



Part Two - Intelligent Designs on Science: A Surreply to Denis Alexander's Critique

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This is Part 2 of Peter S. Williams' article 'Intelligent Designs on Science'. Read Part 1.

Claim Three: The 'burden of proof' does not lie upon the evolutionary biologist to show how complex biological systems came into being

'I have learned from my own embarrassing experience how easy it is to concoct remarkably persuasive Darwinian explanations that evaporate on closer inspection.'

– Daniel Dennett[194]

Judge John Jones asserts that: 'the ID argument is dependent upon setting a scientifically unreasonable burden of proof for the theory of evolution...' [195] While I would dispute the claims that ID is necessarily *dependent* upon assigning the burden of proof to evolution, that ID theorists *incorrectly* assign the burden of proof to evolution when they do so, and that the burden of proof assigned to evolution by ID theorists is *unreasonable*, Professor Alexander agrees with Judge Jones' sentiments and even objects to talking about proof in the first place. He takes exception to the suggestion: 'that the "burden of proof" lies upon the evolutionary biologist, whereas the ID proponent simply has to point out that certain biological systems are very complex and that there is current scientific ignorance about how they came into being.' [196]

As we have seen, ID advances inferential *arguments* for concluding that certain biological systems are best explained by intelligent design. These arguments involve design detection criteria (e.g. specified complexity, irreducible complexity)

more stringent than the pejorative, straw man requirement that 'biological systems are very complex and that there is current scientific ignorance about how they came into being.' [197] These stringent design detection criteria are married with falsifiable, but well-founded and meaningful claims about empirical evidence. Faced with such an argument, the evolutionary hypothesis should need to verify itself by falsifying the claims of ID theory in the very process of showing that what it claims to be the case actually is the case. However, once the rule of hard-line 'methodological naturalism' is accepted ID is excluded *a priori*, the mere possibility of some sort of evolutionary explanation becomes the only scientific game in town and is thereby established by deduction from first principles without the necessity of supporting evidence. Such armchair natural philosophy is the only explanation for an aversion to the claim that the burden of proof lies upon the evolutionary biologist to show how complex biological systems came into being with reference to the explanatory resources permitted by HMN.

According to the theory of evolution, biological systems evolve through the incremental accumulation of beneficial mutations. Richard Dawkins explains why: 'The larger the leap through genetic space, the lower the probability that the resulting change will be viable, let alone an improvement. [Hence] evolution must in general be a crawl through genetic space, not a series of leaps.' [198] He describes this gradual approach to obtaining biological complexity as 'Climbing Mount Improbable.' [199] Nevertheless, Dawkins assumes that evolution must be true because it is the only theory able to fill in the explanatory gap left by the exclusion of design. He is therefore content to say that even though we have no idea what path organisms took up Mount Improbable, *they must have done so*: 'however daunting the sheer cliffs that the adaptive mountain first presents, graded ramps can be found the other side and the peak eventually scaled' [200] How does Dawkins know that these graded ramps (which must be circuitous in the case of IC systems) can be found in advance of showing what they are (without even looking for them)? Because Dawkins' justification for this assumption is philosophical: 'Without stirring from our chair, we can see that it must be so.' [201] explains Dawkins, 'because

nothing except gradual accumulation could, in principle, do the job...'[202] (Of course, this assertion is false because an intelligent agent could, in principle, do the job.) Dawkins deduces the existence of graded paths up Mount Improbable from his prior belief in *metaphysical* naturalism, but the prior assumption of *methodological* naturalism does equally well at leaving the existence of such unverified paths the only *scientifically* permissible explanation of origins. Writing in *The Independent* Brian Josephson, a professor of physics at Cambridge University, complained about Dawkins' question-begging approach to biology:

In such books as the Blind Watchmaker, a crucial part of the argument concerns whether there exists a continuous path, leading from the origins of life to man, each step of which is both favoured by natural selection, and small enough to have happened by chance. It appears to be presented as a matter of logical necessity that such a path exists, but actually there is no such logical necessity; rather, commonly made assumptions in evolution require the existence of such a path.[203]

The assumption of metaphysical or methodological naturalism ensures that scientific explanations of origins are a question-begging exercise in averting the oft-touted scientific requirement for empirical verification (and thereby excluding the equally often touted possibility of empirical falsification). As John Angus Campbell, perhaps the world's leading authority on the rhetoric of Darwin's *Origin*, explains:

What is most revolutionary about Darwin's Origin is not simply his case for natural selection... or his case for evolution itself. The other, and equally important, revolution going on within his argument for species change is his case for naturalism, which slides insensibly between an innocent methodological precept and a prior metaphysical commitment... The first step in Darwin's case for metaphysical naturalism... was taken in his flyleaf citations, all of which identified the ordinary mode of divine activity with natural laws. Implicitly and in chapter 2 explicitly, Darwin was laying the foundations for a revolutionary philosophy of science... when Darwin was having a difficult time with an explanation or when he was particularly keen on the reader's realizing the consequences of a refusal to accept an explanation, he would

sometimes draw on the reader's partial commitment to naturalism to negotiate yet further commitments. At some points Darwin would simply equate naturalistic explanations – evolutionary case histories with the blanks filled in by an 'it must have been' story-line – with reality itself.[204]

As historian of science Neal Gillespie comments:

It is sometimes said that Darwin converted the scientific world to evolution by showing them the process by which it had occurred. Yet the uneasy reservations about natural selection among Darwin's own contemporaries... suggests that this is too simple a view of the matter. It was more Darwin's insistence on totally natural explanations than on natural selection that won their adherence.[205]

Hence Darwinist Michael Ruse admits: 'I think that philosophically one should be sensitive to what I think history shows, namely, that evolution... involves making certain *a priori* or metaphysical assumptions, which at some level cannot be proven empirically.'

[206]

Alexander reveals the *a priori* methodological roots of his own aversion to assuming the burden of proof in biology:

Compared with the actual explanations offered by biologists, which relate to physical components in the actual world around us, the 'inference to design' does no explanatory work... but simply makes a rather unsatisfactory way of flagging up current areas of scientific ignorance.[207]

First, biologists have not actually offered anything approaching an actual explanation for any IC system. As Danish philosopher Jakob Wolf argues:

An explanation of the evolution of an organism is scientifically adequate only if it is able to account for all the incremental steps required for the building of the system. These steps must be so small that their probability can be calculated. Which means that you should actually be able to quantify the probability of every small step, and so prove that it is reasonably probable that it constitutes a step on the evolutionary ladder. You also have to be able to prove that each step presents an advantage to the organism. Currently, there exist no Darwinian explanations of e.g. the bacterial flagellum which satisfy these criteria... Darwinian accounts purporting to account for the emergence of very complex systems are primarily expressions of the hope that the

evolution of these systems is explainable by appeal to the Darwinian mechanism. They are wishful speculations.[208]

Hence cell biologist Franklin Harold admits: 'there are presently no detailed Darwinian accounts of the evolution of any biochemical or cellular system, only a variety of wishful speculations.'[209]

Second, not all explanations offered by biologists are framed in terms of the physical components in the world around us, unless one is going to defrock design theorists like Michael Behe and Scott Minnich from the priesthood of science by definitional dictate. Third, Alexander would not accuse the inference to design of doing 'no explanatory work' if it were made in fields such as archaeology or SETI. Would a SETI researcher who received a signal like the one in Carl Sagan's novel *Contact* and who inferred intelligent design be accused of giving an explanation that: 'does no explanatory work... but simply makes a rather unsatisfactory way of flagging up current areas of scientific ignorance'? Making the same accusation in the field of biology requires justification to avoid the charge of employing a double standard. Fourth, of course the hypothesis of intelligent design does 'explanatory work'. Intelligent design is a perfectly satisfactory explanation given in all sorts of situations, scientific or otherwise, every day. The only question is whether design is the *best* explanation in any given situation. Fifth, the only way to guarantee that the lack of explanations consistent with HMN for IC systems is a sign of current 'scientific ignorance' is to assume that explanations inconsistent with HMN are impossible. And that means assuming that *metaphysical* naturalism is true.

