

Intelligent Design

Some months ago I received an unsolicited email, among the many I receive every day, that stood out to me as warranting further attention. It was promoting a new book written by a brilliant molecular biologist, Douglas Axe, entitled “Undeniable”¹. Its sub-title is “How Biology Confirms Our Intuition That Life Is Designed”. I was sufficiently intrigued to obtain a copy. It is well-written and powerfully argued but - and I speak as a graduate physicist – I feel that many readers would find it difficult to follow the logic of his argument in many places. I also felt that it carried such a powerful message that so much needs to be widely heard and acknowledged that I am persuaded of the need to try to summarise the message in a readily digestible form, hence this article.

When I was at school in the 1950s and 60s, the general ethos of my education was centred on an acknowledgement of the reality of God. As children growing up, my friends and I were always conscious that our actions were known to a higher being, God, and that there was an accountability to God for those actions. Although I discovered in secondary school that many had accepted the basic ideas of Darwinian evolution, the majority still regarded Darwinism as, at best, an unproven theory. In the last fifty years that situation has completely changed around. The public media, educational establishments, the top universities and government policy-making is now almost universally rooted in an aggressive promotion of godless, materialistic, evolution. These national institutions claim the high ground intellectually and, increasingly in the consequences of this philosophy, in the realm of public morals.

Today in the UK, science is taught and conducted on the basis of materialism and scientism; basically these terms mean that there is no allowance made for anything other than (i) physical stuff, and only physical stuff, underlying everything that is real and (ii) the belief that science is the only reliable source of truth. Another term you will hear is ‘rationalism’ which is the notion that everything is ultimately explicable only in terms of materialism and scientism. Without further discussion, rationalism is taken as the only permissible way of analysing everything we observe; any suggestion of there being any other influence on the material world, and especially that of Intelligent Design by a non-materialistic God, is absolutely ruled out of order to the extent that, as Douglas Axe has himself discovered, any who are perceived to have violated that basic rule are ostracised by the mainstream scientific community, demeaned, treated with contempt, and even barred from practising science in a professional capacity². So science, which is meant to be the unhindered search for truth in the material world in the way that eminent scientists of the past pursued it³, must now be pursued with a mind closed to the possibility of anything outside of rationalism as defined above.

If rationalism gives us satisfactory explanations of everything we observe then there might be no cause for concern, but the argument of Axe’s book is that rationalism is completely unable to provide satisfactory answers to the basic question of ‘*to what or to whom do we owe our existence?*’. He shows this powerfully, convincingly and utterly irrefutably so, you might well ask, why does the scientific establishment, the media and others continue to uphold rationalism alone as the answer to our question regarding origins and existence? Put simply, and I will return to this point in more detail later, it is that mankind in its natural state is averse to the concept of God as Romans 1:28 says, “*they did not like to retain God in*

¹ ISBN 978-0-06-234958-3

² The BBC Radio 4 programme The Infinite Monkey Cage hosted by Professor Brian Cox is a prime example of aggressive media promotion of rationalism, aggressive because of its belittling of any line of thought that challenges it.

³ For example, Isaac Newton, Michael Faraday, Robert Boyle and many others.

their knowledge”, and the reason for that is a simple rejection, fear even, of accountability to God. I taught physics in the 1970s and had long discussions with colleagues about the teaching of evolution as proven fact; one very dear biology teacher told me that she hoped evolution was true because if it wasn't it would mean she was accountable to a God when she died and the thought of that appalled her.

So I will attempt to summarise the main arguments of Axe's book in this short article. I want to show to anyone with an open mind that it is rational and reasonable to infer that the things we see were intelligently designed and that those in such positions of power and influence who reject that view are really the ones exercising 'blind faith' in something that is fantastically implausible to the extent of being impossible. Darwinism is not the greatest idea ever to come out of the last 200 years as many claim; on the contrary it is utterly incapable of providing any satisfactory explanation of origins and the diversity of life as we see it today.

