



Theistic Evolution & Intelligent Design in Dialogue

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The following dialogue responds to a critique of Intelligent Design theory written by British Christian Theistic Evolutionist Dr. Denis Alexander (cf. 'Created or evolved? Section II – Hot Issues For The Twenty-First Century' @ www.bethinking.org/resource.php?ID=193)

Adam – a Christian biologist who subscribes to 'Theistic Evolution', upon which he has just delivered a lecture

Tim - a Christian philosopher who subscribes to 'Intelligent Design Theory'

Cath – an Agnostic biologist who also subscribes to 'Intelligent Design Theory'

Greg – who serves in the university staff restaurant

ADAM: Tim, Cath, thanks for attending my lecture on theistic evolution. As a couple of Intelligent Design bods, what did you make of it? Got time for coffee and a chat?

TIM: There's always time for coffee!

CATH: We were going to donate these books on ID to the University library, but that can wait. You don't mind being outnumbered?

ADAM: If you don't mind carrying those books to the staff restaurant. Besides, you and Tim may both subscribe to ID, but Tim and I both subscribe to Jesus.

CATH: Alright, but be warned, we were taking notes.

ADAM: Well, the good book says: 'As iron sharpens iron, so one man sharpens another.'^[1]

TIM: Adam, I was interested in what you said about the insights of biochemistry and molecular biology. You said that these new insights mean that life can now be investigated and manipulated in ways that were unthinkable just a few decades ago, and that these advances raise some hot issues for the twenty-first century.

ADAM: Yes, questions of medical ethics like stem-cell research, genetic engineering, and so on are going to be sensitive, hot issues for some time to come.

GREG: Can I get you something hot?

ADAM: Three coffees please Greg.

GREG: Would you have any designs on our wide choice of pastries and biscuits?

CATH: Not sure.

TIM: I'll have a packet of alphabet biscuits please Greg.

GREG: There you go.

ADAM: Thanks. How about this table by the window?

CATH: Lovely. Adam, I'd like to know if you count ID as a 'hot issue' that has been raised by our advancing knowledge?

ADAM: It's certainly a 'hot issue', but the whole creation and evolution debate is old hat. Christians gave the topic a good airing in the nineteenth century and reached some quite satisfactory conclusions that did justice to science and to the Bible. It's surprising and unfortunate that the debate was revived during the twentieth century and remains active today. Sugar?

CATH: Please. Is it really surprising that the conclusion of a discussion between nineteenth century scientists and nineteenth century theologians would need to be re-evaluated in the light of twenty-first century knowledge?

TIM: If by 'quite satisfactory conclusions' you mean 'conclusions enabling Christians to believe in scripture in an intellectually responsible way given

everything they believed to be true about God's word and God's world at the time', I agree. But if you mean 'true conclusions', I disagree. Twenty-first century knowledge means that some of the conclusions that were satisfactory in the nineteenth century simply aren't satisfactory today.

CATH: I'll be honest and say that I'm not as concerned with the biblical aspect of this discussion as you guys are. But I am interested in why someone like Michael Behe would write something like this: 'with the discovery of more and more complexity at the foundation of life, the idea of intelligent design has gained strength. That trend is continuing. As science pushes on, the complexity of the cell is not getting less; on the contrary, it is getting much greater.'^[2] What do you make of that Adam?

TIM: Surely the greater and more fundamental the complexity that needs to be explained, the harder it is to explain in purely evolutionary terms, especially when that complexity can't be simplified without losing function, that is, when its 'irreducible'. Biscuit?

ADAM: I'll have a 'P' please Tim! Few scientists share Behe's doubts about evolution, let alone entertain ID as a serious scientific hypothesis. And Behe's argument from the supposed 'irreducible complexity' of bio-molecular machines is bogus.

CATH: Let's come back to that in a minute.

ADAM: If you like; but as I said in my lecture, if evolution is currently the best explanation we have for all the amazingly different organisms that we study, and biologists certainly think so, then Christians should be at the forefront in telling the truth about God's world. We should simply tell people that God used evolution to make us.

CATH: If it's God's world. Don't forget the agnostic!

TIM: Hang on Adam. No one is taking issue with your truth-telling sentiment, but you implied that *all* biologists agree about evolution being the best explanation. That isn't true.

ADAM: Well, I realize that occasionally popular writers like Phillip E. Johnson, who is a lawyer, suggest that the theory of evolution is in some

kind of crisis within the scientific community. But I have to admit that I'm always a bit mystified by that sort of thing, because this 'crisis' is news to me!

TIM: I don't know how much dissent is required to qualify as a crisis. In a way, I don't mind. The point is this: there are dissenting scientists, who number in the hundreds if not the thousands; and many of them think ID gives a better context for explaining biology than evolution does.^[3]

CATH: I don't think you can dismiss a biologist like Behe by calling him a 'popular writer'. Besides, you've written for the 'popular' market haven't you?

ADAM: Yes, but ID clearly represents a 'minority report'.

TIM: Okay, I'll grant you that these scientists are currently in the minority. But their existence still means that the claim that you made in your lecture is mistaken.

ADAM: Which one?

TIM: The claim that there's no rival theory on offer. Christians *should* be truth-tellers, and the truth is that while evolution is still the majority view among scientists, there's a growing movement of dissent, much of which is centered on ID's 'minority report'.