Concerning Proof

Alexander takes exception to the terminology of 'proof', writing that: 'The word "proof" may be popular in mathematical and philosophical circles, but is rarely used by biologists.'[210] Why can't the ID claim that the burden of proof is properly assigned to the evolutionary hypothesis be one of those 'rare' uses of the word by biologists? After all, Michael Behe is a biologist, and *he* uses the phrase 'burden of proof'.[211] Moreover, Alexander seems to conflate the mathematical concept of proof with the philosophical concept of proof. A proof in mathematics is: 'a formal series of

statements showing that if one thing is true something else necessarily follows from it.'[212] Mathematical proofs are rigorous arguments that unequivocally establish a mathematical theorem. A proof in philosophy, by way of contrast, can refer to any logically valid argument with premises that are anything from indubitable to merely more plausible than their denial. Hence, in his discussion of theistic proofs philosopher Stephen T. Davies writes that:

a theistic proof whose premises are either true or known to be true has a chance of being a powerful argument. But I believe a theistic proof can be a successful argument even if it is not possible to show [indubitably] that its premises are true. If it is possible to show that the premises are either acceptable in themselves... or more acceptable than their denials... then an otherwise impeccable theistic proof [i.e. one that is formally and informally valid] can be considered successful.[213]

Biologists may not use the word 'proof' very often, but the concept of giving a valid argument for a given conclusion or hypothesis on the basis of claims about reality that are meant to be at least more plausible than their denial cannot be exactly foreign to them.

Concerning the Burden of Proof

'Evolution is not intuitive.'

– Cornelius Hunter[214]

We have already reviewed arguments to the effect that the evolutionary hypothesis is betting in the face of long odds when it comes to systems that exhibit irreducible complexity. Some biologists claim that an indirect evolutionary pathway can account for such systems. Establishing the existence of a statistically plausible indirect evolutionary pathway is both necessary and sufficient to falsify the claim that the flagellum is IC. To date, no such pathway has been proposed, and so the claim that the flagellum is IC stands.

However, it *should* be enough merely to observe that biological systems give the intuitive impression of design. As Jakob Wolf argues:

Biological entities appear to be designed. It is very important to note that everybody agrees on the phenomenological description of the living organism. Disagreement sets in when it comes to

explaining the nature of what everybody observes. Is it possible to account for the evolution of the complex organism by appeal to unintelligent causes alone, or does an intelligent cause need to be invoked? The most obvious conclusion to draw is that... an intelligent cause is needed. This perception of the matter is the one that most readily imposes itself upon us and has done for centuries. If you think otherwise, the burden of proof rests squarely with you.[215]

As Stephen C. Meyer observes: 'Charles Darwin himself and contemporary neo-Darwinists such as Francis Ayala, Richard Dawkins, and Richard Lewontin acknowledge that biological organisms appear to have been designed by an intelligence.'[216] Secular humanist Richard Norman likewise acknowledges the 'apparent design'[217] of nature. Dawkins go so far as to define biology as: 'the study of complicated things that give the appearance of having been designed for a purpose.'[218]

Writing in *Skeptical Inquirer*, associate professor of psychology at Emory University, Scott O. Lilienfeld, argues that:

it is Darwinian evolution, not ID, that is glaringly inconsistent with common sense... Indeed, from the vantage point of commonplace intuition, it is far more plausible to believe that complex biological structures like the peacock's tail... were shaped by a teleological force than by... processes of mutation and natural selection operating over millions of years.[219]

As an ID critic, Lilienfeld goes on to suggest that:

The foremost obstacle standing in the way of the public's acceptance of evolutionary theory is not a dearth of common sense. Instead, it is the public's erroneous belief that common sense is a dependable guide to evaluating the natural world... [After all] science is replete with hundreds of examples demonstrating that common sense is frequently misleading.[220]

However, it would be erroneous to extrapolate from the fact that science has shown common sense to be misleading on some, or even many occasions, to an epistemological principle stating that we should always assume that things in the natural world are *not* the way they appear to be unless we are shown otherwise. For how could we be shown otherwise except by arguments with premises that asked to be accepted at face value? As C.D. Broad observed:

The practical postulate which we go upon

everywhere else is to treat cognitive claims as veridical unless there be some positive reason to think them delusive. This, after all, is our only guarantee for believing that ordinary sense perception is veridical. We cannot prove that what people agree in perceiving really exists independently of them; but we do always assume that ordinary waking sense-perception is veridical unless we can produce some positive ground for thinking that it is delusive in any given case... When there is a nucleus of agreement between the experiences of men in different places, times, and traditions, and when they all tend to put much the same kind of interpretation on the cognitive content of these experiences, it is reasonable to ascribe this agreement to their all being in contact with a certain objective aspect of reality unless there be some positive reason to think otherwise.[221]

Richard Swinburne has strongly defended the rational necessity of placing the burden of proof upon those skeptical of perceptual claims:

It is a basic principle of knowledge... that we ought to believe that things are as they seem to be, until we have evidence that we are mistaken... If you say the contrary – never trust appearances until it is proved that they were reliable – you will never have any beliefs at all. For what would show that appearances were reliable, except more appearances?[222]

Alexander endorses the principle of credulity for identical reasons in the context of discussing the believability of reported miracles:

Scientists see no need to practice a paranoiac form of suspicion in which people are thought to lie upon every possible occasion. In fact, no society could possibly survive for long based on such a supposition, let alone scientific practice. All societies operate on the assumption that most people tell the truth most of the time, and it is this assumption which also makes historical research feasible. The historian does not have to lapse into gullibility to maintain that it is safest to assume that someone is recounting the truth unless there are good historical grounds for thinking otherwise.[223]

Of course the appearances of common sense can be overthrown, by sufficient appearances to the contrary which are themselves accepted on the basis of the principle of credulity. The point is that the appearances of common sense properly carry the presumption of truth, and claims to the contrary therefore properly bear the burden of

proof. As Robert C. Koons writes:

The burden is on Darwin and his defenders to demonstrate that it is really possible for at least some of the complex organs we find in nature to be formed in this way: that is, by some specific, fully articulated series of slight modifications.... The inference from complex, interdependent functionality to intelligent agency is the natural, default position. Darwinian biologists and their pupils overlook this fact at their own cognitive peril.[224]

The evolutionary biologist advances the hypothesis that nature itself produced these apparently designed biological organisms. This hypothesis is advanced as either a simpler adequate explanation compared to design (by evolutionary ateleologists like Dawkins), or as a necessary complication of the design explanation (by evolutionary teleologists like Alexander). Either way, Occam's razor demands that the burden of proof therefore belongs upon the shoulders of the evolutionary biologist to show that evolution is, or must feature in, the best explanation.