My approach will be to present the key points of Axe's book that life is designed, then to discuss the reasons for such overwhelming rejection of that view by the mainstream scientific community, and finally to reflect on where it leaves us as individuals as we strive to make sense of our existence.

The Essence of Axe's Book

Firstly, I think that it is important to stress that Axe does not present his case as a 'creationist' *per se*. Nor do I wish to do that. Axe's arguments are based solidly on molecular biological observations and, with an understanding of the immense complexity of the simplest living organisms, the application of rigorous mathematics and statistics to the situation. His aim, and thus mine, is to remain objectively scientific in the true sense of that term. We need to keep in mind what we observe in the natural world and examine all proposed mechanisms to account for those observations to see if they can stand fair scrutiny.

From our earliest awareness of the world around us, our instinct is to understand that things that do things were designed and made with intelligence, thought and skill. We never believe that anything containing even rudimentary information arose by random chance. For example, imagine a large saucepan containing a lot of soup made up of liquid with little pasta letters in it bubbling away and swirling round for hours and then left to cool and settle; if you took the lid off and saw a sentence of meaningful words you would never for one moment believe that it happened by chance; someone must have sneaked into the kitchen and arranged the letters while you weren't looking. Proteins, enzymes and amino acids are simple building blocks of life but the closer we examine them the greater the degree of complexity within them becomes apparent. They are vastly more complex and information-rich than the sentence in our pasta letter soup. If you know instinctively that pasta letter soup sentence could not possibly have arisen by chance you should ask why you so unquestioningly accept that the building blocks of life arose spontaneously – and for now, rule out the easy response that a lot of famous scientists say that they believe it happened, because when you ask them to explain their reasoning they are incapable of coming up with a credible model explaining how it might have happened. The most fundamental “equation” of evolutionary biology is, according to Jeremy England, -

Light + A Universe Full Of Random Atoms + A very Long Time → LIFE

But this has no foundation in rigorous scientific enquiry. It is not remotely like the science of electromagnetism for example. In the latter, the discoveries of Michael Faraday, the mathematical rigour of James Clark-Maxwell and many others have produced a rigorous theory which is used every day throughout the world to generate electricity, drive

machinery, and do a million things that have become essential to modern life with complete predictability and repeatability. Nobody has ever demonstrated the evolutionary biology equation. Famous experiments with electric sparks in 'primordial soup' producing claimed evidence of life's building blocks are no more convincing than an explosion in a builders' merchant resulting in the occasional small pile of bricks persuading you that a similar explosion repeated often enough could produce a fully furnished mansion with plumbing and electrical systems all in working order.

Even for proteins and enzymes there is a fantastic improbability of them arising by random occurrence. By 'fantastic improbability' I mean one chance in a number so large that it would take a book of hundreds of pages to write out the number; by comparison, the UK National Lottery used to be reckoned to have a 1 in 14,000,000 chance of winning and we regard and observe that the chances of any one individual winning as being extremely remote; nevertheless we regularly hear of winners on a national scale. So, for any individual, winning the lottery is highly improbable – if you were to play one line per week, every week, you would need to live about 4,000 typical lifetimes to expect to win once. But the chances of getting lucky with the random generation of a protein that actually does something in support of the development of life are *fantastically* improbable. Axe, who is an expert micro biologist with years of practical experience investigating the results of random mutations in enzymes shows that there are simply not enough atoms in the known universe, nor enough time since the supposed Big Bang, to leave the random occurrence of even one biologically functioning protein or enzyme any more than *fantastically improbable* and therefore practically impossible.

