



‘The War on Science’: How Horizon Got Intelligent Design Wrong

Peter S. Williams

BBC 2's recent *Horizon* science documentary on intelligent design theory, ‘The War on Science’ (26th Jan 2006), did a terrific job of confusing the issue at every turn. Intelligent Design (ID) was confused with creationism, the scientific debate about ID confused with a religious squabble about teaching policy in an American school district, and the judgement of an American court on that squabble confused with ‘the ultimate test’ to which a scientific theory can be submitted.

Horizon offered viewers an excellent piece of propaganda for the scientific status quo, wheeling on some establishment ‘big guns’ (Richard Dawkins, David Attenborough) to lob a series of flashy but ineffective rhetorical smoke-bombs against straw man representations of ID. Despite featuring some leading figures from the ID movement (lawyer Phillip E. Johnson, philosopher of science Stephen C. Meyer, molecular biologist Michael J. Behe and mathematician William A. Dembski), ‘The War on Science’ over-simplified ID before uncritically presenting counter claims from Dawkins *et al* and finally refusing ID theorists any right of reply. ID received anything but fair and balanced treatment from the BBC. As Andrew Rowell observes:

In most cases the basic ID arguments were presented and the opponents were allowed to respond... with no opportunity for the ID people to come back at their opponents, which tended to give the false impression that the anti-ID camp had won the scientific arguments... The UK scientists who spoke against ID came across (to a pro-ID man) as remarkably ignorant of the

arguments of ID given that they had agreed to appear on the programme and that they must have spent at least some time seeking to familiarise themselves with its arguments... The UK spokesmen against ID were not very clear about what it was and what it was saying. They are way behind the argument and have not bothered to learn the foundational issues.[1]

(Nor did we hear anything from the Dover school board members who were on trial, although we heard plenty from those who took them to court. Nor did we hear anything from Cardinal Schönborn in response to George Coin's suggestion that he didn't write a controversial *New York Times* article on ID published under his name himself[2], although Meyer commented that the letter ‘was clearly his own initiative’.)

The very title of the programme, ‘The War on Science’ clearly revealed the makers’ endorsement of the view that ID is not a scientific theory, as its proponents believe. Rather, it is portrayed as an anti-scientific, (blind) faith-based article of religious belief bolstered by shallow, pseudo-scientific arguments.

Indeed, if the arguments of ID theorists are as easy to demolish as *Horizon* intimated, one must surely suspect its supporters of being either stupid or duplicitous. On the other hand, if one suspects that ID theorists are neither stupid nor duplicitous, one must surely suspect *Horizon* of over-simplification. Let us sample a handful of anti-ID claims made during the course of ‘The War on Science’, this time offering ID the right of reply...

§ Intelligent Design isn't science, its creationism

ID is not premised on any religious claims; nor does it lead to a religious conclusion. ID is based upon scientific methodology combined with empirical evidence and leads to an inference of ‘intelligent design’ as the best explanation for certain facets of reality. However, *Horizon* ignored Philip E. Johnson's plea to move ‘away from this bible verses science stereotype.’ According to *Horizon*, ‘The supporters of intelligent design make an extraordinary claim, to have found scientific evidence for a supernatural creator of life.’ No evidence was produced in support of this false claim. Nevertheless, the primary take-home message of ‘The War on Science’ was obviously

that ID isn't science, but is simply 'creationism' by another name.

This message was reinforced at every opportunity with the same associative use of imagery and music deployed by advertisers to convince us that owning an expansive car makes you sexy:

For many [we were told as the screen shows the image of a cross], it threatens to replace science with God. And yet [we are told as we watch President Bush making an address - 'May God bless you, and may he watch over the United States of America.']] it is gaining powerful support.

