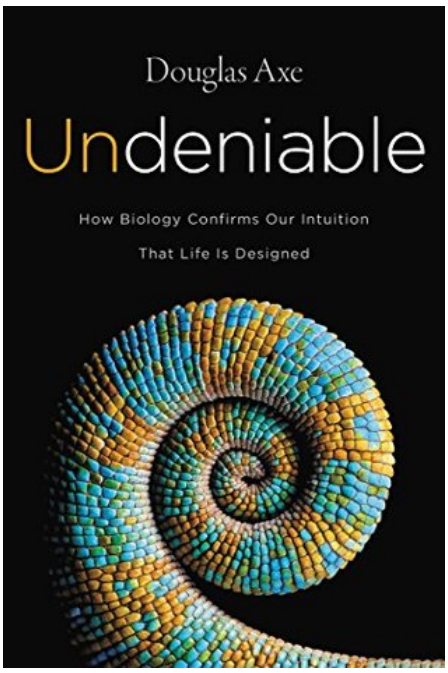

Undeniable: How Biology Confirms Our Intuition That Life Is Designed

Douglas Axe

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Named A Best Book of the Year by *World Magazine*

Throughout his distinguished and unconventional career, engineer-turned-molecular-biologist Douglas Axe has been asking the questions that much of the scientific community would rather silence. Now, he presents his conclusions in this brave and pioneering book. Axe argues that the key to understanding our origin is the “design intuition”—the innate belief held by all humans that tasks we would need knowledge to accomplish can only be accomplished by someone who has that knowledge. For the ingenious task of inventing life, this knower can only be God.

Starting with the hallowed halls of academic science, Axe dismantles the widespread belief that Darwin’s theory of evolution is indisputably true, showing instead that a gaping hole has been at its center from the beginning. He then explains in plain English the science that proves our design intuition scientifically valid. Lastly, he uses everyday experience to empower ordinary people to defend their design intuition, giving them the confidence and courage to explain why it has to be true and the vision to imagine what biology will become when people stand up for this truth.

Armed with that confidence, readers will affirm what once seemed obvious to all of us—that living creatures, from single-celled cyanobacteria to orca whales and human beings, are brilliantly conceived, utterly beyond the reach of accident.

Our intuition was right all along.

Undeniable: How Biology Confirms Our Intuition That Life Is Designed Details

Date	:	Published July 12th 2016 by HarperOne (first published June 28th 2016)
ISBN	:	
Author	:	Douglas Axe
Format	:	Kindle Edition 309 pages
Genre	:	Science, Nonfiction, Biology, Evolution, Religion, Theology, Christian

From Reader Review Undeniable: How Biology Confirms Our Intuition That Life Is Designed for online ebook

Jeff Noble says

Provocative. Interesting. At times, a bit convoluted. However, the author insists that we are ALL scientists and the common man may use common sense and common science to answer uncommon questions. For too long, too many have allowed “technical scientists” to intimidate with their own interpretation of data. Yet, he author points out that we all have a “design intuition,” and he argues effectively that we are all allowed to dialogue.

E says

Pretty good look at the mathematical and logical absurdities of darwinian evolution. Axe argues that progressive evolution implies a purpose beyond mere survival, and purposes require intent, aka someone to intend them. Further, the possibilities merely of proteins mutating, surviving, and passing on their new traits to the next generation are so small as to be mathematically impossible many times over.

The "intuition" of the subtitle is an interesting argument. Sort of like taking an Occam's razor approach--if it seems designed by a sentient being, it probably is (he gives the example of sitting down and seeing your alphabet soup spelling out complete sentences. You're going to suspect your wife, not random chance). And forget merely arranging letters in a certain order--what about the incredible spectrum of life that we see today? Don't try the "multiverse" theory--Axe shows that such a theory doesn't actually solve any of these probability issues.

Axe works hard to show his credentials and convince his readers, but ultimately his goal is to get his readers to trust themselves, their own intuition. Even the children of atheist evolutionists tend to think this world is designed; "educators" and other have to drill this intuition out of them. And none of this for the better.

Mark Robert says

Axe painstakingly develops his argument that invention cannot happen by accident. He undercuts the evolutionary argument that evolution is competent to invent. What I enjoyed about the book was his uncovering of the underbelly of the scientific enterprise, that it is not so nearly objective as it proposes itself to be; that the scientific system is more complex and personal than the relations between its constituent parts.