Let us look at it another way. Because of the vastness of the numbers that we come up with in calculating the chances of the required order and function arising by blind chance, we have to resort to analogies to convey the concepts effectively. Imagine the surface of the earth and you are able to drop pins that stick into that surface but you have no way of influencing where they drop; they drop randomly anywhere and completely independently of where any others have dropped. Now, there is a place in the USA where the straight borders of the states of Colorado, Utah, New Mexico and Arizona intersect at 90° in a pinpoint (the CUNA target). The chance of your random pin drop landing on exactly the CUNA target is the ratio of a pinhead area (say 1mm^2) to the surface area of the earth, i.e. say 1 in 10^{20} , that is a 1 with 20 zeros, a seriously big number. Not as big as the number of atoms in the universe which is estimated as a number requiring a single, 80 character line, to write it down but 1 in 10^{20} is getting up there. Now think of a fairly 'grainy' image 300x400 pixels with shades of grey; there is a *fantastically big number* of different images that would be produced if every possible combination of grey scales and pixels were tried. What is the chance that one random try would produce a recognisable picture of Abraham Lincoln (because such a picture is most definitely one of the random possibilities that exist)? It is one in a number so big it would take 198 standard text pages to print out. The probability of it arising by chance is as low as the chance of hitting the CUNA target with a random pin drop 8,000 times in a row by pure luck. You would never believe it possible would you? That is the sort of improbability we are dealing with when we talk about the probability of the basic building blocks of life arising by Light + A Lot Of Atoms + A Long Time → LIFE.

Axe describes an example directly from his work on genes encoding protein chains that result in a new biological function. For protein chains 153 amino acids in length only about one in 100 trillion, trillion, trillion, trillion, trillion, trillion is expected to encode a chain that folds well enough to perform a biological function. That is like the chances of randomly hitting on one hydrogen atom sitting on the surface of a sphere 28,000,000,000 light years in diameter. If, as is claimed, materialism, scientism and rationalism provides a satisfactory answer to the question 'to what or to whom do we owe our existence?', we need someone

to come up with a better explanation than it being the inevitable consequence of the random application of the laws of physics on the stuff of the universe acting for a long enough period of time.

When you add in the fact that multiple functional coherence is essential for living things, the improbability worsens. Proteins don't exist in isolation; they form parts of inter-dependent working 'wholes' that have no use unless all the parts are working together and mutually supporting their individual roles. It is just the same as any machine invented and manufactured by humans; the required functional coherence is mind-boggling for even simple things like a dishwasher. Yet only one component fails and the whole thing ceases to be a functioning dishwasher. Now think of a spider spinning a web. It is made of living cells, made of proteins and relying on enzymes⁴ all inter-dependent for correct functioning. Scale that example up to the complexity of an orca hunting in a pack in the ocean. Living organisms are functionally coherent in a much more profound sense than human inventions are; they are 'all or nothing wholes' such as human eyes. Every cell in a living body both sustains the body and is sustained by the body. The vast scale of functional coherence required for an orca or an eye to do what it does as a working whole makes its accidental invention *fantastically improbable* and therefore *physically impossible*.

All things that result from intelligent design exhibit unmistakable design features. Even for paper to be folded into the shape of a bird, say, it must be folded precisely in many pre-planned steps. Only the final step produces the whole thing and only then after all prior steps are carried out correctly. Accidental causes are highly unlikely (1 in a very big number) to do the right thing at any given step and for accidental things to do the right things at all steps is therefore fantastically unlikely (1 in a fantastically big number). At best the universe provides a big number of opportunities for unlikely things to happen by accident but it doesn't provide a fantastically big number of opportunities, no not even this vast universe. Therefore we conclude that, in this universe, paper will never fold by accident into the form of a bird. Now that same thought process can be applied to all living things from the simplest living cell upwards but with far, far, greater certainty of its utter impossibility.