Horizon clearly endorsed this anti-ID line in the face of its own interviews with ID theorists. It thereby implied that these theorists are liars. The ID theorists themselves told us that God wasn't part of their theory. The philosophical identification of the intelligence inferred by their theory with God is certainly one that should be seriously considered, and it is one that people with a theistic worldview will be well pre-disposed to make (indeed, it is one that many – although not all – ID theorists make); however, it is an identification that has *no place* within intelligent design as a scientific theory. *Horizon* quoted Stephen C. Meyer saying only that 'People who hold a traditional theistic perspective' would naturally think the designer was God. They quoted William A. Dembski pondering whether God specifically toggled genetic changes and such like before responding: 'I don't know. It's certainly a possibility.' They quoted Michael Behe, who merely stated that as far as the source of design goes, God 'has to be a major candidate if you're a theist.' But none of these comments counted for anything in the face of *Horizon* framing of the ID controversy as 'a battle between faith and knowledge', just another episode in the creationist's 'war on science'.

The Definitional Critique

The assertion that ID 'isn't science' is one of the most popular of the many 'sound bite' criticisms of ID repeated with great frequency but little depth in today's print and broadcast reports on the origins debate. I call the 'its not science' assertion 'the definitional critique', in that it assumes the existence of a definition of science that rational people ought to accept and which excludes ID.

This being so, no rational person could advance ID as a scientific theory. ID theorists like Behe and Dembski routinely advance ID as a scientific theory that should be extended the courtesy of rational consideration. Hence ID theorists like Behe and Dembski are clearly laying claim to a self-contradictory position. They are irrational people with a pseudoscientific 'theory' that need not be extended the courtesy of rational consideration – especially not in the course of science education. That, I think, is a fair summary of the definitional critique. It is wrong.

On the one hand, critics sometimes define ID as requiring belief in a supernatural explanation. Hence we are told that for many people ID 'threatens to replace science with God.' They then attack ID on the basis that the rule of 'methodological naturalism' (i.e. mentioning anything supernatural isn't scientific) is a sound demarcation criterion between 'science' and 'non-science'. Hence on *Horizon* Richard Attenborough asserts of ID: 'It is so fundamentally against every scientific principle you can think of, that to put it in the same bracket is to seriously confuse thinking.' However, not only has it been argued by philosophers of science that methodological naturalism is *not* a sound demarcation criterion,[3] and that reference to the supernatural is *not* necessarily unscientific (the thought that it was would have been news to Newton),[4] but ID theorists themselves define their theory as *not* requiring supernatural explanations! For example, Michael Behe writes:

my argument is limited to design itself; I strongly emphasize that it is not an argument for the existence of a benevolent God, as Paley's was. I hasten to add that I myself do believe in a benevolent God, and I recognize that philosophy and theology may be able to extend the argument. But a scientific argument for design in biology does not reach that far. Thus while I argue for design, the question of the identity of the designer is left open... as regards the identity of the designer, modern ID theory happily echoes Isaac Newton's phrase, *hypothesis non fingo*.^[5]

Consider an analogy: many people believe that the best philosophical explanation of Big Bang cosmology is theistic (indeed, there have been atheists who opposed Big Bang cosmology because they believed this),^[6] but this fact does

not mean that Big Bang cosmology isn't a scientific theory, or that it cannot be accepted by atheists! Likewise ID. As I have argued out elsewhere,[7] abstracted from a conclusion to the philosophical question of the nature of intelligence, ID is compatible with naturalism (as any Raelian will tell you[8]). All ID infers is *intelligent* explanations. As Geoscientist Marcus R. Ross correctly explained in a presentation before the Geological Society of America: 'ID is classified as a philosophically minimalistic position, asserting that real design exists in nature and is empirically detectable by the methods of science.'[9] Therefore, unless naturalists are prepared to admit that intelligent explanations are necessarily supernatural (wave goodbye to naturalism), *naturalists cannot accuse ID of requiring supernatural explanations without contradicting themselves*. After all, one would need to appeal to intelligence to explain their critique. In this sense, ID is as 'methodologically naturalistic' as the next scientist. (Of course, an ID theorist might believe on philosophical grounds that intelligent explanations are necessarily supernatural explanations – but such a belief is no more inherent within ID as a scientific theory than is the belief that the designer must be the God of mono-theistic religious belief.)