Dave says

Deserves a wider audience due to its "against the prevailing wind" topic. I found it a bit tiring to have everything explained so carefully, almost as if I was being talked down to, but I decided in the end that approach was necessary to counter the knee-jerk reactions of evolutionists, who think that society and the scientific method itself are all doomed if we allow the healthy debate of the theory of evolution. I found the evidence for a designer intriguing and plausible and hope that Dr. Root publishes more books.

Don says

Douglas Axe is a heretic. He's a molecular biologist who did his doctoral work at Caltech and went on to postdoctoral work at the University of Cambridge. As such, he can't be dismissed as some uneducated Bible thumping Luddite.

Axe is arguing that evolutionary science is closed to any other explanations for the origin and development of life despite the inadequacies of natural selection to explain how life began and how natural selection is able to result in entirely new life forms.

Advocates of Intelligent Design are like the ugly step child. On the one hand the pro-evolution community dismisses them as creationists. On the other hand there are many people that believe the Bible says the earth is 6,000 years old, so that is good enough for them. They don't like ID'ers either because they seem to reject the correctness of the literal Bible. Axe can expect poor reviews from both these camps, but for those who are not already set in their beliefs, the book is a great read.

Axe's main theme is that when something appears to be designed, it is likely to be designed. He gives examples of how we can view small segments of written pages vs jumbled letters or photos vs jumbled pixels and from these small segments it is easy to see which is designed and which is not. Because life at the basic building blocks level also displays elements of design, it follows that a designer is involved.

Axe's position is that the biological sciences community is adamant to defend Darwinism even when advances in science prove Darwin to be more wrong than ever. He points out that others who make the same criticism of Darwinism as he does are still welcome in the church of evolution because they propose new ideas that also build on undirected evolution.

Critics of Axe are upset because he openly professes to be a believer in the Christian God. As if that were a bad thing. I guess it is a bad thing, at least if you are an evangelizing atheist with a mission to tear down religion and replace it with Godless science. Axe even gives an example of a scientist who used the "G" word in an article and the publication received complaints and had to withdraw its approval, even though there was no criticism of the contents of the article itself.

Axe's belief system should not discredit his science. A scientist who wants to cure cancer would not be criticized for his position or have his views questioned. Axe should be given the same level of recognition.

Critics of ID are fond of saying that it is not science because it doesn't get published in peer reviewed papers. This can largely be explained by the wall put up by the defenders of Darwiniac dogma. Nobody is allowed to criticize the establishment viewpoint. It would be easier to believe that the New York Times would hire Rush Limbaugh as their editor. Don't expect that to happen.

In the meantime, readers can consider Axe's well argued pro-design book and come away with a logical understanding of why design is a more likely explanation for our existence than the blind chance that evolution is build on.

I recognize that I have higher than normal interest in this subject. As a student of history, I see the rise of acceptance of evolution has coincided with a lowering of cultural standards. After all if evolution proves that there is no God and no scriptural right and wrong then you are excused to create your own morals, or lack of them. I wrote my play Inherit the Wind Overturned by Design back in 2009 as a vehicle to contrast the

positions of ID and evolution in an entertaining format so people can consider the argument for the ID position. Those interested in the ID subject should enjoy the contrast to the popular 1950's era play it satires.

Quotes I liked from the book:

Evolution seems to be an inadequate replacement for knowledge. Indeed, if our design intuition holds true, nothing is an adequate replacement for knowledge.

Dan Tawfik hit the nail on the head: Nothing evolves unless it already exists. (p 97)

With respect to the invention of living things, then, a commitment to materialism is a commitment to accidental explanation, and a commitment to accidental explanation is a commitment to coincidence, and a commitment to coincidence is a commitment to the power of repetition. (p 103)

Blind causes are so fundamentally unlike insight that any instance of them looking insightful would be coincidental. Coincidences do happen, of course, but we know from experience that major ones are much more rare and therefore more surprising than minor ones. (p 152)

The implications for invention are clear. If the invention of a working X is a whole project requiring extensive new functional coherence, then the invention of X by accidents of any kind is physically impossible. Why? Because for accidental causes to match insight on this scale would be a fantastically improbable coincidence and our universe simply can't deliver fantastically improbable coincidences. (153)