According to Koons, Darwin implicitly recognized in the *Origin of Species* that his extrapolation from micro-evolution to macro-evolution bore the burden of proof:

the argumentative structure of the book concedes that the presumption of reason lies with intelligent creation. Moreover, Darwin recognized that he could not yet shift the burden of proof [on evidential grounds]. He was concerned, quite justifiably, with providing enough provisional evidence to create an atmosphere of open-mindedness. He hoped to convince biologists that his theory shouldn't be dismissed out of hand but should instead be given a fair chance by being given the chance to be fleshed out with specific hypotheses that could then be tested against the relevant evidence. At this task, I believe he was entirely successful.[225]

Like Neal Gillespie, molecular biophysicist Cornelius Hunter characterizes Darwin's rhetorical methodology in the *Origin* as convincing readers to shift the burden of proof under which his theory struggled:

How could Darwin convince the world that evolution could create complexity? He had no strong scientific evidence showing that evolution could create complexity, so he shifted the burden

of proof. Rather than requiring evidence showing that evolution could create complexity, Darwin suggested that there was no counterevidence. He allowed that if the skeptic could find a complex organ that evolution could not produce, then the theory would be disproven... Darwin made things easy on his theory by inverting the question. Rather than asking the question 'How much positive evidence is there that complexity can arise on its own?' he asked 'Is there negative evidence to disprove the idea?'... Darwin's argument was not in the scientific spirit, for one does not propose an unlikely and unproven theory and justify it because it cannot be disproven.[226]

To justify a hypothesis on the grounds that it hasn't been disproved is to advance a 'proof by ignorance'[227], an informal logical fallacy 'in which lack of known evidence against a belief is taken as an indication that it is true.'[228] Nigel Warburton explains: 'Although no one has provided conclusive evidence that there is no life after death it would be extremely rash to treat this as a conclusive proof that there is.'[229] Likewise, to conclude from a lack of proof for evolutionary limiting factors that *therefore* natural selection can and does explain how irreducibly complex new biological systems, or new organs and body plans have come into existence, is a mistake. At most, such a lack of evidence allows one to say that natural selection *might* explain how new systems and such came into existence *if there are in fact no limiting factors*; advancing Darwin's theory as a possibility worth investigating. As Koons says:

No reasonable person could, after reading the Origin, deny that this was a theory worthy of being taken seriously. At the least it justified an investigation into whether the evolutionary mechanism proposed was really adequate to its appointed task, and whether sufficient circumstantial evidence could be found substantiating that the mechanism of natural selection had in fact been at work.[230]

However: 'The bare possibility that a non-teleological explanation of apparent design might exist is not by itself sufficient to warrant real doubt about the reality of design, any more than the bare possibility that you and I are brains in a *Matrix*-like vat is sufficient to warrant scepticism about the deliverances of our five senses.'[231] As Warburton points out:

Part of the temptation to believe that proof by ignorance is real proof may stem from the fact that in some courts of law a defendant is

presumed innocent until proven guilty. In other words, lack of evidence against someone is taken as proof, for the purposes of the court, that they did not commit the crime. However, as many cases of guilty people being freed because of lack of evidence show, this isn't really a proof of innocence, but merely a practical, if imprecise, way of protecting innocent people from wrongful conviction.[232]

Indeed, Darwin's core argument relies upon our accepting macroevolution as being innocent until proved guilty; whereas *this protection should in fact be extended to belief in design:*

Design sceptics, in common with other sceptics from antiquity to the modern day, attempt an illegitimate shift in the burden of proof. The skeptic attempts to rebut a successful design inference by merely raising the possibility that the appearance of design may be illusory, challenging the defender of the inference... to prove that the sceptical scenarios could not have happened. The appropriate response to such sceptical challenges is to place the burden of proof where it belongs: the skeptic must provide substantial and specific grounds for doubting the soundness of the design inference in the particular case in question.[233]

I agree with Koons that, with respect to the grander claims of explanatory adequacy made for Darwin's theory (e.g. the ability of evolution to account for specified and/or irreducible complexity):

the burden of proof was never met, and the presumption of design never rebutted... The task... of describing in sufficient detail specific Darwinian pathways leading to the origin of specific forms of biological function, remains an unfulfilled dream.[234]

Whether or not the proper burden of proof has in fact been met by the theory of evolution, the point here is that *evolution must meet such a burden of proof* because, as even Dawkins admits, the supposed results of natural selection: 'overwhelmingly impress us with the appearance of design...'[235] Michael J. Behe hits the nail on the head:

A crucial, often-overlooked point is that the overwhelming appearance of design strongly affects the burden of proof: in the presence of manifest design, the onus of proof is on the one who denies the plain evidence of his eyes. For example, a person who conjectured that the statues on Easter Island or the images on Mount

Rushmore were actually the result of unintelligent forces would bear the substantial burden of proof the claim demanded. In those examples, the positive evidence for design would be there for all to see in the purposeful arrangement of parts to produce the images. Any putative evidence for the claim that the images were actually the result of unintelligent processes (perhaps erosion shaped by some vague, hypothesized chaotic forces) would have to clearly show that the postulated unintelligent process could indeed do the job. In the absence of such a clear demonstration, any person would be rationally justified to prefer the design explanation.[236]

Behe's point, which follows from the principle of credulity and Occam's razor, stands irrespective of whether or not one conceives of the unintelligent natural forces of erosion and so forth as intelligently designed and sustained secondary causes.

Claim Four: Proponents of ID perceive the world as a two-tier system of the 'natural' and the 'designed'

'God can act as much through ordinary events as through extraordinary events...'

– William A. Dembski[237]

Professor Alexander must be one of the few people who think that genuine scientific evidence of intelligent design garnered from nature would actually *contradict* theism. Perhaps Richard Dawkins *et al* should take note, embrace ID and wield it in defence of atheism. Suppose Alexander is right to claim that proponents of ID perceive the world as a two-tier system of the 'natural' and the 'designed'. Suppose that proponents of ID *necessarily* perceive the world in this way. Suppose also that perceiving the world in this way is incompatible with theism. In that case (and in that case only) theistic ID proponents face a problem, a problem which can be solved either by renouncing ID or by renouncing theism. Which renunciation it would make most sense to make would of course depend upon the relative epistemological standing of theism and intelligent design theory. If I were placed in the hypothetical situation of choosing between ID and theism I would side with belief in God rather than belief in ID, since it is my conviction that belief in God is supported by more and stronger reasons than belief in ID. In such a situation I would simply revert to my former position on origins, namely,

theistic evolution. However, it is also my conviction that such a situation of forced choice is purely hypothetical. Dawkins could embrace ID, but he could no more use it as a valid argument against theism than he can use evolution for the same end (neither evolution nor ID entail atheism).