On the other hand, if you decide to define 'science' so that it excludes explaining anything with reference to *intelligence*, then of course ID isn't 'science' *in that sense of the term*. But then, neither is forensic science, archaeology, psychology, cryptography, fraud detection, or SETI (the search for extra-terrestrial intelligence)! The definitional critics of ID fail to define 'science' in such a way as to exclude ID whilst including claims that even they admit are scientific. Either both are in, or numerous things that even ID's critics accept are scientific are out. As ID critic and philosopher of science Bradley Monton argues: 'ID should not be dismissed on the grounds that it is unscientific.'[10]

The Trouble With Dover

The use of ID by a Dover school board dominated by creationists, who naturally associate *intelligent* design with *divine* design and who saw mentioning ID in school as the next best thing to the outlawed advocacy of 'creation science', was undoubtedly a public relations disaster for ID. As Andrew Rowell comments:

As far as ID is concerned this was a poisoned well from the start. Buckingham and the other pro-creationism members of the school board were from an ID point of view a liability- In Dover ID tried to make the best of a bad job and the Judge sought to make a supreme court judgement about ID for the united states rather than a limited judgement about this particular case.[11]

The religious motive behind the board's actions does seem clear, and the judge ruled that such a motive excluded its results from American schools under his interpretation of the constitutionally established separation between church and state.

Horizon bizarrely called this court case the 'ultimate test' of ID and accepted the judge's ruling that 'intelligent design was no more scientific than creationism.' However, that someone advocates a theory because they think it supports (even if indirectly) metaphysical beliefs that they hold does not mean that the theory in question is not scientific, or that it should not be engaged with on its own merits. After all, Richard Dawkins takes every opportunity to argue for *his* metaphysical beliefs on the basis of his assertion that the scientific theory of evolution is true and 'reveals a world without design'.[12] Whether or not Dawkins is mistaken about evolution justifying atheism (I think he is), *does the mere fact that he believes this to be the case mean that evolution is not a scientific theory?* If it doesn't have this implication, then why should advocacy of ID by people who believe in God and who see in ID a way to promote belief in God (if only indirectly) be taken to mean that ID is not a scientific theory? To confuse the motive of the advocate or the metaphysical implications of the theory advocated with the scientific status of the theory itself is a mistake. To fall into that mistake when discussing ID but not when discussing evolution indicates the use of a double standard.

Focusing upon the Dover trial effectively enabled *Horizon* to blur the line between creationism and ID. If it were not for the quotations from ID theorists themselves that line would have been all but erased, a fact that reveals *Horizon* treating ID theorists with a hermeneutic of suspicion singularly lacking from its treatment on Darwinists.

In point of fact, the *Discovery Institute* (which is a

secular think tank which opposes efforts to mandate teaching creationism or religion in American schools) does *not* want ID taught in schools, preferring instead that students should simply be given access to scientific evidence both for and against Darwin's theory as it appears in peer-reviewed scientific literature.[13] In other words, the controversy that ID theorists want taught is the scientific controversy concerning the adequacy of evolutionary theory, not the controversy concerning the adequacy of ID as an alternative explanation.

See how wrong *Horizon* got ID:

Michael Behe, 'Whether Intelligent Design is Science: A Response to the Opinion of the Court in *Kitzmiller vs. Dover Area School District*.' @ www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=697

Bradley Monton, 'Is Intelligent Design Science? Dissecting the Dover Decision' @

http://philsci-archive.pitt.edu/archive/00002583/01/Methodological_Naturalism_2.pdf

John G. West, 'Intelligent Design & Creationism Are Just Not The Same' @ www.discovery.org/scripts/viewDB/index.php?command=view&id=1329