Let us say that this thinking is raising some serious doubts about rationalistic theories of origins and move on to think about Darwinism and the mechanisms of evolution as widely accepted today. It is claimed that relatively simple organisms like modern sea sponges could have evolved step-by-step into orcas as we see them functioning in the BBC's magnificent Attenborough-narrated wild-life films. Darwin said that the driving force was natural selection and 'survival of the fittest'⁵. Basically, the theory says that genetic mutations arise from generation to generation and, although most are negative in their effects, some might confer some advantage in a particular environment such that over a few generations, that mutation becomes the predominant one in the population. Axe has worked extensively on mutations in enzymes to explore the mechanism whereby enzyme A can evolve the function of enzyme B within a timeframe of, say, one billion years (a long time even by evolutionists' standards). Millions of mutations, considered on the basis of their biochemistry to be most likely to effect the necessary change, were examined and not one was found that looked even remotely like it might transform enzyme A towards enzyme B. This work was scientifically rigorous and remains unchallenged by many scientists who, despite this, continue to insist upon 'the fact of macro-evolution of sponge-like creatures into orcas'.

⁴ I am no micro-biologist so please do not challenge me on my knowledge of such details, but try to see the clear main point that such complex functional coherence only results from intelligent design.

⁵ The term 'survival of the fittest' is, of course, tautological in that we can only define fitness in terms of that which survives, so it is essentially saying no more than 'the survival of that which survives' which seems to do nothing to shed more light on the claimed mechanism of evolution.

The scientific truth is that nothing evolves unless it already exists. The well-known case of the moths changing from white to dark with the industrial revolution in northern England proves nothing other than the already invented genes for dark moths producing specimens more likely to be hidden from predators than their white cousins. Selection can only home in on the fitness signal from an invention *after* that invention already exists; it can't actually invent. So, observing a process of environmental selection of finches with beaks suited to the particular seeds available for food is no argument for evolutionary natural selection *inventing* new genes that exhibit the required characteristics; it is merely selection of that which has already been invented. The origin of new categories of life requires the origin of myriad new genes and proteins and even similar looking microbes have remarkably unique genes. This is what has never been satisfactorily explained; mastery of the process of protein design is a basic step to mastering the process for the design of life. But this basic step is completely beyond the reach of random changes to collections of atoms (i.e. 'blind evolution'). To believe the evolutionary account of origins and the diversity of life we see today is to believe something much less plausible than hitting the cosmic CUNA target (a atomic sized dot on a universe-sized sphere over and over in succession by blindly dropping sub-atomic pins). I call that incredible and am forced to ask who is trusting to a leap of blind faith now? Just as instructions, poems and love letters are completely absent from the mountains of QWERTY gibberish that result from blind (random) selection of sequences of letters (monkeys with typewriters do not produce the works of Shakespeare), so it is with life.

Furthermore, because each new life form amounts to a new high level invention, the origin of the 1000th new life form is no more explicable by Darwinism than the origin of the first. The basic equation of Jeremy England that we saw earlier can't possibly be correct. Many like him say that although they can't demonstrate a convincing process that accounts for the accidental generation of life, it must have happened because we observe that it has; they say that despite all of this 'fantastical statistical improbability' regarding the evolution of life, there must be some inherent (as yet unexplained) inevitability for the collection of atoms that is this universe to produce life often enough for us to observe it as we do. Professor Jim Tour, a renowned chemist and nano-engineer with unrivalled experience of working with micro molecular and biological processes has said, in effect, that England's assumption that life happens by accident demonstrates only that he doesn't know what he is talking about.

There could be some who would protest that people like Richard Dawkins have shown that evolution is a very satisfactory explanation of the origin of life. His book, "The Blind Watchmaker" attempted to demonstrate the inevitability of life arising spontaneously without intelligent design. Dawkins produced software aiming to demonstrate its likelihood by "randomly" producing intelligent text from random processes, but a close examination shows clearly that the outcome was the inevitable result of the intelligence that Dawkins put into designing the software. Clutch at straws all you may, nobody is, or ever has been, able to sustain any credible explanation of how purely random processes could have designed even the simplest life forms.

Why Does The Mainstream Scientific Community Continue To Reject Intelligent Design?

We have seen that the claim that evolution *did* invent proteins, cell types, organs and life forms is scientifically legitimate only if we know that evolution *can* invent these things, but we don't know that and neither do any of those who stand by it as their basic philosophy of life. So how do we account for the almost universal acceptance by the scientific community (and therefore by all other agencies of authority that set the tone of our national thinking) that life started and has developed without any external intelligent input or guidance purely as a result of random chance processes given long enough to work?