False Negatives and the Causal Background

The failure of some set of data to trigger a design inference according to a given design detection criterion does not imply that the data in question is not the product of design. It simply means that we cannot substantiate the claim that the data in question is the product of design from the application of design detection criterion to the data in question. We may or may not be able to substantiate such a claim by alternative means. As Dembski writes:

When the complexity-specification criterion fails to detect design in a thing, can we be sure that no intelligent cause played a role in its formation? No, we cannot. To determine that something is not designed, this criterion is not reliable. False negatives are a problem for it. This problem of false negatives, however, is endemic to design detection in general.[238]

Likewise, Behe notes:

You cannot tell just by looking at something that it has not been designed – anything might have been designed. The coats on the rack in a restaurant may have been arranged just so by the owner before you came in. The trash and tin cans along the edge of a highway may have been placed by an artist trying to make an environmental statement... The upshot of this conclusion – that anything could have been purposively arranged – is that we cannot know that something has not been designed.[239]

Hence *there is nothing intrinsic to the scientific process of inferring design as the best explanation for some empirical data that metaphysically divides reality into the designed and the not designed.* The design inference is logically compatible with the acceptance of such a metaphysical distinction, but it is also logically compatible with its wholehearted rejection. Nor is this a simple either/or choice, as Dembski points out: 'Note that there is no strict either-or here, as in natural causes *versus* design; at issue is whether natural causes are supplemented or unsupplemented by design.'^[240] That is, whether or not 'natural causes' are themselves considered

to be the product of design (scientifically detectable or otherwise), one can still ask whether objects or events which supervene upon those causes are best explained with reference to design:

Design arguments can focus on whether the universe as a whole is designed. Alternatively, they can focus on whether instances of design have occurred within an already given universe. The universe provides a well-defined causal backdrop... Although one can ask whether that causal backdrop is itself designed, one can ask as well whether events and objects occurring within that backdrop are designed. At issue here are two types of design: first, the design of the universe as a whole and, second, instances of design within the universe.[241]

Any ID theorist who accepts the design inference from cosmic fine-tuning necessarily believes that the whole 'causal background' of material reality is designed (interestingly, many theistic evolutionists make a design inference from cosmic fine-tuning, although they do not consider such an inference to be scientific in nature). If an ID theorist *additionally* accepts a design inference from some event or object that occurs within the context of that backdrop (e.g. the fine-tuning of our galactic habitat, the origin of life, the miracles of the Exodus, fulfilled biblical prophecy), then it seems illegitimate to affirm that the necessary implication of accepting the latter inference is that they perceive the world as a two-tier system. While an ID theorist who makes both types of inference need not be a theist, as far as I can tell design theorists who are theists make design inferences in both categories. Moreover, design proponents who are theists will attribute the causal background of material reality to an act of creation *ex nihilo*, explaining why there are (and continue to be) any physical laws and objects at all with reference to God. As design theorist and Christian J.P. Moreland explains concerning a theistic understanding of intelligent design theory:

God is constantly active in sustaining and governing the universe. Nature is not autonomous... the model merely recognizes a distinction between primary and secondary causes (however much this needs further refinement) and goes on to assert that (at least) the former could have scientifically testable implications...[242]

Intelligent Design Naturalism

However, proponents of ID are a metaphysically

diverse group, and some do indeed embrace a 'two-tier' system. For example, Raelians – an atheistic, metaphysically naturalistic religious movement founded by Claude Vorilhon (a.k.a. Rael) in 1973[243] – believe that:

life on Earth is not the result of random evolution, nor the work of a supernatural 'God'. It is a deliberate creation, using DNA, by a scientifically advanced people [called the Elohim] who made human beings literally 'in their image' – what one can call 'scientific creationism.'[244]

Writing in the foreword to Rael's book *Intelligent Design: Message from the Designers* (2005), journalist Anthony Grey appeals to ID in support of Raelianism: 'Quickly becoming known in short as ID, "intelligent design" is now beginning to be studied and developed in some respected universities.'[245] Raelians interpret the scientific theory of ID *within a metaphysically naturalistic worldview* (just as other atheists accept the scientific theory of evolution and interpret it within a metaphysically naturalistic worldview). Faced with the question 'Who created the Elohim?', Raelians are forced by their commitment to metaphysical naturalism to embrace the existence of an infinite regress or 'cycle of life':

If we believed in God, we might ask 'Who created God'. If we believed in evolution and the 'Big Bang' we might ask 'where did this matter and energy come from that created the big-bang?' For the Elohim, it is the same – they were created by people coming from the sky as were their creators. It's an infinite cycle of life. One day scientists from earth will also go to another planet and populate it.[246]

While accepting an infinite regress makes belief in intelligent design formally consistent with metaphysical naturalism, doing so raises its own philosophical problems.[247] My purpose in referring to Raelianism is simply to demonstrate the fact that *some* proponents of ID do indeed perceive the world as a two-tier system of the 'natural' and the 'designed'. However, while ID is married to a 'two-tier' view by some of its proponents, it certainly does not *require* us to accept such a marriage. Theists who adopt ID do not need to adopt the Raelians' 'two-tier' view if the universe.

It Depends What You Mean By...

Unfortunately, things are a little more complicated than the above argument makes them appear,

because 'a two-tier system' could be understood in more than one way. In the Raelian case it would clearly refer to a system positing a *metaphysically* naturalistic view of the universe while excluding the assumption, made by most naturalists (e.g. Dawkins), that explanations in terms of intelligence must be ultimately reducible to explanation in terms of matter plus time plus chance. ID is compatible with, but does not entail, such a two-tier system (just as evolution is compatible with, but does not entail, atheism). On the other hand, 'a two-tier system' *could* be understood to refer to a system positing a theistic view of the universe whilst differentiating between explanations which appeal to the inherent capacities of the creation (which may or may not be conceived of as intelligently guided in an undetectable manner) and explanations in terms of primary causation (in the former case, the relevant distinction would be that between detectably and non-detectably designed things). ID theorists who are theists are free to adopt either theistic interpretation (not that this is an either/or choice).[248] Indeed, whichever interpretation of ID a Christian ID proponent adopts – and even if they remain agnostic about which interpretation is best – they must at least reject the metaphysically naturalistic interpretation of ID. This being so, it is misleading to attribute belief in 'a two-tier system' to theistic ID proponents without qualification. Indeed, (without getting side-tracked into a debate over the various meanings of 'miracle'[249]) a theistic interpretation of ID would do well to redeploy theistic evolutionist Michael Poole's description of miracles as instances wherein: 'it is the *mode*, not the *fact* of God's activity, that is different.'[250] As Norman L. Geisler says: 'in a theistic universe, where everything is dependent on God's continual sustaining causality, there is no contradiction in affirming that by 'natural' we mean the way God operates *generally* and by 'miracle' we mean the way he operates on *special* occasions.'[251]

Hermeneutical Rectitude

Alexander takes ID proponents who are theists to task for the: 'bad habit of using the word "natural", "naturalistic" and "naturalism" in ways quite different from the ways in which those words are normally employed in philosophical discourse...'[252] He references the Oxford Dictionary, where he finds 'naturalism' defined in its philosophical sense as:

'view of the world that excludes the supernatural or spiritual.'[253] Passing over the terms 'natural' and 'naturalistic', Alexander proceeds to advance his argument about non-standard language by quoting design theorist Phillip E. Johnson:

It is conceivable that God for some reason did all the creating by apparently naturalistic processes, perhaps the better to test our faith, but surely this is not the only possibility. My writings, and those of colleagues like Michael Behe, argue that design is detectably present in biology, that naturalistic substitutes like the blind watchmaker mechanism are inadequate and contrary to the evidence, and that theists who believe that God is real should not assume that he never played a detectable role in biological creation.[254]

The stress in the first sentence is actually added by Alexander (as he himself notes). Unfortunately this stress detracts from the importance of the preceding word, 'apparently'. However, there is a significant difference between 'apparently naturalistic' and 'naturalistic'. Nor is 'naturalistic' the same term as 'naturalism' (a term that does not feature in the quoted passage). After all, Johnson (a Christian) clearly does not intend to make the contradictory assertion that God could have created using a metaphysically naturalistic process. In fact, if anyone is using terminology in a philosophically non-standard sense here, it is actually Alexander. He seems to attach metaphysically naturalistic meaning to every use of the terms 'natural', 'naturalistic', etc., regardless of context. Of course, if Alexander thinks that design theorists are using such words in a non-standard sense, he should not critique them on the basis of interpreting those terms in what he takes as being their standard sense. Indeed, the hermeneutical principle of charity requires that we automatically disassociate the *metaphysically naturalistic* associative meaning of terms such as 'natural' and 'naturalistic' from the use of such terms by theists. And this means that we must, if at all possible, interpret the use of such terms in this context in ways that do not contradict a theistic metaphysic (and so do not support allegations of 'two-tier' system building).