Peter S. Williams, 'If SETI is Science and UFOlogy is Not, Which is Intelligent Design Theory?' @ www.arn.org/docs/williams/pw_setivsufology.htm

Jonathan Witt, 'The Origin of Intelligent Design: A brief history of the scientific theory of intelligent design' @ www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=526

David DeWolf, 'Judge Jones Follows ACLU, Ignores Contrary Facts' @ www.discovery.org/scripts/viewDB/index.php?command=view&id=3113&program=CSC%20-%20Views%20and%20News

Discovery Centre, 'Top Questions' @ www.discovery.org/csc/topQuestions.php

William A. Dembski, *The Design Revolution: Answering the Toughest Questions about Intelligent Design*, (IVP, 2004)

§ The Bacterial Flagellum is not Irreducibly Complex

According to Michael J. Behe and other ID theorists, the bacterial flagellum is an example of the sort of 'irreducibly complex' structure that Darwin admitted would cause his theory to 'absolutely break down.' [14] According to *Horizon* it is not. Who is right?

Behe's most noted presentation of 'irreducible complexity' is *Darwin's Black Box: the Biochemical Challenge to Evolution* (1996), where he defined the term as follows:

By *irreducibly complex* I mean 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. 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. [15]

By *definition*, any system that is irreducibly complex cannot have evolved *directly* up any 'graded ramp' up what Dawkins calls 'Mount Improbable'. Ruling out direct, incremental evolution does not exclude what Darwin called 'a sudden leap', [16] but as Dawkins himself notes, 'The larger the leap through genetic space, the lower the probability that the resulting change will be viable, let alone an improvement.' [17] Behe observes:

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. 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... [18]

Horizon considered just one example of an IC system noted by Behe, the bacterial flagellum.

Some bacteria swim using this motor, spinning their 'flagella' at up to 100,000 rpm like a screw propeller:

The flagellum includes an acid powered rotary engine, a stator, O-rings, bushings and a drive shaft. The intricate machinery of this molecular motor requires approximately fifty proteins. Yet the absence of any one of these proteins results in the complete loss of motor function.[19]

One can see that a rotary motor without a propeller, or a drive shaft, or a motor, just won't work: 'Because the bacterial flagellum is necessarily composed of at least three parts – a paddle, a rotor, and a motor – it is irreducibly complex.'[20] Experiments have confirmed that eliminating any of the proteins that form the flagellum results in a non-functioning machine. That the flagellum is irreducibly complex rules out explanation by *direct* evolutionary pathways and leaves the Darwinist to fall back on unlikely *indirect* explanations.

Biologist Ken Miller argues for an indirect explanation in the case of the flagellum by pointing to the existence of the type III secretory system (TTSS),[21] which is coded for by about ten genes, each of which is structurally similar (homologous) to genes coding for the bacterial flagellum. Miller sees the TTSS as a functional 'preflagellum', an evolutionary precursor of the flagellum capable of being selected for on its own functional merits and then augmented to produce the flagellum. However, as Dembski points out:

At best the TTSS represents one possible step in the indirect Darwinian evolution of the bacterial flagellum. 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.[22]

While the TTSS contains around ten proteins homologous to proteins in the flagellum, the flagellum has another thirty or so proteins, which are unique to it. As Scott Minnich, Professor of Biology at the University of Idaho, and an expert on the flagellum, says in response to this 'co-option' hypothesis:

With a bacterial flagellum, you're talking about a machine that's got forty structural parts. Yes, we find ten of them are involved in another molecular machine, but the other thirty are unique. So where are you going to borrow them from? Eventually you're going to have to account for the function of every single part as if originally having some other purpose. I mean you can only follow the argument so far, until you run into the problem that you're borrowing from nothing. . '[23]

Stripping away a third of the improbability Dembski calculates for the formation of the flagellum by simultaneous mutation (10-1170) doesn't appreciably improve matters for a naturalistic explanation: 'Applied to those remaining two-thirds of flagellar proteins, my calculation yields something like 10-780,' writes Dembski, 'which also falls well below my universal probability bound.'[24]