CATH: And that minority report is driven by the evidence. In his study of the design movement, here it is, Thomas Woodward reports that: 'hearing how key Design advocates came to their current view, it became clear that their entry into the movement stemmed from intellectual or scientific – not religious – reasons', and he goes on, 'Several of the founders frequently relate a vivid tale of how they previously had assumed the validity of Darwinian scenarios and were later shocked to discover major weaknesses in the case for Darwinism.'^[4]

ADAM: I can understand that scientific knowledge moves forwards, and people who are into ID do seem to appeal to things that we didn't know in Darwin's day. Having said that, it's one thing to make an appeal to the evidence, and quite another for that appeal to be justified. I see their appeal to new evidence, but when they claim that

ID is the best explanation of that evidence I have to put my hand up and say that I object. These things, the new things we've found out, can still be explained in Darwin's way. The crucial point is that *Darwin's way of explaining things is perfectly compatible with the doctrine of creation.*

TIM: Okay, I think we're getting down to the serious stuff now. I can agree with you, Adam, that Darwin's way of explaining things is compatible with belief in creation. But I just don't think everything we've learnt recently *can* be adequately explained Darwin's way. Some things can, some things can't.

CATH: Your lecture discussed some of the historical reasons behind the rise of creationism in America...

ADAM: Yes, basically American creationism as it began in the 1920's and as it was revived in the 1960's is linked to the concern that evolution is immoral. But to make evolution of any moral import it's necessary to clothe it in the philosophy of naturalism. Evolution has been used to support communism, racism and naturalism, but opposition to such isms needn't include opposition to evolution.

CATH: Well, from the young-earth creationists I know I'd say that the situation is more complicated than that[5], but even if what you say is true, it is beside the point. We're not advocating creationism.[6]

TIM: We're not American.

CATH: And our problem with evolution is with how well it explains the evidence, particularly when it comes to his extrapolation from small to large scale evolution, and not with communism, or racism, or any other political views. My belief that ID is true isn't rooted in political or religious pressure. I'm an agnostic working in an academy where I am in danger of ruining my career by talking positively about ID. I don't have an ulterior motive Adam; I just think that the evidence points to ID and not evolution.

TIM: Design supporters like William Dembski have been at pains to stress that ID is *not* creationism. Dembski says: 'The design theorists' critique of Darwinism begins with Darwinism's

failure as an empirically adequate scientific theory, and not with its supposed incompatibility with some system of religious belief.'[7]

CATH: So let's not get bogged down in religious matters. ID says nothing about the Bible, and neither of us have theological problem with evolution.

ADAM: Unlike some ID'ers I could mention, whose religious motivation is pretty obvious.

CATH: Well, as John Angus Campbell says, 'In the ambience of ID's "broad tent"... one will find people of many different philosophic perspectives...'[8]

TIM: I think it's important to point out that non 'creationist' critics of Darwinism include Protestants like Neil Broom[9], William Dembski[10], Antony Latham[11], John Lennox[12] and David Swift[13], Catholics like Michael Behe[14] and John Haldane[15], Muslims like Mustafa Akyol[16], secular Jews like David Berlinski,[17] agnostics like Michael Denton...[18]

ADAM: Which only goes to show that ID doesn't really advance the cause of Christianity.

TIM: Indeed, on its own ID does nothing to advance a specifically Christian agenda. As a scientific theory, that's not its goal. Having said that, I do think ID has an important contribution to make as the basis for philosophical discussions that do point in the direction of theism. However, ID is religiously neutral as a scientific theory. But then, so is evolution.

ADAM: Fine, but my central point remains. Atheists like Richard Dawkins wrongly use evolution to support a materialistic philosophy, and well-meaning folk like Johnson wrongly argue that we should attack evolution because it's intrinsically atheistic. ID buys into the atheists' muddle-headed presentation of evolution. All Christians should do is to expose how muddle-headed the Dawkins' of this world are.

CATH: But we don't buy the atheist's muddle-headed presentation of evolution.

TIM: All we have to do to achieve what end? Observing that evolution doesn't 'reveal a world

without design' as Dawkins incorrectly claims does indeed achieve a coherent 'truce' between the doctrine of creation and the theory of evolution. But it doesn't necessarily give us the truth of the matter, unless you assume that evolution is an adequate scientific theory. We don't think it is.

ADAM: So you think theistic evolution is a logically *coherent* position, but you don't think it *corresponds* to the facts?

TIM: Right. I was a theistic evolutionist until I became convinced that ID was a more adequate scientific explanation of the biological evidence.

CATH: We don't think evolution is 'intrinsically atheistic'.

TIM: Nor does Johnson! He defines a creationist as 'simply a person who believes in the existence of a Creator who brought about the existence of the world and its living inhabitants for a purpose,'[19] and he affirms that 'If God exists, he could certainly work through mutation and selection if that is what he wants to do'.[20]

CATH: As you said in your lecture, the concept of creation is not a *rival* to the biological theory of evolution.

TIM: What Johnson says is that evolution is not consistent with creation 'when evolution is understood in the Darwinian sense'.[21]

ADAM: What does he mean by 'the Darwinian sense'?

TIM: In general terms he means any understanding of evolution that makes it incompatible with belief in the broad sense of creation.

ADAM: But in that sense, Johnson and I are both opposed to 'Darwinism'!

TIM: Indeed. And you both agree that creation and evolution are logically compatible.

CATH: Johnson is opposed to 'the blind watchmaker thesis', the idea that the unintended coupling of undirected genetic variation and blind natural selection is an adequate scientific explanation for biological diversity.

ADAM: So am I. As a Christian I don't believe that the process of evolution is unintended. The characterization of evolution as purposeless is philosophical, not scientific.

TIM: I couldn't agree more. However...

ADAM: I thought there would be a 'but'!

TIM: I've got two big 'butt's! The first is this: your belief that more is going on in nature than is captured by the 'blind watchmaker' thesis is rooted or situated *outside of science*, in philosophy and theology.