Natural selection happens only after cells are arranged in ways that work to keep the organism alive, so selection can hardly be the cause of these remarkable arrangements. Darwin's simplistic explanation has failed, and the millions who have followed him have nothing but his outdated assumption to stand on. (192)

Dutch botanist Hugo De Vries "Natural selection may explain the survival of the fittest, but it cannot explain the arrival of the fittest." (220)

Taylor Rollo says

I thoroughly enjoyed this book and appreciated its take on the debate surrounding evolution and intelligent design. It is obvious by the title that Dr. Axe takes the view that life is designed, which I do as well, but his argument for it is much different from many other books.

Most other books attempt to reinterpret data that is used to argue for evolution and show that it does not support evolution. There is a place for that, but as I have told the many college students to whom I teach about science and Christianity, competing interpretations of evidence can easily become a never-ended debate. Instead, I think it is helpful to move beyond interpretations of evidence to the level of worldview: naturalism/materialism vs. theism (particularly Christian theism). This is kind of what Axe does, though I do not recall him ever actually using the term "worldview."

Axe starts by noting that there is a conflict within all of us between our "design intuition" and what much of the scientific academy wants us to believe: that it was not designed but happened accidentally by natural selection. Our intuition from when we are born and from every other part of our lives makes us think that life is designed because of the complexity that seems to be inherent in it, but scientific authority tries to push us

to believe that it could not be designed it must have evolved. He even quotes Francis Crick's famous words that tell us that no matter how designed it looks, we must remember that it was evolved. This "design intuition" really does work forever other part of our lives: when we see a pile of sticks arranged for a fire, we assume that it was designed that way, not that they fell at random that way. Axe gives several good examples that are more detailed.

He then spends the bulk of the book talking about the capabilities of natural selection as an "inventor" of that complexity that we see. He shows through rigorous argument based on probability (with a number of illustrations and examples) that natural selection may be an okay "fiddler" (tinkering with biological components that already exist) but a terrible, indeed abysmal, inventor (i.e. natural select cannot make new biological components, even if we try to imagine them being assembled in tiny increments. He sights a lot of data from his own research, which is in protein analysis, showing that the complexity of proteins cannot be invented by natural selection, and that is one of the smallest units of "busy wholes" (what he calls life forms).

The bulk of his book is taken up in that argument. What I think is most helpful about it is that, again, he is not trying to present competing interpretations of evidence but showing the paucity the most basic naturalistic driver of evolution: natural selection. If that breaks down, then the rest of the evolutionary argument does as well and so does naturalism, for natural selection cannot drive change in species, then there is nothing else for naturalism to fall on. He even cites atheists like Thomas Nagel (one of my favorite atheists, and I would review his book "Mind and Cosmos" but Alvin Plantinga has already done an excellent job of that: https://newrepublic.com/article/11018.... By the way, this book by Nagel is worth reading, for I believe it is one of the most important books of the last 50 years) who agree with the failings of naturalism to explain complex coherent biology, but these atheists still hold out for something else besides theism, though they have nothing to offer right now. This method that Axe uses is far more helpful, I think, than trying to target little bits of evidence. He shows how naturalism does not hold because its Achilles heal--natural selection--does not work.

In later chapters, he talks about alleged proofs of natural selection working, and he gives the reader a test that he calls the "hat test," based on a magician's hat. These chapters are helpful for handling rebuttals, but not necessarily crucial.

Finally, I love how he ends this book (and he throws this in throughout the book as well): he talks about the the bias of the scientific academy. He brings out how naturalism as a worldview has been smuggled into the sciences as if one must be a naturalist to practice science. That leads to a religious bias within the community that attempts to suppress decenters of the doctrine. When someone starts to support design instead of evolution (or even as a part of it), they are immediately branded a heretic and expelled from the community for violating the doctrine of naturalism, but it has nothing to do with science at all! He demonstrates throughout the book and again at the end that scientists are human, like we all, so we should not have a "Utopian view" of science that it is some kind of unbiased exercise. And, we should not be hard on the academy for their biases, for we all have them, but we should still expose them and speak out against them.