Two final points nail shut the coffin of Miller's TTSS scenario. The first is that 'The type III system itself is irreducibly complex, perhaps with ten IC components.'[25] The second is that the molecular evidence points to the TTSS evolving from the flagellum and not vice versa.[26]

See how wrong *Horizon* got ID:

William A. Dembski, 'Still Spinning Just Fine: A Response to Ken Miller' @

www.designinference.com/documents/2003.02.Miller_Response.htm

William A. Dembski, 'Irreducible Complexity Revisited' @

www.designinference.com/documents/2004.01.Irreducible_Complexity_Revisited.pdf

Scott A. Minnich & Stephen C. Meyer, 'Genetic Analysis of Coordinate Flagellar and Type III Regulatory Circuits' @
www.discovery.org/scripts/viewDB/filesDB-download.php?id=389

On Video or DVD: *Unlocking the Mysteries of Life* (Illustrated Media)

William A. Dembski, *No Free Lunch: Why Specified Complexity Cannot be Purchased*

without Intelligence, (Rowman & Littlefield, 2001)

§ William Dembski's Mathematical Critique of Darwinism is a Trick

Horizon reduced mathematician William A. Dembski's critique of evolution to the assertion that it is unlikely, and Millar noted that if you kept track of any game of cards the result would be something unlikely to be repeated. However, Millar's criticism of Dembski confused what Dembski calls a 'fabrication' (a pattern simply read off an event, such as a game of cards) with a 'specification' (an independent pattern which isn't simply read off an event). As Richard Dawkins argues in *Climbing Mount Improbable*, any long sequence of turns performed on a combination lock is unlikely, but only one sequence is specified as the sequence that opens the safe. This combination of complexity with a specification is why the best explanation of an open safe is that someone knew the combination rather than that someone got lucky.

William Dembski's work on specified complexity as a criterion for making the design inference (*The Design Inference* was peer reviewed and published by Cambridge University Press) compliments the work of Oxford philosopher Richard Swinburne, who famously used the example of a card-shuffling machine to advance the design argument from cosmic fine-tuning:

Suppose that a madman kidnaps a victim and shuts him in a room with a card-shuffling machine. The machine shuffles ten decks of cards simultaneously and then draws a card from each deck and exhibits simultaneously the ten cards. The kidnapper tells the victim that he will shortly set the machine to work and it will exhibit its first draw, but that unless the draw consists of an ace of hearts from each deck, the machine will simultaneously set off an explosion which will kill the victim, in consequence of which he will not see which cards the machine drew. The machine is then set to work, and to the amazement and relief of the victim the machine exhibits an ace of hearts drawn from each deck. The victim thinks that this extraordinary fact needs an explanation in terms of the machine having been rigged in some way. But the kidnapper, who now reappears, casts doubt on this suggestion. 'It is hardly surprising', he says, 'that the machine draws only aces of hearts. You could not possibly

see *anything else*. For you would not be here to see anything at all, if any other cards had been drawn.' But of course the victim is right and the kidnapper is wrong. There is indeed something extraordinary in need of explanation in ten aces of hearts being drawn. The fact that this peculiar order is a necessary condition of the draw being perceived at all makes what is perceived no less extraordinary and in need of explanation. The teleologist's starting-point is not that we perceive order rather than disorder, but that order rather than disorder is there. Maybe only if order is there can we know what is there, but that makes what is there no less extraordinary and in need of explanation.[27]

Swinburne uses his example to show that the fact that an event is a pre-condition of its being observed does not explain the occurrence of that event, or negate the obvious fact that 'the victim is right and the kidnapper is wrong' about intelligent design being the best explanation for the event described (which Swinburne offers as being a parallel to the fine-tuning of the cosmos). However, it is clear that Swinburne's card-shuffling machine example presents us with an instance of specified complexity. The kidnap victim is right, not merely because an 'extraordinary' (unlikely) event has happened (the ace of hearts being drawn from each deck) but because this complex event is also specified (only this 'peculiar' event that will prevent the machine from exploding).