For example, scientist turned theologian Alister E. McGrath is a theistic evolutionist. He asserts that: 'science can work only with naturalistic explanations; it can neither affirm nor deny the existence of God.'[255] Clearly, to read McGrath as endorsing metaphysical naturalism, or a 'two-

tier system' of *metaphysically* naturalistic explanations (in 'science') and non-naturalistic explanations (in theology), because he uses the phrase 'naturalistic explanations', would be to seriously misread him. McGrath affirms:

God is the cause of all things. Yet God's causality operates in a number of ways. While God must be considered capable of doing certain things directly, God delegates causal efficacy to the created order... Events within the created order can exist in complex causal relationships, without in any way denying their ultimate dependency upon God... The critical point to appreciate is that the created order thus demonstrates causal relationships which can be investigated by the natural sciences. These causal relationships can be investigated and correlated – for example, in the form of the 'laws of nature' – without in any way implying, still less necessitating, an atheist worldview. To put this as simply as possible: God creates a world with its own ordering and processes.[256]

(McGrath warns that a potential theological weakness of this approach is 'that the self-regulation of the natural order could lead to God being completely marginalized in any account of the world.'[257] Allowing God's capacity to do things 'directly' within the created order to enter into one's account of the world may avoid this weakness.) In which case, the attempt to show that theistic proponents of intelligent design theory endorse a 'two-tier system' on the basis of their use of identical terminology to that used by McGrath, clearly falls short of hermeneutical rectitude. Alexander repeatedly mentions 'natural selection' in his paper, and elsewhere he writes about 'broad generalizations that describe the properties of matter which can be labelled as "laws of nature"'[258] , but it would be wrong to take any of this as evidence that he is committed to a 'two-tier system'.

C.S. Lewis on Nature

In his *Studies in Words*, second edition, (Cambridge University Press, 1967), C.S. Lewis traces the developing meaning of 'nature':

By far the commonest native meaning of natura is something like sort, kind, quality, or character. When you ask, in our modern idiom, what something 'is like', you are asking for its natura... In nineteenth century English the word 'description' itself ('I do not associate with persons of that

description') is often an exact synonym for natura.[259]

In this sense, to give a 'natural' or 'naturalistic' explanation is to give it an explanation in terms of 'some idea of a thing's *natura* as its original or "innate" character.[260] To give such an explanation is clearly not anti-theistic. Indeed, in this sense, we could give a literally 'natural' or 'naturalistic' explanation of God's actions (e.g. 'God performed action X because he had promised to perform it and is by nature true to his word'), no less than the actions of an atom. In a related explanatory sense: 'The nature of anything, its original, innate character, its spontaneous behaviour, can be contrasted with what it is made to be or do by some external agency. A yew tree is *natural* before the topiarist has carved it; water in a fountain is forced upwards against its *nature*...' [261] It is not 'natural' for a yew tree to form itself into the complex and specified shape of an animal or chess piece, but this is something that experience tells us is easily accomplished by intelligent design. When we see a yew tree that exhibits such specified complexity, we naturally infer intelligent design.

Lewis explains that the distinction between natural and non-natural (i.e. supernatural) explanations arose out of the development of Greek thought:

The pre-Socratic Greek philosophers had had the idea of taking all the things they knew or believed in – gods, men, animals, plants, minerals, what you will – and impounding them under a single name; in fact, of regarding Everything as a thing, turning this amorphous and heterogeneous collection of things into an object or pseudo-object. And for some reason the name they chose for it was physis... A comparatively small number of speculative Greeks invented Nature – Nature with a capital... From physis this meaning [everything] passed to natura... Parmenides and Empedocles [materialists] had thought that they were giving, in principle, an account of everything. Later thinkers denied this; but in the sense that they believed in realities of a quite different order from any that their predecessors took account of. They expressed this not in the form 'physis contains more than our ancestors supposed', but in the form (explicitly or implicitly), 'there is something else besides physis [i.e. the non-physical or supernatural].' The moment you say this, physis is being used in what I call its demoted sense. For it had meant 'everything' and you are now saying there is

something in addition to it.[262]

Hence, Lewis notes, 'Aristotle criticised thinkers like Parmenides because "they never conceived of anything other than the substance of things perceivable by the senses."' [263] In the same vein, Lewis observes that:

Christianity involves a God as transcendent as Aristotle's, but adds (this was what it inherited from Judaism and could also have inherited from Plato's Timaeus) the conception that this God is the Creator of physis. Nature (d.s.) demoted is now both distinct from God [mono-theism is not pantheism] and also related to him as artefact to artist, or as servant to master... [mono-theism is not deism][264]

Christians believe in a transcendent, supernatural God who is the sustaining creator of a nature (d.s.) with its own innate character, a nature (d.s.) that can be said to achieve certain ends simply in virtue of its divinely given and sustained character or *natura* (e.g. Jesus says that: 'All by itself the soil produces grain...' in Mark 4:28), but which can only attain ends beyond those reasonably attributed to its *natura* with the assistance of some external agency. The external agency in question may be God's (as when God rescues the children of Israel from slavery in Egypt), or it may be a finite agency, whether human (e.g. a potter who forms clay into a pot), or angelic (e.g. an angel who rolls away a tomb stone). As Nancy R. Pearcey and Charles B. Thaxton explain:

In the days of the church fathers, the conception of God's transcendent power over and His immanent power in creation was balanced and complementary. It was understood that God had transcendent power to act in the world at His will and pleasure; but He had also created the natural world to proceed in regular, consistent patterns that he set up in the beginning and upholds through His immanent presence. This was sometimes described in the language of primary and secondary causes. As Anglican theologian E.L. Mascall says, 'The main tradition of classical Christian philosophy, while it insisted on the universal primary causality of God in all the events of the world's history [in God's sustaining in existence the natural world he has created], maintained with equal emphasis the reality and the authenticity of secondary causes.' Theologian Thomas Torrance sums up this balanced view as the 'contingent order' of creation. Contingency means the creation is not autonomous. It is not self-originating or self-sustaining; it was created

by God and depends continually upon Him. On the other hand, God does not work in the world by perpetual miracle. He has set up a network of secondary causes that act in a regular and consistent pattern. That is, creation has a real order. Hence the phrase, contingent order.[265]