ADAM: But my Christian beliefs aren't a matter of blind faith. There are good reasons for thinking that theism is true, and for thinking that Christianity is true, that Jesus is the Son of God, the Bible the written Word of God, and so on. My rejection of the blind watchmaker thesis *is* based on evidence.

TIM: I never suggested otherwise. I share your Christian roots and your reasons for adopting them.

CATH: I don't.

TIM: However, and this is my second big 'but', although I share your Christian roots and your reasons for rejecting the blind watchmaker thesis, *as an ID supporter* my rejection of the blind watchmaker thesis is situated *inside science*. I think evolution, in its broadest atoms-to-people sense, is an inadequate explanation of certain facts that are best explained by 'intelligent design'. I reject the blind watchmaker thesis for reasons *inside science* as well as for reasons from *outside science*. My reasons from *outside science* are the same as yours, and they are reasons to reject the blind watchmaker thesis, *but not to reject evolution*.

ADAM: Quite right.

TIM: But my reasons from inside science include reasons to reject evolutionary explanations for certain types of facts.

ADAM: And any reason to reject evolution as a sufficient theory is of course automatically a

reason to reject the blind watchmaker thesis on scientific and not on philosophical grounds. I see.

CATH: As a scientific theory evolution is compatible with the doctrine of creation, but it's also compatible with the atheistic blind watchmaker thesis. A theistic evolutionist accepts evolution, but rejects the blind watchmaker thesis because they interpret evolution with a theistic worldview in hand. Now, if they reject intelligent design theory, they might try to justify their theism with philosophical arguments, even design arguments, but never by philosophically interpreting anything that they consider a *scientific* inference to intelligent design from empirical evidence. A materialist accepts the blind watchmaker thesis along with evolution, because they interpret evolution with a naturalistic worldview in hand (which they might try to justify with philosophical arguments). An ID supporter rejects Darwinism *on scientific grounds, whatever other grounds they may or may not have.*

TIM: ID's opposition to the blind watchmaker is scientific rather than theological or philosophical. I interpret the ID paradigm in terms of my Christian worldview, but that's a distinct issue.

CATH: I share Tim's belief in ID, but I don't share his confidence that the designer is God. I simply don't know who the designer is. As David Hume said, there might be more than one!

ADAM: But isn't it difficult to avoid the conclusion that the argument from 'irreducible complexity' is a version of the classic 'god-of-the-gaps' argument for the existence of God: 'we don't understand this at the moment, therefore God did it'. Behe points us to systems in biology he thinks science can't explain, even in principle, and suggests that those systems must be designed by a supernatural designer.[22]

TIM: Sorry Adam, but you've clearly misunderstood Behe's argument. For one thing, he doesn't argue for the existence of a supernatural designer, only an intelligent designer.

CATH: Or designers.

TIM: Behe personally thinks that the designer in question is supernatural. Indeed, he thinks the designer is God. But the design hypothesis he

advocates does *not* suggest the existence of a supernatural designer, let alone God. It suggests the existence of intelligent design, full stop.

CATH: ID has nothing to say about the nature of the source of design. ID is not creationism and it's not natural theology.[23]

ADAM: But if 'design' only refers to systems about which science is currently ignorant, the design concept will inevitably shrink – and the designer as well – as the scientific explanations become more comprehensive. This is a 'god-of-the-gaps' type of argument: the 'designer' is used to plug the current gap in our knowledge, but as our knowledge grows, the 'designer' will shrink. If Behe's argument isn't a god-of-the-gaps argument, it is an intelligent-designer-of-the-gaps argument!

TIM: From a theistic point of view it's *not* that God would shrink if ID is wrong, but that our understanding of the way in which he implemented his design would shift. Indeed, it would shift to the sort of view that you hold!

CATH: And Behe's argument is an argument to the best explanation of what we know, *not* a 'gaps' argument.[24]

ADAM: Look, we don't normally refer to things as 'designed' merely on the grounds that we don't have an explanation for how they came into being. But that's the use of the word 'design' Behe wants us to make, and in the process he invokes 'design' as if it were an explanation, when in reality it is just an unsatisfactory way of flagging up some gaps in our current scientific knowledge.

TIM: Of course we don't normally refer to things as 'designed' on the grounds that we lack an explanation for how they came into being. But this isn't Behe's use of the term. Behe doesn't infer design from the fact that IC systems currently lack any explanation in terms of the inherent capacities of nature; he infers design from the facts that IC systems are, on the face of it, unlikely to have such an explanation and that, as we know from experience, intelligent agents can and do produce IC systems. That's the same type of falsifiable argument to the best explanation that justifies design inferences in sciences like archaeology, cryptography and forensic science. People don't like it when this form of scientific

thinking is applied in biology, but that's just question begging.

CATH: You wouldn't level a 'god-of-the-gaps' type accusation against an archaeologist who digs up a piece of chipped flint and argues that it is a man-made knife; or a forensic scientist who concludes from a post-mortem that someone didn't die of natural causes but was deliberately murdered.

TIM: Or suppose scientists involved in the search for ET received a radio message from deep space that encoded the prime numbers from 1 to 101, and they concluded that aliens exist. You wouldn't complain that they were pointing to a physical reality that 'can't yet be explained in terms of the inherent capacities of nature' and then simply suggesting that this reality must be the result of design. You wouldn't complain about scientists using aliens as an 'explanation' to plug current gaps in our knowledge, or caution that as our knowledge grows so these 'aliens-of-the-gap' will inevitably shrink away, would you?

ADAM: I suppose not. The SETI programme 'is based on the assumption that a single message from space will reveal the existence of intelligent life elsewhere in the universe.'^[25]

CATH: So why level the same criticisms against ID?