It all depends on the framework we adopt as our fundamental philosophy of life. We might call this our basic paradigm of life. To illustrate this, imagine you are looking at a hedging plant bush that is in the unmistakable shape of a cockerel⁶. You would admit that it undoubtedly looked like a cockerel but you would wonder for a moment or two how on earth it came to take that shape. You would soon discover that it did not naturally grow into that shape but rather a frame had been made from galvanised steel rods (such as wire coat-hangers are made of) bent into the shape of a cockerel. Then, every shoot that grew from the plant was trained to adopt the shape of the frame and every shoot that departed from the frame shape was pruned away. Every new thing from the bush was made to fit the underlying frame. It is exactly like that with the so-called science of origins. The starting paradigm of today's scientific community is a complete rejection of the notion of God and, consequently, of intelligent design as the root-cause of life as we see it, irrespective of the practical impossibility of anything, not least life, inventing itself without intelligent design (ID).

Although I stated at the start that I did not want to come at this debate from a creationist standpoint, I am incapable of understanding the mainstream scientific community's rejection of ID without reference to the Bible as the word of God. In the Bible, the epistle to the Romans addresses the issue of mankind's rejection of the concept of God. I include here the relevant section in full - Romans 1:18-32 from the King James (Authorised) Version

For the wrath of God is revealed from heaven against all ungodliness and unrighteousness of men, who hold the truth in unrighteousness; Because that which may be known of God is manifest in them; for God hath shewed it unto them. For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse: Because that, when they knew God, they glorified him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened. Professing themselves to be wise, they became fools, And changed the glory of the uncorruptible God into an image made like to corruptible man, and to birds, and fourfooted beasts, and creeping things.

Wherefore God also gave them up to uncleanness through the lusts of their own hearts, to dishonour their own bodies between themselves: Who changed the truth of God into a lie, and worshipped and served the creature more than the Creator, who is blessed for ever. Amen.

For this cause God gave them up unto vile affections: for even their women did change the natural use into that which is against nature: And likewise also the men, leaving the natural use of the woman, burned in their lust one toward another; men with men working that which is unseemly, and receiving in themselves that recompence of their error which was meet.

And even as they did not like to retain God in their knowledge, God gave them over to a reprobate mind, to do those things which are not convenient; Being filled with all unrighteousness, fornication, wickedness, covetousness, maliciousness; full of envy, murder, debate, deceit, malignity; whisperers, Backbiters, haters of God, despiteful, proud, boasters, inventors of evil things, disobedient to parents, Without understanding, covenant-breakers, without natural affection, implacable, unmerciful: Who knowing the judgment of God, that they which commit such things are worthy of death, not only do the same, but have pleasure in them that do them.

The reason that the Apostle Paul (under the inspiration of God's Holy Spirit) gives is sin. Sin is that human trait which is entirely contrary to the pure and holy character of the infinite God. Sins of all sorts are listed and the truth is that sin is not just the things that sinners do but what everyone without exception is by inherent nature. David wrote in *Psalms 51:5 I was shapen in iniquity; and in sin did my mother conceive me*. The Bible reveals that God hates sin and his justice demands a penalty be paid, that penalty being death (*Ezekiel 18:20 The soul that sinneth, it shall die*). It further reveals the reality of accountability and the inevitability of judgment (*Hebrews 9:27 it is appointed unto men once to die, but after this the judgment*) and

⁶ I must give credit for this illustration to Prof Edgar Andrews in a talk that he gave in about 2006.

to man in his/her natural state, that thought is repulsive and so, as Romans1 says *they did not like to retain God in their knowledge*. According to the Bible, it is not superior intellect that persuades someone to reject the notion of God and confidently assert a conviction of atheism, but rather it is sin and its accountable consequences.