It is not my place to defend everything said by Johnson *et al* (Johnson is a lawyer and not a philosopher, and I would certainly not claim to be comfortable with the detail of the way he expresses himself on all occasions). However, the crucial point made by Johnson is that while 'theistic evolution' is a possible theistic perspective on origins, theists should not simply assume that intelligent design plays no *detectable* role in biological creation. Theistic evolutionists assume that God created and sustains the cosmic backdrop wherein evolution happens, and they may additionally assume that God 'guided' the process of evolution, but in either case they assume that intelligent design played no scientifically detectable role in biological creation (this is what distinguishes them from naturalists who simply assume that intelligent design played *no* role in biological creation). ID theorists *do not* make this assumption (neither do they make the opposite assumption), and it seems to me that theists *should not* make this assumption. As Moreland notes:

Christian theism holds that secondary causality is God's usual mode and primary causality is infrequent, comparatively speaking. This is why Christianity, far from hindering the development of science, actually provided the womb for its birth and development. Armed with the primary / secondary causal distinction, Christian scientists did not abandon a search for natural (secondary) causes simply because they believed in primary causes as well. The postulation of a primary cause must be justified – it cannot be claimed willy-nilly...[266]

Nevertheless, neither should the postulation of primary causation be *excluded* willy-nilly for a theist's account of history. Alvin Plantinga recommends that Christians approach the question of origins with nothing besides the mere *doctrine* of creation and an open mind:

a Christian (naturally) believes that there is such a person as God, and believes that God has created and sustains the world. Starting from this position... we recognize that there are many ways in which God could have created the living things he has in fact created; how, in fact, did he do it? Did

he create matter, with its nature and its ways of working, in such a way that he could foresee that the result of its working in those ways would eventually be life, and then the various kinds of plants and animals, and then finally human kind? Or did he do something special in the creation of life? And did he do something special in the creation of his image bearers, human beings? And did he perhaps do something special in the creation of some other kinds of creatures? Did it all happen just by way of the working of the laws of physics, or was there further divine activity (activity not restricted to the upholding of matter in existence and concurring in the causal transactions expressing its nature)? That's the question, and the way to try to answer it, so it seems to me, is to ask two others: first what is the antecedent probability of his doing it the one way rather than the other? And second what does the evidence at our disposal suggest? Can we see how it could or would have happened just by the workings of the laws expressing the behaviour and activity of matter? (...the second sort of consideration is more important than the first.) Starting from the belief in God, we must look at the evidence and consider the probabilities as best we can.[267]

The question posed by ID is whether non-intelligent natural causes (which the theological interpretation classes as 'secondary causes' belonging to the 'contingent order' of creation) offer sufficient explanatory resources to account for examples of specified and/or irreducible complexity within nature (assuming that such examples can be found). The answer posited by ID is that while natural causes offer insufficient explanatory resources in such carefully defined cases, intelligent design offers precisely the required explanatory resources, and is therefore the best scientific explanation. Just as a topiarist is to be inferred from the fact that a yew tree exceeds its *natura* when it looks like a giraffe (exhibiting specified complexity), so intelligent design is to be inferred from the fact that the specified complexity of life capable of undergoing evolution by natural selection exceeds the *natura* of its physical substrate.[268] Theists will naturally interpret such signs of design within their own theological framework – most likely classifying the design inference in terms of a special (scientifically detectable) *mode* of divine primary action. As Stephen C. Meyer explains:

design cannot be inferred for every effect, even if

intelligent design is a possible cause for all effects... Intelligent design is not always the best explanation for a variety of reasons. Human action or special (that is, detectable) divine action may not have played a crucial role in certain natural events; intelligent design, whether human or divine, may not always be detectable even when it has played a causal role; natural objects and processes have real causal powers (even for theists who accept God's sustaining governance of nature) that may be clearly evident in a given phenomenon. Thus, at least as for those scientists who seek the best explanations, intelligent design cannot be invoked as a theory of everything. It may function as a possible theory of everything, but it can function as the best explanation or best theory only of some things. Intelligent design need be neither vacuous nor unconstrained.[269]

Collins, Miller and Primary Causation

Interestingly, prominent Christian scientists without the intelligent design movement have recently signalled their willingness to consider divine intelligent design to explain what we know about the origin of life. During a keynote address given at the 2002 American Scientific Association meeting in Malibu, Dr Francis Collins, director of the human genome project, was lukewarm towards irreducible complexity, but had this to say about the origin of life:

Another issue, however – one where I am very puzzled about what the answer will be – is the origin of life. Four billion years ago, the conditions on this planet were completely inhospitable to life as we know it; 3.85 billion years ago, life was teeming. That is a very short period – 150 million years – for the assembly of macromolecules into a self-replicating form. I think even the most bold and optimistic proposals for the origin of life fall well short of achieving any real probability for that kind of event having occurred. Is this where God entered? Is this how life got started? I am happy to accept that model, but it will not shake my faith if somebody comes up with a model that explains how that the first cells formed without divine intervention.[270]

Collins tentatively posits intelligent design on the basis that the origin of life is both complex ('even the most bold and optimistic proposals for the origin of life fall well short of achieving any real probability') and specified ('self-replicating form' is

a functionally given specification). Like Alexander, then, Collins (at least implicitly) endorses the 'core claim' of ID. Unlike Alexander, Collins is willing to infer design from an aspect of nature besides the fine-tuning of the cosmos as a whole (indeed, Collins doesn't mention the fine-tuning argument in his paper). It is unclear whether Collins considers the hypothesis that the origin of life was the result of intelligent design to be a *scientific* hypothesis – although he gives no indications to the contrary.

Even more recently, after a talk given by Dr Kenneth R. Miller before around four hundred staff and students at Texas Tech University in March 2006[271], the following question was reportedly asked: 'couldn't the origin of life be the point at which God's involvement in creation was direct?'[272] According to William A. Dembski: 'As this question was posed, at least a third of the students in the crowd nodded their heads yes. The professors in the crowd just looked confused; and scared. To my surprise however, Dr. Miller said, "absolutely!" That made the professors look even more confused.'[273]

Conclusion

'Alexander's criticisms of ID are off the mark.'
– William A. Dembski[274]

ID has been attacked, not only by naturalists like Dawkins, but also by Christians from both the 'traditional creationist' and 'theistic evolutionist' camps. As Paul Nelson observes:

Some prominent traditional creationists [e.g. Henry Morris] are unhappy with what they perceive to be the dangerously wide content of ID... other Christian critics [e.g. Howard Van Till] have taken just the opposite tack, stressing that the ID community is little more than 'creationism in designer clothing'...[275]

At first glance, young earth creationists like Morris and theistic evolutionists like Van Till hold widely differing views: 'A greater contrast in scientific perspectives is hard to imagine. And neither Morris nor Van Till has much, or any, interest in talking to his counterpart, whom each sees as hopelessly in error and doing severe damage to the cause of Christianity.'[276] Nevertheless, there is an underlying unity, not least in the fact that Morris and Van Till both affirm the first article of the apostle's creed:

A cynic might say that, given the very different

meanings they attach to those twelve words, the intersection of their joint affirmations is empty – but the cynic would be wrong. There is more than enough content in the first article to distinguish its affirmation from the naturalism held by most scientists. However much Morris and Van Till may despise each other's positions, both believe that the universe was designed by God, and brought into existence by him for his pleasure and purposes.[277]

There is another significant point of commonality between Morris and Van Till: 'Both these critics of ID have settled views on which scientific narrative of design is true: six-day, young earth creationism for Morris; the 'fully-gifted' evolutionary scenario for Van Till.'[278] The commonality here is obviously not in the 'narrative of design'[279] adopted, but in an underlying similarity of *methodological approach*. In both cases the methodological approach is one that (to a greater or lesser extent) determines the narrative of design *a priori*: Morris begins with a particular, dogmatic interpretation of what certain biblical texts mean – an interpretation usually, but perhaps inaccurately, described as a 'literal' interpretation – and proceeds on the basis that scientific evidence must (at least ultimately) harmonize with that narrative. Van Till begins with a particular, dogmatic interpretation of the scientific enterprise – an interpretation that embraces methodological naturalism – and precedes on the basis that scientific evidence must (at least ultimately) harmonize with some methodologically naturalistic narrative or other. Such dogmatism is, in both instances, questionable.