ADAM: Because the crucial thing about a radio message like the one you describe is not simply that we don't know of a scientific explanation for such a thing but, as Norman L. Geisler points out, that we observe 'the regular conjunction of intelligent beings with this kind of complex information.'^[26]

CATH: There's that assumption that attributing something to design isn't a 'scientific explanation' again.^[27] Unless the science in question is archaeology, cryptography, forensics, SETI...

TIM: A more useful, generalized way of explaining why we attribute certain chipped flints, or deaths, or radio signals to intelligent design, as Geisler also argues, is to point out that we justifiably infer design in the presence of *specified complexity*. That's the 'kind of complex information' Geisler's talking about.^[28]

ADAM: Can you explain 'specified complexity' in laymen's terms?

TIM: If you came into a room and saw a lot of alphabet biscuit letters randomly scattered across a table top, like this, you could avoid saying that this arrangement was due to an intelligent cause. Perhaps it is, perhaps it isn't.

CATH: Perhaps a family pet got hold of the biscuit bag and tossed them here and there.

ADAM: Perhaps a gust of wind scattered them. I'm with you.

TIM: Such an arrangement of biscuits is complex, which means that it would take a lot of information to reproduce, but it isn't specified. That is, it doesn't conform to an independently given, non *ad hoc* pattern.

ADAM: Ok. The pattern of biscuits could be the result of design, that gust of wind could be God's handiwork, and we could have evidence to that effect from outside the biscuits themselves, but we can't infer design *from the biscuits*?

TIM: That's right. Alternatively, if you were eating these biscuits you might draw out some biscuits from the bag that formed a short English word in sequence. For example, you just might pull out 'YUM'. That result would be specified, by the rules of the English language, but it wouldn't be so complex that it couldn't be explained as a chance result. So once again you could avoid attributing this pattern to design, in the absence of evidence from outside the arrangement of biscuits in question.

ADAM: So, as before, the pattern of biscuits could actually be the result of design, and we could have evidence of this from outside the biscuits, but we can't infer design *from the biscuits*?

TIM: Indeed. However, if you walked into the restaurant and saw a table covered with a long sentence made out of alphabet biscuits, it might say 'I WOULD LIKE SOME WHITE COFFEE AND A BELGIUM BUN', then that arrangement would be both specified and complex, and obviously the result of design.

ADAM: It's the combination of complexity with a specified pattern that allows us to infer design? We don't need evidence from outside the biscuits to warrant the conclusion that the arrangement of biscuits exhibits design?

TIM: Absolutely. Whenever we come across specified complexity and we know its cause, that cause is intelligent. Therefore, you would have good reason to think that an arrangement of biscuits exhibiting specified complexity was the result of intelligent design. It would be unreasonable to suggest that any of these books we're quoting from and taking to the library was produced by randomly drawing biscuits from a bag!

CATH: William Lane Craig illustrates the logic of the design inference with this story: 'Bob is given a new car for his birthday. There are millions of license plate numbers, and it is therefore highly unlikely that Bob would get, say, CHT 4271. Yet that plate on his birthday car would occasion no special interest. But suppose Bob, who was born on 8 August 1949 finds BOB 8849 on the license plate of his birthday car. He would be obtuse if he shrugged this off with the comment, "Well, it had to have *some* license plate, and any number is equally improbable..."[29] Bob's car having the first license plate was complex, but it wasn't noteworthy because it wasn't specified. Bob's car having the second license plate was noteworthy because in addition to being complex it was also specified. It matched the independently given pattern of Bob's name and birth-date.'

TIM: So, according to Geisler and Craig, or mathematician and philosopher William Dembski, whose peer-reviewed monograph on *The Design Inference* from specified complexity was published by Cambridge University Press: 'given an event, object, or structure, to convince ourselves that it is designed we need to show that it is improbably (i.e. complex) and suitably patterned (i.e. specified).'[30]

ADAM: Ok, on the face of it that seems like a pretty good way of detecting design; but showing that anything in nature exhibits specified complexity is a different kettle of fish.

TIM: Well, ID supporters have suggested a number of candidates, including: the fine-tuning of

the laws of nature[31], the fine-tuning of our local cosmic habitat[32], the first reproducing life[33], the 'Cambrian Explosion' of basic body plans[34] and irreducibly complex bio-molecular machines.[35]

ADAM: Some of those examples are cosmological and some are biological. I know non-Christian academics that embrace the design argument in astronomy, as do many theistic evolutionists. Does someone count as a design supporter simply by accepting the fine-tuning argument in cosmology, or do they have to make similar claims in biology as well?

TIM: Although ID has become associated with the more contentious biological design-detection claim, it seems to me that if someone embraces the design argument from cosmic fine-tuning as a *scientific* inference to a *scientific* conclusion of design, then they step inside the ID tent. ID could be defined as the theory that intelligent design is scientifically detectable in theory (under certain well-defined circumstances) and that intelligent design can in fact be detected within the fabric of the natural world. I suppose a design supporter might want to draw a line between cosmological design and biological design claims, but it would have to be on the grounds that they think design hasn't been detected in the biotic realm, rather than that it couldn't be detected there, or that ID 'isn't scientific'.

ADAM: Doesn't saying you accept ID imply that you 'go the whole hog'?

CATH: People tend to assume that because I accept ID, not only must I believe in God, I must be a 'creationist' as well. It's annoying.

TIM: Being a broad church has drawbacks as well as advantages. ID supporters need to make their own position clear whilst explaining that at its core ID is the basic hypothesis I just outlined. For example, some ID supporters, like Behe, accept the theory of common ancestry, but others don't. This is no different than Christian unity about 'Mere Christianity' amidst diversity about denominational and other theological differences.

CATH: Yeah, if you can be a Christian without believing in purgatory, or in the authority of the Pope, surely it's possible to be an ID supporter

without believing that anything *biological* exhibits intelligent design?