Richard Dawkins admits that specified complexity is a valid criterion of design detection:

'Specified complexity' takes care of the sensible point that any particular rubbish heap is improbable, with hindsight, in the unique disposition of its parts. A pile of detached watch parts tossed in a box is, with hindsight, as improbable as a fully functioning, genuinely complicated watch. What is specified about a watch is that it is improbable in the specific direction of telling the time. . . [28]

Dawkins also admits that 'Behe and Dembski correctly pose the problem of specified complexity as something that needs explaining.'[29] Ken Millar's critique of Dembski, on the other hand, fails to take on board Dawkins' point about the combination of sufficient complexity with independent specification grounding the design

inference, and would leave him agreeing with Richard Swinburne's kidnapper rather than the victim. Note that *Horizon* didn't once mention 'specified complexity'.

See how wrong *Horizon* got ID:

William Lane Craig, 'Review: The Design Inference – Eliminating chance through small possibilities' @ www.leaderu.com/offices/billcraig/docs/design.htm

William A. Dembski, 'The Logical Underpinnings of Design' @ www.designinference.com/documents/2002.10.logicalunderpinningsofID.pdf

William A. Dembski, *The Design Revolution: Answering the Toughest Questions about Intelligent Design*, (IVP, 2004)

§ ID Explains Too Much and Too Little on the Basis of Ignorance

Three final objections levelled against ID were presented by *Horizon* with no right of reply given to its defenders. Interestingly enough, two of these criticisms are mutually exclusive. On the one hand, Ken Millar asserted that 'A theory that explains everything, in fact explains nothing.' Richard Dawkins, on the other hand, charged ID with being a complete 'lack of explanation. It doesn't explain itself.'

ID clearly does *not* explain 'everything' as Millar asserts. For example, ID does not explain intelligence – it infers it as the best explanation for certain facts on the basis of experience (as Dembski said: 'The only causal power that we know that could produce something like this is intelligence.') ID does not explain the existence of matter – it only explains its *arrangement*, as the result of low and/or high probability natural processes (e.g. evolution) or of intelligent design.

As for Dawkins' criticism that ID explains too little because it doesn't explain the intelligence it infers, neither do other sciences which infer intelligence as an explanation (forensics, archaeology, cryptography, SETI)! Indeed, there is no agreed scientific explanation for intelligence (scholars disagree about whether such an explanation is even possible in principle). Moreover, if failure to

explain an explanatory entity is a failure in a scientific theory, it is a failure that would seem to apply to all scientific theories (including evolution). After all, when Darwin proposed to explain the origin of species in terms of a process of natural selection acting upon slight variations in organisms acting over long periods of time he did not explain the existence of a fine-tuned material environment, or of life *per se*, or of time! Moreover, if Richard Dawkins is right about evolution explaining '99%' of things, then ID certainly does not explain less because *ID subsumes all sound evolutionary explanations*. ID might explain more than ID, but never less.

Dawkins' critique fundamentally misunderstands the nature of scientific explanation (which is worrying considering that he is Oxford University's 'Professor of the Public Understanding of Science'). As William Lane Craig comments:

It is widely recognized that in order for an explanation to be the best explanation, one needn't have an explanation of the explanation (indeed, such a requirement would generate an infinite regress, so that everything becomes inexplicable)... believing that the design hypothesis is the best explanation... doesn't depend upon our ability to explain the designer.[30]

As Dembski notes: 'The who-designed-the-designer question invites a regress that is readily declined... because such a regress arises whenever scientists introduce a novel theoretical entity... the question is whether design does useful conceptual work.'[31] Moreover, no one would make a similar objection to the design hypothesis in any other field of explanation: 'If someone explains some buried earthenware as the result of artisans from the second century bc, no one complains, "Yeah, but who made the artisans?"'[32]