I would encourage both traditional creationists and theistic evolutionists to consider Paul Nelson's insightful observation: 'That theological commonality – namely, God is the author of the universe, however he chose to act – has a secular counterpart in the philosophy of science: *intelligent design is possible*.'[280] Affirming the mere possibility of intelligent design – conversely, rejecting HMN – is not to constrain one's scientific narrative of design *a priori*, like traditional creationists and theistic evolutionists. Rather, it is to de-constrain science, liberating it to construct a narrative of design (or to play a role in constructing a narrative of design) *a posteriori*. Theists who embrace intelligent design theory join Morris and Van Till in affirming the first article of the apostle's creed, but they refrain from

endorsing either of their constraining *a priori* approaches to the narrative of design. Hence, as a matter of first principle, Nelson affirms:

God could have created everything in six, 24-hour days – or not. The fundamental point is to allow for the possibility of design. But the scientific narrative of design – when God acted, and how – might be best captured by any number of competing theories. We would have to see. That narrative would have to be discovered... Because of God's freedom to create as he pleases, design might be true, but traditional creationism false... other theories of God's action... are possible within the larger box of design.[281]

Nelson mentions both 'progressive creation and theistic evolution'[282] as possible narratives of design. Recalling our three essential ID claims, it should be obvious that one can be an ID theorist and accept the explanatory adequacy of macroevolution, as long as one seeks to justify this acceptance without reference to methodological rules (like HMN) that effectively predestine one's acceptance of the theory. While design theorists typically reject the grander explanatory claims of evolution, entry to the ID 'Big Tent' could hardly be refused to someone endorsing a scientific inference to intelligent design – perhaps on the combined basis of specified complexity exhibited in both cosmic and local fine-tuning and in the origin of life – simply because they didn't accept ID arguments from the Cambrian explosion or irreducible complexity.[283] Alexander is no ID theorist, but he does share some significant common ground with Christian proponents of ID (besides our common grounding in the apostle's creed). He seems to have no problem with intelligent design in the *broad* sense (the sense that encompasses design detecting sciences from archaeology to SETI); and he accepts a minimal version of the core intelligent design theory argument, implicitly embracing specified complexity as a criterion of design detection and applying it to the fine-tuning of the cosmos to infer intelligent design (which he attributes to God). In common with theistic ID proponents Alexander rejects a 'two-tier' worldview of metaphysically naturalistic causes occasionally supplemented by intelligent causation. However, this is the limit of Alexander's agreement with ID and its appropriation by Christian theists.

Alexander disagrees with the essential design theoretic claim that intelligent design theory is

scientific. He sets forth two necessary conditions of scientific theory making by which to condemn ID: methodological naturalism and testability. However, a) demarcation arguments are widely regarded as philosophically suspect by philosophers of science, b) Alexander admits that ID makes falsifiable empirical claims, and c) it is only an implausible hard-line methodological naturalism that is incompatible with ID.

Alexander disagrees with the widespread (but not essential) ID claim that it is possible to define biological entities as 'irreducibly complex' in a meaningful fashion, although this is a claim accepted by evolutionists from Darwin to Dawkins. However, Alexander critiques a straw man definition of irreducible complexity and presents an unsound argument for the vacuity of IC as a concept (an argument that relies upon two false premises).

Alexander disagrees with the widespread (but not essential) ID claim that the 'burden of proof' lies upon the evolutionary biologist to show how complex biological systems come into being via the resources permitted by HMN. However, Occam's razor and the principle of credulity (a principle endorsed by Alexander) clearly indicate that the presumption of truth rests with design rather than with evolution, as many evolutionists admit.

Alexander thinks that proponents of ID perceive the world as a two-tier system of the 'natural' and the 'designed'. However, this generalization is false. Some non-theistic ID theorists do indeed perceive the world as a two-tier system (just as some evolutionists perceive the world as metaphysically naturalistic); but while ID is logically compatible with belief in a two-tier system, it is equally compatible with the rejection of a two-tier system (just as evolution is compatible with theism). The design detection criteria used by design proponents can rule design in as the best explanation of data, but cannot rule design out. Design theorists who are theists clearly do not believe in a 'two-tier system' that is incompatible with theism, and Alexander's attempt to paint them as doing so is both hermeneutically uncharitable and liable to tar Alexander and other theistic evolutionists with the same brush.

Alexander unfortunately has his sights set upon a straw man of intelligent design theory, which he dismisses (with good intentions) on the basis of several fallacious or otherwise unsound arguments. Having cleared away these misunderstandings and mistakes, one hopes that Alexander (and other theistic evolutionists) might be willing to reassess their engagement with intelligent design theory, starting with the essential question of whether hard-line methodological naturalism is really an essential precondition of scientific theory making. Scientists operating without the constraining chains of hard-line methodological naturalism are free to disagree about the best methods of design detection, and free to disagree about whether intelligent design is the best explanation of the empirical evidence on any given occasion, but most of all they are free to let the evidence speak for itself. As Paul Nelson concludes:

In short, humility on all sides is in order – but also joyful confidence... The promise of the big tent of ID is to provide a setting where Christians (and others) may disagree amicably, and fruitfully, about how best to understand the natural world... Christians must continue to struggle to understand the relationship of science and faith. The existence of a research community where design is taken seriously, and where all inquirers are welcome [as long as they accept the possibility of design], means that the ongoing struggle need not be solitary. It may even turn out to be a tremendous adventure.[284]

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[240] Dembski, *The Design Revolution*, (Downers Grove: IVP, 2004), p. 75.

[241] Dembski, *The Design Revolution*, (Downers Grove: IVP, 2004), p. 70.

[242] J.P. Moreland, 'Theistic Science & Methodological Naturalism' in J.P. Moreland (ed.), *The Creation Hypothesis*, (Downers Grove: IVP, 1994), p. 59.

[243] cf. Message from the Designers; Peter S. Williams, 'Raelians Successfully Clone Naturalism'.

[244] Message from the Designers, 'The Message'

[245] Rael, *Intelligent Design: Message from the Designers*, Anthony Grey, Foreword, xx.

[246] Message from the Designers, faq.

[247] cf. James A. Sadowsky, 'Can there be an endless regress of causes?'; Peter S. Williams, 'Who Made God?'

[248] Alexander steers clear of affirming meticulous providence: 'does God's sustaining of the created order imply that he has a specific will for its every detail, or only a general will that defines its general properties? "Do you believe", wrote Darwin to the theist Asa Gray, "that when a swallow snaps up a gnat that God designed that that particular swallow should snap up that particular gnat at that particular instant?" The answer is surely "no"...' – *Rebuilding the Matrix*, *op. cit.*, p. 357. As Phil Dowe observes: 'there is no reason theologically or biblically to assert that God does have complete reasons for absolutely every aspect of every event.' – *Galileo, Darwin, and Hawking: The Interplay of Science, Reason, and*

Religion, (Cambridge: Eerdmans, 2005), p. 189.