TIM: But the point at issue is evidential, not theoretical.

ADAM: So how do you think theory and evidence mesh in biology?

CATH: Let's examine irreducible complexity (IC). Behe says that something is irreducibly complex if it is 'a single system composed of several well-matched, interacting parts that contribute to basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning', and he points out that 'An irreducibly complex system cannot be produced directly... by slight, successive modifications of a precursor system, because any precursor to an irreducibly complex system that is missing a part is by definition non-functional.'[36]

TIM: For example, an outboard engine for a boat won't work unless it has got a power source, a motor, a drive shaft and a propeller linked together in the right way. You can't start doing the job of an outboard motor with the drive shaft, before making a progressively better motor by adding a propeller, and then a motor, and then a power source! You need all the parts in place or you simply haven't got an outboard motor at all. Hence, it's irreducibly complex.

CATH: IC is simply a form of specified complexity. Something that's irreducibly complex is by definition a complex arrangement of parts that are jointly necessary to the performance of a specifiable task.

ADAM: But it seems to me that Behe envisages a created order divided up into a non-designed aspect that works by natural laws and which science can describe, and a designed aspect which does not involve natural laws and which science cannot understand.

TIM: You made this claim in your lecture immediately after you quoted Behe saying this: 'If a biological structure can be explained in terms of those natural laws, then we cannot *conclude* that it was designed... It turns out that the cell contains systems that span the range from *obviously* designed to no *apparent* design.'[37] You ignored

the words I just emphasized, which, in context at least, make it clear that he's discussing what we can infer with regards to a scientific theory of design, not the factual situation with regards to a theological theory of creation. He's talking about when design is *apparent* and when it is not *apparent*. He's talking about what we can infer from the scientific evidence, not what we can deduce from sources of knowledge outside of science.

CATH: Again, why shouldn't 'intelligent design' count as a scientific explanation and understanding of something? The only place it doesn't seem to count is when it comes to origins!

TIM: As a scientific method of detecting when a structure is the result of intelligent design IC, like specified complexity, can rule design in *but not out*. I suppose it's philosophically compatible with ID to divide nature into designed and non-designed aspects, but while ID doesn't rule that view out, it certainly doesn't require it.

CATH: IC reliably signals intelligent design, but the absence of IC doesn't signal the absence of design. Behe is saying that if a biological structure doesn't exhibit irreducible complexity, but can be explained in terms of natural selection, *then we cannot conclude on the basis of scientific evidence provided by the structure in question that it was designed*, even if we can conclude this on the basis of other evidence, and even if the structure in question was in fact designed. On the other hand, IC structures are, according to Behe, *apparently* and *obviously* designed.

TIM: An artist who carefully positioned leaves on a lawn in the way that the wind might do would produce a result by design. It would be reasonable to think that the position of the leaves was the result of design if you saw the artist at work, or if she told you what she had done; but you couldn't tell just by looking at the leaves lying on the lawn. On the other hand, if the artist arranged those leaves into a detailed portrait, or into a sentence like 'Welcome to my art exhibition', then you most certainly could tell that the position of the leaves was the product of design!

ADAM: Well, ID supporters should be careful to make this distinction clear. I suppose my objection boils down to the thought that even if ID

has reliable, positive design detection criteria, it doesn't have sufficient evidence to convince me that those criteria are triggered by anything within the created order.

TIM: Being a theistic evolutionist means thinking that no biological structures are apparently and obviously designed, at least not in the sense that they exhibit reliable design-signaling features such that 'intelligent design' is a reliable scientific inference to the best explanation of the evidence.

CATH: As we have already said, one could combine theistic evolution and ID by drawing an evidential line between cosmology and biology. But going by your lecture, you think the assertion that anything in nature is the product of design must be theological or philosophical, and so you assume that no assertion of design can be based upon scientific method of detecting design combined with relevant evidence.

TIM: So either no such detection method exists, or there's no evidence that anything in nature triggers it. The crucial questions at issue between your position and ID are therefore whether such methods exist and whether anything in nature triggers them.

CATH: Indeed, the main sticking point appears to be the question of evidence, since I've read a number of theistic evolutionists who clearly accept, albeit in vaguer and slightly different language, the validity of specified complexity as an indicator for intelligent design.[38]

ADAM: Well, let's get back to Behe's argument shall we?

TIM: Ok. Darwin wrote: 'If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive modifications, my theory would absolutely break down.'[39] Richard Dawkins says this remark is 'valid and very wise... his theory is indeed falsifiable... and he puts his finger on one way in which it might be falsified.'[40] If an IC system is found in nature he says he'll 'cease to believe in Darwinism.'[41] Massimo Pigliucci says 'there is no evidence so far of irreducible complexity in living organisms'[42], but he's open to the possibility and accepts that Behe 'does have a point concerning

irreducible complexity... irreducible complexity is indeed a hallmark of intelligent design.'[43] Daniel Dennet admits: 'If there are designs that cannot be approached by a gradual, stepwise redesign process in which each step is at least no worse for the gene's survival chances than its predecessor, then the existence of such a design in nature would seem to require, at some point in its ancestry, a helping hand from a foresightful designer...'[44]

ADAM: So anti ID atheists accept that the concept of irreducible complexity makes sense and that if it can be shown that anything in nature is IC then the blind watchmaker thesis will have been sunk by science. Interesting.

CATH: Behe isn't exactly going out on a limb when he argues to design from irreducible complexity, when he says in *Darwin's Black Box* that 'For discrete physical systems – if there is not a gradual route to their production – design is evident when a number of separate, interacting components are ordered in such a way as to accomplish a function beyond the individual components. The greater the specificity of the interacting components required to produce the function, the greater is our confidence in the conclusion of design.'