Overall, I love this book. I gave it four stars, which is rare for me (check out my list). I will also be adding it to the top of my recommended reading list when I teach on science and Christianity. In fact, I will probably use some of it in my lectures.

Rick says

This is a very helpful book, though I found that Axe's way of saying things was at times hard for me to follow. (His mind seems to work differently than mine.) The book's chief point is that we all possess an

intuition of design, and readily are able to detect when something is designed when we see it. He goes on to demonstrate that many scientists who deny that the natural world is designed nevertheless acknowledge that it gives the "appearance of design," and that when looking at the natural world we need to keep reminding ourselves "that it is not designed." Of course, intuitions are not always correct, which is the point such scientists are making, so Axe's project in this text is not only to call attention to the power our design intuition related to the natural world, but also to ask whether that intuition is justified.

As an engineer and molecular-biologist Axe seeks to demonstrate that our intuition of design related to the natural world is, in fact, reliable. He assures his readers that one need not be a professional scientist to be able to assess the crucial questions at stake. He points out that everyone employs what he calls "common science" everyday, and makes reliable judgments based on such common science. He does delve into some fairly involved molecular-genetic discussions at times, as well a some probability mathematics to demonstrate the impossibility of many features in biological life developing by mere chance. He and his colleagues have done significant original research in these fields. It is at this point that the non-professional, if he or she is not at least casually acquainted with the subject matter, may feel lost. As a non-scientist, I've read a good deal on related subjects, and seen/listened to a number of lectures and debates, yet even for me Axe's more involved scientific discussions were a bit challenging to follow at times. But as one person I heard recently pointed out, if we never read anything that stretches our current understanding, we'll never learn anything new.

Axe points out that the common response by evolutionists to the probability problem by defaulting to the explanation that natural selection overcomes the probability obstacle is irrelevant. According to Axe, only those things which already exist can be selected to survive. But the probability of those many things at the molecular level ever having come into existence is simply beyond reason. According to Axe, natural selection simply cannot select for things that could not have come into existence in the first place in the time allowed by the most generous estimations of the age of the universe or age of the earth.

I found Axe's approach of drawing people's attention to the design intuition, and then working to validate that intuition, refreshing. I hope to weave that insight and approach into my own interactions with people and my teaching. His writing style is very personable, and humble.

I don't feel that Axe fully achieved what I understood to be his intent of making this book fully accessible to those not already well informed about the biological issues in question. Though I view myself as a non-professional who is reasonably informed about these issues, I nevertheless was quite challenged at several points to understand some of his discussions. Regardless, the book was well worth the effort, and though some parts were hard to grasp, the vast majority of the book was easily understandable.

Hasanul Banna Siam says

The book deals much more with "common science' than with Biology; this is exactly what disappointed me. To refute an established idea of Biology, it is better to come up with Biology, and lots of Biology.

I do admire writer's effort to express his idea, but the book contains so many repetitions of the same thing, which at some points may become boring. Also, there are times when writer gave unnecessary details which took the reader's mind out of context.

I learnt a few new things though, but it didn't enjoy the book that much.

Marijus Krasnickas says

Makes you think. And think. And again. Worth reading. Good perspective on "common science" and how science works. Though just by disproving that something "cannot work", does not automatically proves that one's assumption is correct and works; there is always a 3rd and 4th and Nth roads as a potential option.

G. Kyle Essary says

I'm typically skeptical of books on intelligent design. I'm not so skeptical of the philosophical aspects of the project (which I see as it's main strength), nor the scientific aspects (of which I have no expertise). More than anything else, I'm skeptical of the theological aspects of it.

My understanding of redemptive history sees God's action to uphold and sustain creation at all places and in all times, but sees God's miraculous activity at specific points in redemptive history to make his glory evident. Thus, God steps distinctly into his story in the Exodus, the Incarnation, at the Resurrection, etc. Some proponents of ID have argued that God didn't create in the manner of Genesis 1, but that irreducible complexity means God may have stepped in at various points in a more prolonged creation. Perhaps he set things in motion, but then stepped in at the Cambrian explosion, or at the creation of the bacterial flagellum or in some other points within history. To me it seemed more glorious to have one massive creative act, or an unfolding creative pattern at work with God revealing himself more manifestly at points in redemptive history when those made in his image had the ability to reflect upon it.

