at the present time. In essence, it is very difficult, if not impossible to prove a sub-optimality under a theistic worldview. While scientists don't like unfalsifiable models, this argument only shows that one particular objection to intelligent design can't be fruitful; other objections still may be provable. Regardless, I think that those who object and say that intelligent design ought to be falsifiable in this manner have completely forgotten about the limitations of humans next to God's omnipotence and awesome mighty power. Objecting to intelligent design in

this form means denying God's unlimited power and wisdom in the first place.

In a final explanation of the title of this paper, we see that the evolutionists have not employed good theology and found bad design, but rather they have employed bad (or perhaps misguided) theology and we have seen examples of very good design. However, even if bad design were one day detected, this would in no way challenge a Biblical picture of the design of the world.

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**the "framework hypothesis" is a method of interpreting Biblical texts, namely the Book of Genesis, which assumes that the text does not contain any actual historical truth, but rather is only to be read a metaphor for real moral and spiritual truth about humanity's relationship to God and the ultimate causes of evil. While it may be a viable hypothesis and is worthy of consideration and investigation by anyone--including the skeptic--for what it is worth, the author emphatically does not hold to a framework interpretation of Genesis.

Your design is "good" or "bad" to the extent that experience is "good" or "bad". What makes it that way is a complicated tangle of variables including functionality, usability, visual design, copywriting, and the expectations of the individual user. Some variables are objective and quantifiable whereas others, like emotional responses to graphic design and copy, are qualitative. Exactly what the combination is depends on your purpose and your audience. Stay away from absolute terms like "good" or "bad", though. You need to think of qualities measurable on a scale. Multiple scales, really "you" Understanding the makeup of good and bad user experience can be subjective and hard to pinpoint. Thankfully there are a number of guiding principles that can give us direction in understanding what makes for a good user experience. Understanding those principles is one element, seeing how they reveal themselves in practice is another element of understanding good versus bad experiences. In this article we'll explore some good ux design examples, as well as some examples of bad ux, and how principles like the Nielsen Norman Heuristics are represented in the real world. Demonstrate current state Default Intelligent Design play button featured image. Share. Facebook. Fellow at the Discovery Institute, answers the center question by going through definitions, history, and various aspirations of past and present theologians and religious groups. Listen to how he surprisingly answers the question. Your browser does not support playing Audio, please upgrade your browser or find our podcast on podOmatic. Download Episode.