TIM: Moreover, if something is IC then it is an example of specified complexity. Since specified complexity reliably signals intelligent design, IC reliably signals design.[45]

ADAM: Hmm. So it seems that the real issue here is not whether IC signals design, but whether anything in nature is IC.

CATH: That's a scientific dispute about evidence.

ADAM: What's the problem IC systems supposedly raise for evolution again?

CATH: Well, the IC concept invalidates explanation by the any incremental *process* of direct evolution.

TIM: *By definition*, any IC system cannot have evolved *directly* up any 'graded ramp' round the back of what Richard Dawkins calls 'Mount Improbable'. As Behe, Dembski and Meyer explain: 'Natural selection can only act on systems

that perform functions that help organisms survive. But “irreducibly complex” systems have no function at all unless all the parts in the system are present. Yet without the aid of natural selection the odds against such systems arising on their own are prohibitive.’[46]

ADAM: But ruling out direct, incremental evolution doesn’t exclude what Darwin called ‘a sudden leap’, or, more plausibly, incremental evolution by some *indirect* route up ‘Mount Improbable’.

TIM: True, but according to Darwin, ‘natural selection acts only by taking advantage of slight successive variations; she can never take a great a sudden leap...’[47]

CATH: And Behe gives a general answer to your objection when he writes: ‘Even if a system is irreducibly complex (and thus cannot have been produced directly)... one cannot definitely rule out the possibility of an indirect, circuitous route.’[48]

ADAM: There you go...

CATH: Hold on, there’s more: ‘As the complexity of an interacting system increases, though, the likelihood of such an indirect route drops precipitously. And as the number of unexplained, irreducibly complex biological systems increases, our confidence that Darwin’s criterion of failure has been met skyrockets...’[49]

TIM: Behe’s thesis is falsifiable; it can be undermined by evidence. Scientists generally think that being falsifiable is a good feature for a scientific hypothesis to have. However, for *all* proposed examples of IC systems (such as the blood clotting cascade[50], or the outboard-motor-like bacterial flagellum[51]) skeptics need to demonstrate the existence of *indirect*, graded evolutionary pathways that achieve the gradual assembly of all and only the components required by a given IC system, in the correct functionally specific arrangement, via a sufficiently probable series of evolutionary steps. Every step has to have a function that ideally increases or matches the fitness of the preceding step, or which results in a different selectable function, and without eliminating any functions necessary to survival! You should read Dembski’s codification of origination improbabilities to get an idea of how

problematical this is.[52]

CATH: What’s needed is a detailed, seamless and statistically likely enough evolutionary account of how subsystems undergoing co-evolution could gradually transform into an IC system. No such accounts exist. Proposals offered to date consist of a lot of ‘hand waving’ vagueness. They simply don’t meet the proper burden of proof.[53]

ADAM: What about the type III secretory system[54], which is coded for by ten genes similar to genes in the flagellum? Isn’t that a sub-system of the flagellum that could have been a functional evolutionary precursor?

CATH: I think not. For one thing, the TTSS is itself IC. For another, molecular evidence suggests that it evolved from the flagellum, not vice versa.[55]

TIM: Besides, as Dembski points out: ‘What’s needed is a complete evolutionary path and not merely a possible oasis along the way. To claim otherwise is like saying we can travel by foot from Los Angeles to Tokyo because we’ve discovered the Hawaiian Islands.’[56]

ADAM: Absence of evidence is not necessarily evidence of absence. It’s a big world out there. We might discover more ‘islands’ in a chain, as it were.

CATH: Sure, failing to find one’s car keys in the house doesn’t indicate they don’t exist. They might be in the car, and you know keys exist to be discovered. On the other hand, suppose we did not know whether or not keys exist, and that we had reason to think that the existence of keys was unlikely, and we conducted a thorough search for keys but came up empty handed? That’s the reality of explaining IC systems.

TIM: Darwin was right about the existence of a single IC system causing his theory to break down. But he set the evidential bar too high. The existence of a system that’s *highly unlikely* to have been formed by numerous, successive, unguided modifications is enough to cause a breakdown in his theory.

CATH: And he was doubly wrong to suggest that his evolutionary hypothesis should be extended the presumption of truth until such a

demonstration could be made. Darwin's argument in the *Origin of Species* is an argument from ignorance. He shifts from saying 'I can't see any reason why the extrapolation to unobserved large scale evolution from observed small scale evolution shouldn't be able to account for everything' to saying we should assume evolution does account for everything until it can be shown otherwise. However, the inference from IC to ID is the natural, default position. As soon as we see something that looks IC, like a mousetrap, we naturally infer that it is the product of design. The bare possibility that a non-teleological explanation might exist for all we know isn't enough to warrant doubt about such design inferences, any more than the possibility that we are brains in a *Matrix*-like vat is enough to warrant skepticism about the deliverances of our senses, or the possibility that evidence might turn up in the future to convict someone of theft is reason enough to put them in jail now! The burden of proof is on the skeptic to provide sufficient grounds for believing an evolutionary explanation of the system in question isn't as unlikely as it looks on the evidence we have.[57]

TIM: If Cathy will excuse me getting theological for while...

CATH: I'll get some more coffee. And a Belgium bun.

TIM: Your lecture objected to talking about natural causes in distinction to intelligent design because nature just is 'what God does,'[58] and 'all scientific descriptions without exception represent descriptions of the creative and sustaining activities of God in the world around us.'[59]

ADAM: That's right.