Why then does one person reject the notion of God and another confidently believe him? Again the Bible itself provides the answer. In 1Corinthians2:14 we read: *the natural man receiveth not the things of the Spirit of God: for they are foolishness unto him: neither can he know them, because they are spiritually discerned*. We need spiritual light to see the things of light (*Psalm36:9 with thee is the fountain of life: in thy light shall we see light*.) That spiritual light is in the sovereign gift of God to give to whom he will. We read of salvation from the penalty of sin on the basis of the penalty paid by a Substitute, the Lord Jesus Christ, and salvation being experienced and enjoyed by faith, but even faith is the gift of God as Ephesians2:8 says, *For by grace are ye saved through faith; and that not of yourselves: it is the gift of God* – thus it is that those objects of God’s grace who have been granted faith to believe the gospel also have faith to believe in God’s creation as Hebrews11:3 says, *Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear*. It is not by ‘science’ that we who believe understand that the ‘worlds were framed by the word of God’, but by faith and that the sovereign gift of God.

And so we understand why, in the face of such clear evidence that life is intelligently designed and not the result of accident, that so many mainstream scientists ignore the evidence and put their ‘blind faith’ in a clear lie. It is because they did not like to retain God in their knowledge because, as with all mankind in its natural state, the concept of accountability for sin is terrifying and therefore to be rejected. And this rejection leads to bad science; harm comes to science not by people hoping to find a particular result from their investigations but by people trying to suppress results that counter their hopes. As my biology teacher colleague said to me 40 years ago, “I hope evolution is true because of it is not it means that I am accountable to a God and the thought of that appals me”. Thus the overwhelming evidence pointing to Intelligent Design in all forms of life is aggressively suppressed by the mainly unbelieving scientific community, but it nevertheless stands as incontrovertible to any fair-minded examination.

Where Does This Leave Us?

I guess it depends where we start. Some readers will be believers in the gospel of Jesus Christ and will be quietly reassured that, in fact, there is absolutely no scientific argument to challenge their faith or their understanding that ‘the worlds were framed by the word of God’.

Meanwhile, many may remain fully convinced of the godless, evolutionary account of life, irrespective of the evidence to the contrary. It is difficult, no impossible, to see how anything other than the grace of God and the enlightenment of God’s Spirit would move them from that view. 2Thessalonians2:11 speaks of the obstinacy of unbelief and the way that God reinforces their rejection of truth by confirming their delusion - *for this cause God shall send them strong delusion, that they should believe a lie*: Thus as a believer I can understand the rejection of the truth, but I must stress that however stubborn things appear, not one, not even a Richard Dawkins, is beyond the reach of God’s grace and if (2Cor4:6) *he should shine the light of the knowledge of God in the face of Jesus Christ into their heart* they will see it and rejoice in it.

Finally, others may have never bothered to question the claims of the media, most wildlife documentaries, and the writings of the likes of Richard Dawkins, etc.; they have felt compelled to bow to the pronouncements of the so-called experts despite their natural

instinct that functioning wholes are invariably the result of intelligent design. But it may be that the arguments presented by Axe, and which I have tried to summarise in this article, have sown serious doubts regarding the credibility of the mainstream 'received wisdom'. Perhaps the assertion that life cannot exist without design has led some to consider that maybe God could be a reality. But you can't leave it at just mental assent to the idea; if there is a God, what is he like, how does he relate to you, what does he require of you and, as Job9:2 puts it, *How should a man be just with God?*, in other words, how are you going to be reconciled and at peace with a holy God when his word is clear in its condemnation of you for your sinful state? The answer is in the gospel of God's grace as it is declared in the person and work of the manifestation of God to man, the Lord Jesus Christ. If you feel anything of your need to know Christ then he bids you to seek him and find him; where should you look? Where God is pleased to save sinners under the sound of the gospel preached (1Corinthians1:21). There are plenty of churches and preachers but relatively few who preach clearly the Biblical truth of the gospel of grace in Christ, but as a starting point you can be confident of finding the truth at www.freegraceradio.com.

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