Fortunately, Doug Axe's latest book avoids these discussions (as do his other works that I've read). He's not concerned with Young Earth Creationism, Old Earth Creationism, Evolutionary Creationism, or any point in between where any specific ID proponent may situate himself. In fact, proponents of YEC, OEC, and EC (theistic evolution) would probably agree with the bulk of his arguments, even if they differed on points here and there.

Instead, he makes simple points that those with no scientific expertise can grasp. From our basic understanding of the world, we can see that most living creatures are "functionally coherent" only as wholes. This functional coherence adds weight to our natural design intuition, which Axe contends is correct. "There's no way around the fact that everything resembling life requires high-level functional coherence. Nor is there any way around the fact that this makes the sum total of all possible things that would be recognizable as earthly life impossibly rare" (unless, or course, they are placed, directed, created there by an intentional agent).

Axe doesn't attack evolution per se, but specifically natural selection. Through combining his own research with common sense (and common science ... i.e. the common sense science we all do every day), he makes a compelling case that natural selection cannot bear the weight that many place upon it. Selection can't direct or move living organisms toward functionally coherent ends on its own. It needs outside factors to move living creatures forward toward their ends (yet the "natural" cannot allow for teleology). It cannot invent. More deeply it cannot create. Axe quotes De Vries "Natural selection may explain the 'survival' of the fittest, but it cannot explain the 'arrival' of the fittest."

Axe makes clear throughout that he goes beyond the confines of the ID movement and has no issue naming the originating cause of all things (design, thought, invention, etc.) as God. This may not appeal to some of

his more secular readers, and his critics will decry this move as proof that he writes theology and not science. No, this isn't a work of theology. However, despite the many references to the literature, it isn't science per se either. In fact, it's not even pure philosophy. At it's root, this is a book in defense of common sense—which isn't the realm of experts, but of the common man. He ends the book in this way "Some things ... can only be seen by standing on the shoulders of giants, but the most crucial things have always been seen best by standing on the ground."

Mike (the Paladin) says

There's a word I tend to over use a lot to describe books and that is..."interesting".

Well, this book is interesting. As Christians (and for that matter most Theists) we tend to spend (in my opinion of course) way too much time debating an argument usually stated as "evolution vs. creation". The problem is (as I'm sure most should realize) that's a false dichotomy. The Bible teaches creation but doesn't go into "how" God chose to create. The creation in Genesis is told in a way so as to be understandable to a hunter gather society, a herder society or (indeed) a modern society. The Bible isn't a scientific text but a book of wisdom, teaching, history but most of all the story of God's plan for us and the provision He has made.

So, this book is very interesting in it's presentation of evidence. I'd say theists and atheists alike might find it...well, interesting.

Nathan Albright says

I have heard about this book and author for a while, and was pleased to finally be able to read it. As someone who is generally familiar with the work of Intelligent Design philosophers of science [1], I found a lot of this book to be quite familiar. This familiarity was in no way a bad thing, but rather it was like the familiarity of home and hearth, of a good friend talking about his own life and bringing complicated matters into a more straightforward language, about someone with genuine populist appeal when it came to scientific elitism and the way that people are often viewed as being unable to grapple with the heart of the philosophy of science. This is an insightful work, and likely one that is deeply unpopular in certain audiences, but it manages to combine the best of research on no free lunch theorems related to blind searches with an appreciation for the scientific insight of ordinary people. Coming in at a bit under 300 pages as well, it is the sort of book that could easily and profitably be read by someone interested in science who wants encouragement on bucking the system.

The contents of this book are presented in a winsome and appealing manner. The author talks about the big questions of science and about whether our intuition can be trusted when we look at creations of undeniable insight and ingenuity. In discussing scientists as ordinary humans and science as an ordinary human activity, the author shows how internal conflict is often present in relating to science. Examining the heroic nature of salmon and the bioengineering demonstrated by even the smallest and simplest bacteria. In discussing common science (as opposed to common sense), the author seeks to rehabilitate the role of sanity checks by ordinary people in the scientific conversation, where contemporary scientists are often unwilling to have their efforts held accountable to ordinary people without large amounts of higher education. Throughout the book the author discusses matters such as the distinction between the target space and the possible space and probability with a great deal of skill. He also talks about his own life and his own experience with awkwardness. There is a lot of beautiful prose to be found here too, which many readers ought to appreciate.