TIM: But I wonder if the simplicity of calling anything and everything God does 'Nature', and vice versa, isn't rather uninformative and lacking in nuance.[60] Distinguishing between 'natural' causes and intelligent design needn't conflict with the doctrine of creation anymore than evolution does! You can't object too strongly to talking about 'natural' causes, with the appropriate background qualifications, when Jesus himself says that 'All by itself the soil produces grain...' (Mark 4:28). Christian ID supporters obviously think that natural causes like genetic mutation and natural

selection are part of a cosmos created and sustained by God. But is it helpful to call miracles like Jesus' turning water into wine 'just another aspect of Nature'? Is there really no distinction between a corpse decaying in a tomb and a corpse resurrecting? In a sense both events are ultimately something God causes to happen, directly or indirectly; but there's something about the former that is appropriately described as natural in Jesus' 'by itself' sense, and something about the latter that isn't. Bodies decay because God created and sustains a cosmos of a certain sort. But, as the resurrection shows, sometimes God does things in ways that can't be adequately explained in terms of the operation of such 'natural', secondary causes, sustained by God or not. Perhaps God sometimes did things differently in pre-history as well as in history.

ADAM: But miracles like the resurrection are special actions of God that play a key role in fulfilling God's salvation plan for humankind. Nearly always in the Bible they refer to signs of God's grace in particular human situations.[61]

TIM: In which case, they are not *always* the signs of such grace! I just wonder if by defining miracles as 'special acts of God that play a key role in fulfilling God's salvation plan for humankind' you are excluding them from pre-history *by definition*? Shouldn't we look at the evidence to see what God has done in his sovereign freedom? Maybe God did create by making things evolve in a way that provides no detectable scientific evidence of design; maybe he acted in a way analogous to that artist placing leaves on the lawn in the same sort of pattern wind can produce. But maybe he also acted in ways that outstrip the created capacities of nature in a scientifically detectable way, just like the artist using leaves to create a portrait. Deciding the issue one way or the other from our comfy armchairs is no substitute for actually taking a look at what we all agree God has done however it was he did it, in order to see if we can't discern together how he actually did it.

ADAM: You may have a point.

CATH: You done theologizing?

ADAM: Yes. We've had a stimulating discussion, but I really must get on with some marking and leave you to your Belgium bun before I succumb

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Thanks to Ruth Banchowitz, Michael Behe, Antony Latham, Luke Pollard and Tom Price for commenting on earlier drafts of this paper.

[1] *Proverbs* 27:17.

[2] Michael J. Behe, 'Blind Evolution or Intelligent

Design?' @

www.discovery.org/scripts/viewDB/index.php?command=view&id=1205

[3] cf. 'Over Four Hundred Scientists Convinced By New Scientific Evidence That Darwinian Evolution is Deficient' @ www.discovery.org/scripts/viewDB/index.php?command=view&id=2732; & www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=443

[4] Thomas Woodward, *Doubts about Darwin: A History of Intelligent Design*, (Grand Rapids: Baker, 2003), p. 10 & 20.

[5] For example, cf. Stuart Burgess, *Hallmarks of Design*, (Day One, 2002).

[6] cf. John G. West, 'Intelligent Design and Creationism Just Aren't the Same' @ www.arn.org/docs2/news/idandcreationismnotsame011503.htm;

ARN FAQ, 'Isn't Intelligent Design Another Name for Scientific Creationism?' @ www.arn.org/idfaq/Isn%27t%20intelligent%20design%27%20another%20name%20for%20scientific%20creationism%27.htm; Francis J. Beckwith, *Law, Darwinism, And Public Education*, (Rowman & Littlefield, 2003).

[7] William A. Dembski, 'What Every Theologian Should Know about Creation, Evolution, and Design' @ www.arn.org/docs/dembski/wd_theologn.htm

[8] John Angus Campbell, 'Why Are We Still Debating Darwinism?', Campbell & Meyer (ed.'s), *Darwinism, Design, And Public Education*,

(Michigan University Press, 2003), p. xxvi.

[9] cf. Neil Broom, *How Blind Is the Watchmaker?*, (IVP, 2001).

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[11] cf. Antony Latham, *The Naked Emperor*, (Janus, 2005).

[12] John Lennox, 'Evolution: A Theory in Crisis?' @ www.cmf.org.uk/literature/content.asp?context=article&id=641

[13] cf. David Swift, *Evolution Under the Microscope*, (Leighton, 2002).

[14] cf. www.arn.org/authors/behe.html

[15] cf. John Haldane, *An Intelligent Person's Guide to Religion*, (Duckworth, 2003).

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[17] cf. David Berlinski, 'The Deniable Darwin' @ www.discovery.org/scripts/viewDB/index.php?command=view&id=130

[18] Michael Denton, *Evolution: A Theory in*

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[19] Phillip E. Johnson, 'What is Darwinism?', in *Objections Sustained: Subversive Essays on Evolution, Law, and Culture*, (IVP, 1998), p. 22.

[20] *ibid*, p. 31.

[21] *ibid*, p. 22.

[22] Denis Alexander, 'Created or evolved? Section II – Hot Issues For The Twenty-First Century' @ www.bethinking.org/resource.php?ID=193

[23] cf. William A. Dembski, 'Is Intelligent Design a Form of Natural Theology?' @ www.designinference.com/documents/2001.03.ID_as_nat_theol.htm

[24] cf. J.P. Moreland & William Lane Craig, *Foundations for a Christian Worldview*, (IVP, 2003), chapter 17; 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*, (Ignatius, 1999) @ www.discovery.org/scripts/viewDB/index.php?command=view&id=1780

[25] Denis Alexander, *Rebuilding the Matrix*, (Lion, 2001), p. 448.

[26] Norman L. Geisler, *Miracles and the Modern Mind*, (Baker, 1992), p. 79-80, quoted by Denis Alexander, *Rebuilding the Matrix*, (Lion, 2001), p. 448.