[249] Winfried Corduan distinguishes between 'superseding or first-order miracles' as 'events in which the basic nature of reality has been defied' and 'configuration, contingency, constellation or second order miracles' which 'do not appear to break any laws of nature *per se*, but they present us with a sequence of events that is so improbable as to be as astounding as an apparent violation of the laws of nature.' – 'Miracles', in *To Everyone an Answer*, *op. cit.*, p. 175. In these terms, God can bring about both types of miracle, but humans might be said to regularly accomplish second order 'miracles' (whenever they create specified complexity). ID does not entail belief in first order miracles; as Dembski writes: 'intelligent design does not require miracles or supernatural interventions in the classical sense of what I call "counterfactual substitution".' - 'Naturalism's Argument from Invincible Ignorance: A Response to Howard Van Till'

[250] Michael Poole, *Miracles: Science, The Bible & Experience*, (London: Scripture Union, 1992), p. 22.

[251] Geisler, *Christian Apologetics*, *op. cit.*, p. 280.

[252] Alexander, 'Designs on Science', p. 5.

[253] *Ibid.*

[254] Phillip E. Johnson, in Phillip E. Johnson & D.O. Lamoureux (eds.), *Darwinism Defeated? The Johnson – Lamoureux Debate on Biological Origins*, (Regent College Publishing, 1999), p. 52.

[255] Alister McGrath, *Dawkins' God*, (Oxford: Blackwell Publishing, 2005), p. 55.

[256] *Ibid.*, p. 59.

[257] *Ibid.*

[258] Alexander, *Rebuilding the Matrix*, *op. cit.*, p. 446.

[259] C.S. Lewis, *Studies in Words*, second edition, (Cambridge University Press, 1967), p. 24.

[260] Lewis, *Studies in Words*, second edition, *op. cit.*, p. 25.

[261] *Ibid.*, p. 45.

[262] *Ibid.*, pp. 35-38.

[263] *Ibid.*, p. 38.

[264] *Ibid.*, p. 39.

[265] Nancy R. Pearcey & Charles B. Thaxton, *The Soul Of Science: Christian Faith and Natural Philosophy*, (Wheaton, Illinois: Crossway Books, 1994), pp. 80-81.

[266] Moreland, *Christianity and the Nature of Science*, *op. cit.*, p. 226.

[267] Alvin Plantinga, 'Evolution, Neutrality, and

Antecedent Probability: a reply to Van Till and McMullen'.

[268] cf. Stephen C. Meyer, 'DNA by Design: An Inference to the best Explanation for the Origin of Biological Information', *Rhetoric and Public Affairs*, 1, no. 4 (1999); Ø. A. Voie, 'Biological function and the genetic code are interdependent', *Chaos, Solutions and Fractals*, 2006, Vol 28(4), pp. 1000-1004.

[269] Stephen C. Meyer, 'The Scientific Status of Intelligent Design', in Michael J. Behe, William A. Dembski & Stephen C. Meyer, *Science and Evidence for Design In The Universe*, (San Francisco: Ignatius, 1999), p. 189.

[270] Francis Collins, 'Faith and the Human Genome'.

[271] cf. <http://www.depts.ttu.edu/hhmi/viewEvents.php?id=3> (no longer available).

[272] <http://www.uncommondescent.com/index.php/archives/1253>.

[273] <http://www.uncommondescent.com/index.php/archives/1253>.

[274] William A. Dembski, 'Denis Alexander on ID'.

[275] Nelson, 'Intelligent Design', *Nucleus* (January 2005).

[276] *Ibid.*

[277] *Ibid.*

[278] *Ibid.*

[279] *Ibid.*

[280] *Ibid.*

[281] *Ibid.*

[282] *Ibid.*

[283] Someone might ask why, if one can be an ID theorist whilst rejecting ID arguments from biology – and so accepting the theory of evolution – most ID theorists do in fact reject the grander explanatory claims of evolutionary theory. For one thing, ID theorists necessarily reject the rule of HMN, a rule which constrains those who accept it to accept the theory of evolution as the best available theory compatible with HMN regardless of its many problems. For another, ID theorists typically agree that the theory of evolution properly bears the burden of proof. This stance opens up the possibility that the theory has not met the proper burden of proof. Even young earth creationists accept that microevolution is a fact. What is open to doubt is whether the evidence for microevolution can be extrapolated into a sufficient, all-encompassing explanation of

biological diversity. On the theoretical and evidentiary failings of macroevolution cf: 'The Scientific Controversy Over Whether Microevolution Can Account For Macroevolution'; 'ARN Response to the PBS Evolution Project'; William A. Dembski, 'Still Spinning Just Fine: A Response to Ken Miller'; 'Irreducible Complexity Revisited'; 'ID as a Theory of Technological Evolution'; Mike Gene, 'Evolving the Bacterial Flagellum Through Mutation and Cooption, Parts I-VI'; Stephen Griffith, 'Irreducible Complexity'; Wolf-Ekkehard Lonning, 'Dynamic genomes, morphological stasis, and the origin of irreducible complexity', *Dynamical Genetics* (2004); Stephen C. Meyer, 'The Origin of Biological Information and the Higher Taxonomic Categories', *Proceedings of the Biological Society of Washington*, 117(2), 2004; Scott Minnich & Stephen C. Meyer, 'Genetic Analysis of Coordinate Flagellar and Type III Regulatory Circuits', *Proceedings of the Second International Conference on Design & Nature*, Rhodes Greece, (ed.) M.W. Collins and C.A. Brebbia (WIT Press, 2004); Robert C. Newman *et al*, 'The Status of Evolution as a Scientific Theory'; Granville Sewell, 'A Mathematician's View of Evolution', *The Mathematical Intelligencer* 22, no. 4 (2000), pp. 5-7; 'A Second Look at the Second Law'; Jonathan Wells, 'Icons of Evolution'; 'Survival of the Fakest'; Jonathan Wells & Paul Nelson, 'Homology: A Concept in Crisis'; Michael J. Behe, *Darwin's Black Box*, 10th anniversary edition, (Free Press, 2006); Michael J. Behe, 'The Modern Intelligent Design Hypothesis', *Philosophia Christi*, Series 2, vol. 3, no. 1 (2001); Michael J. Behe & D.W. Snoke, 'Simulating Evolution by Gene Duplication of Protein Features That Require Multiple Amino Acid Residues', *Protein Science*, 13 (2004); John Angus Campbell and Stephen C. Meyer (eds.) *Darwinism, Design, & Public Education*, (East Lansing: Michigan State University Press, 2003); William A. Dembski, *No Free Lunch: Why Specified Complexity Cannot be Purchased without Intelligence*, (Oxford: Rowman & Littlefield, 2001); William A. Dembski (ed.), *Uncommon Dissent: Intellectuals Who Find Darwinism Unconvincing*, (ISI Books, 2004); Michael Denton, *Evolution: A Theory in Crisis*, (Adler & Adler, 1986); Cornelius Hunter, *Darwin's Proof: The Triumph of Religion over Science*, (Brazos Press, 2003); Phillip E. Johnson, *Darwin on Trial*, (IVP, 1993); Antony Latham, *The Naked Emperor: Darwinism Exposed*, (Janus, 2005);

Jonathan Wells, *Icons of Evolution*, (Regnery, 2002)
[284] Nelson, *op. cit.*

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