There are some books which are written to an audience of people who already support a given worldview, and some books which try to engage enemies in polemical discussions. This book does neither, though, and appears to have been written with a general audience in mind to bring them into a conversation that they may not be aware of. The author is careful to point out that design inferences can show a great deal of personality behind the creator of the elegant machinery of life and how this makes people uncomfortable who do not want to accept the authority of that creator. The author wishes to bring a sense of wonder and humility into a view of origin life disputes where little wonder and humility has been shown by those who wish to impoverish life by denying the reality of the mental world of ideas and concepts that we use to understand both what is outside of us as well as what is inside of us. As a touching example of works that are written well and with undeniable popular appeal, this book is certainly one that deserves to be read among the classics of its genre, not least because it is written by someone who accepts their own humanity and the humanity of those with whom he finds himself in opposition.

[1] See, for example:

https://edgeinducedcohesion.blog/2011...

https://edgeinducedcohesion.blog/2016...

https://edgeinducedcohesion.blog/2014...

https://edgeinducedcohesion.blog/2011...

https://edgeinducedcohesion.blog/2011...

Jason Elmore says

It’s a decent book, but some of its arguments take awhile to develop. Especially the part where he’s talking about dropping pins and explaining distribution. He could have gave a layman analogy to help the reader grasp the concept easier. The author does well with his arguments’,but I would’ve liked to seen him address natural selection and the environment as a feedback mechanism. And possibly molecular consciousness, particularly in the RNA molecule. I recommend picking up evolution 2.0 to go with this. It has more information about Darwinism and compares it with ID.

Overall this took me 3 days to read, it’s very possible to do it in one night.

James R. says

Axe ably dismantles the "don't believe your lying eyes" arguments of neo-Darwinists. Using unassailable mathematics and logic, as well his own groundbreaking discoveries in microbiology and evolutionary statistics, he will silence all but the ideological and sometimes dishonest Darwinists who show themselves to be the real enemies of science. Read it! A very important book. Like riding the crest of a wave sweeping away a disproven, bankrupt paradigm that has dominated and numbed minds for a century.

David says

How do we think about evolution? What do we make of it? Do I need to get a degree in biology just to join the discussion? While Douglas Axe *is* a biologist, and therefore has all the credentials necessary to enter into the conversation, Axe makes the case that *common* science is sufficient for assessing the claims of modern evolutionary theory. I want to highlight four things that were significant for me from Axe's book.

First, scientists are no different from people in other fields; some are people of integrity and others are people in it for their own gain. Just because scientists say something is true doesn't mean that we must believe it. We need to weigh the argument itself and understand how the scientist came to those conclusions. Second, a basic understanding of the world, common science, is typically sufficient to come to a reasonable conclusion about many claims of evolution. We understand that things don't just work together for the accomplishment of larger goals without some direction. Different teams at a manufacturing plant don't turn out functional widgets by chance, but because minds are directing the processes of each team to work together as a functional whole.

Third, when evolutionary scientists are honest, they will admit that evolution doesn't explain the arrival of the diversity of life, not even in theory. "Nothing evolves unless it already exists" (pg 97 and elsewhere). Fourth, the chance of natural changes/mutations giving rise to new proteins or proteins with entirely new and different functions is functionally zero. Yet, we are asked to believe that not just proteins but entire organisms developed by this method. It doesn't take a PhD in biology to realize that this is a claim that goes against everything we observe in life and would need sufficient evidence to prove. Such evidence is not only lacking, but is impossible, even in theory.

While Axe gets into the details of molecular biology at times, he never gets too deep for a layman to drown. And he keeps coming back to common science and basic thinking to ground the conclusions. He makes a strong case that evolution is not simply lacking evidence, but goes against what we know to be true from so much other evidence.

He concludes with a discussion of the meaning and significance of his conclusions. If we start with the belief that all of life is a random process, then the limit of our investigation is to the question of "How?"; it makes no sense to ask, "Why?". But if we follow the evidence and recognize that there is a design pattern to life, then our investigation also gets us to the "Why?", as we recognize purpose and meaning. Science goes so much deeper when we are allowed to ask the right questions.