[27] cf. Alvin Plantinga, 'Methodological Naturalism?' @

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[28] cf. Norman Geisler & Peter Bocchino, *Unshakeable Foundations: Contemporary Answers To Crucial Questions About The Christian Faith*, (Bethany House, 2001), Chapter 6, 'Questions About The Origin of Life'.

[29] William Lane Craig, *Philosophy of Religion: A Reader and Guide*, (Edinburgh University Press, 2002), p. 72.

[30] William A. Dembski, 'Another Way to Detect Design?' @ www.arn.org/docs/dembski/wd_responsetowiscu.htm

[31] cf. Denis Alexander, *Rebuilding the Matrix*, (Lion, 2001), pp. 420-421; William Lane Craig, 'Review: The Design Inference – Eliminating chance through small possibilities' @ www.leaderu.com/offices/billcraig/docs/design.html

[32] cf. Hugh Ross, 'Probability for a Life Support Body' @ www.reasons.org/resources/apologetics/design_evidences/20020502_life_support_body_prob.shtml?main; Guillermo Gonzalez and Jay Richards, *The Privileged Planet: How Our Place in the Cosmos Is Designed for Discovery*, (Regnery, Jan. 2004); Jimmy H. Davies & Harry L. Poe, *Designer Universe: Intelligent Design and the Existence of God*, (Broadman & Holman, 2002)

[33] cf. Stephen C. Meyer, 'DNA and Other Designs' @ www.arn.org/docs/meyer/sm_dnaotherdesigns.htm

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[35] cf. Michael J. Behe, 'Molecular Machines: Experimental Support for the Design Inference' @ www.arn.org/docs/behe/mb_mm92496.htm; *Darwin's Black Box* (Free Press, 1998); William A. Dembski, *No Free Lunch: Why Specified Complexity Cannot be Purchased without Intelligence* (Lanham: Rowman & Littlefield, 2001); 'Irreducible Complexity Revisited' @ www.designinference.com/documents/2004.01.Irreducible_Compl_Revisited.pdf

[36] Behe, *Darwin's Black Box*, p. 39.

[37] Alexander, 'Created or evolved? Section II – Hot Issues For The Twenty-First Century'

[38] cf. Denis Alexander, *Rebuilding the Matrix*, (Lion, 2001), pp. 420-421 & 448, where he quotes William Lane Craig and Norman L. Geisler with approval on arguments to design in the contexts of the anthropic argument and SETI respectively; Colin Humphrey's, *Miracles of the Exodus: A Scientist's Discoveries of the Extraordinary Natural Causes of the Biblical Stories*, (Harper Collins, 2004), & Colin Humphreys, 'Science and the Miracles of Exodus' @ www.europhysicsnews.com/full/33/article6.pdf, where he argues that although the exodus miracles each have plausible 'natural' explanations, the 'time critical' sequence of 'event after event occurring at just the right time' indicates that they were indeed miraculous.

[39] Charles Darwin, *Origin of Species*, (1872), 6th edition, (New York University Press, 1988), p. 154.

[40] Richard Dawkins, 'Universal Darwinism', in Hull and Ruse (ed.'s), *The Philosophy of Biology*, (Oxford), p. 29.

[41] Richard Dawkins, *The Blind Watchmaker*, p. 91.

[42] Massimo Pigliucci, 'Design Yes, Intelligent No', *Darwin, Design, And Public Education*, *op cit*, p. 467.

[43] *ibid.*

[44] Daniel C. Dennet, *Darwin's Dangerous Idea*, (Penguin, 1995), p. 317.

[45] cf. William A. Dembski, 'Irreducible Complexity Revisited' @

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[46] Michael J. Behe, William A. Dembski, and Stephen C. Meyer, *Science and Evidence for Design in the Universe* (San Francisco: Ignatius, 1999), p. 13-14.

[47] Darwin, *op cit*, p. 184.

[48] Behe, *Darwin's Black Box*, p. 40.

[49] *ibid*.

[50] cf. Michael J. Behe, *Darwin's Black Box*, p. 74-97; Michael J. Behe, 'A Response to Critics of *Darwin's Black Box*' @ www.iscid.org/papers/Behe_ReplyToCritics_121201.pdf

[51] cf. Michael J. Behe, *Darwin's Black Box*, p. 69-72; William A. Dembski, 'Still Spinning Just Fine' @ www.designinference.com/documents/2003.02.Miller_Response.htm

[52] cf. William A. Dembski, 'Irreducible Complexity Revisited' @ www.designinference.com/documents/2004.01.Irr ed_Comp_ Revisited.pdf

[53] cf. Michael J. Behe, 'A Response to Critics of *Darwin's Black Box*' @ www.iscid.org/papers/Behe_ReplyToCritics_1212

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[54] TTSS secrete proteins to establish symbiotic relationships with eukaryotic cells.

[55] cf. Mike Gene, 'Evolving the Bacterial Flagellum through Mutation and Co-option' @ www.idthink.net/biot/flag1/index.html; Scott A. Minnich & Michael J. Behe, 'Genetic Analysis of Coordinate Flagellar and Type II Regulatory Circuits in Pathogenic Bacteria' @

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[57] cf. Robert C. Koons, 'The Check is in the Mail: Why Darwinism Fails to Inspire Confidence', in William A. Dembski (ed.), *Uncommon Dissent*, (ISI Books, 2004).

[58] Alexander, 'Created or evolved? Section II – Hot Issues For The Twenty-First Century', *op cit*.

[59] *ibid*.

[60] cf. 'What does the Bible say about Luck?' @
www.gotquestions.org/luck.html; Greg Boyd &
John Sanders, 'Proverbs' @
www.opentheism.info/proverbs.htm

[61] Alexander, *op cit.*