Finally, ID is not a matter, as Sir David Attenborough alleged, of 'subjective' judgements made on the basis of a lack of evidence. As Dembski asks in response to the suggestion that intelligent design is an argument from ignorance: 'Lacking a natural explanation of Mount Rushmore, are we making an argument from ignorance by inferring that an intelligent cause is behind it?'[33]

Michael Behe points out that arguments from a lack of expected evidence are not fallacious:

In some circumstances it can be safely assumed that if a certain event had occurred, evidence of it could be discovered by qualified investigators. In such circumstances it is perfectly reasonable to take the absence of proof of its occurrence as positive proof of its non-occurrence. Although I did not limit my argument to the lack of evidence for the Darwinian evolution of irreducibly complex biochemical systems, when qualified investigators (such as, say, those investigating blood clotting) come up empty, it is 'perfectly reasonable' to weigh that against Darwinism. (By itself, of course, it is not positive evidence for design.) Although lack of progress is not 'proof' of the failure of Darwinism, it certainly is a significant factor to consider.[34]

Behe also points out that there is much more to the case for intelligent design than the lack of evidence expected by evolutionary theory:

To lay the groundwork for a proposal of intelligent design I did argue extensively that the blood clotting cascade and other systems have not been explained by Darwinism. That, of course, was necessary because many people have the impression that Darwinian theory has already given a satisfactory account for virtually all aspects of life. My first task was to show the readership that that impression is not correct. But my argument did not stop there. I spent many pages throughout the book showing that there is a *structural reason* - irreducible complexity - for thinking that Darwinian explanations are unlikely to succeed. Furthermore, I argued that irreducible complexity is a hallmark of intelligent design, took several chapters to explicate how we apprehend design, showed why some biochemical systems meet the criteria, and addressed objections to the design argument. Truncating my case for intelligent design and then saying I commit the fallacy of *argumentum ad ignorantium* is not, in my opinion, fair play.[35]

ID sees scientists working with a logically comprehensive set of explanations at their disposal (explanation in terms of the inherent capacities of nature – e.g. evolution - and explanation in terms of intelligent design) together with scientific criteria that determine when it is

appropriate to employ which explanation. Darwinism excludes explanation in terms of intelligent design on principle, asserting as an act of philosophical dogma that nature can and did account for its own arrangement in all instances, thereby subverting the truth seeking intent of scientific investigation. ID neither *excludes* (like Darwinism) nor *includes* (like Creationism) intelligent design *a priori*. Rather, ID justifies the design inference *a posteriori* on scientific, evidential grounds.

See how wrong *Horizon* got ID:

Michael Behe 'Philosophical Objections to Intelligent Design' @
www.arn.org/docs/behe/mb_philosophicalobjectio nsresponse.htm

William A. Dembski, *The Design Revolution: Answering the Toughest Questions about Intelligent Design*, (IVP, 2004)

Conclusion

Horizon got ID comprehensibly wrong. 'The War on Science' attacked a 'straw man' version of intelligent design theory, uncritically favouring the (often fallacious) arguments and (often unsubstantiated) assertions of ID critics. *Horizon* branded ID theorists as lying, anti-scientific closet creationists, and failed to extend to them the right of reply.

No-one is particularly bothered about ID as long as it is applied to the detection of intelligent causation in such scientific fields as archaeology, cryptography, forensic science and the search for extra-terrestrial intelligence. However, more and more people are getting bothered about ID, because it is poking its nose into scientific fields like cosmology and biology. In this context, ID is the scientific theory that not only is it possible to infer intelligent causation from its physical effects under certain carefully defined conditions, but intelligent causation can be inferred from certain aspects of the natural world. If you accept the first claim of ID, that intelligent design can be reliably inferred from the right kind of physical evidence, then one faces a second question: 'Does anything in nature provide the right kind of evidence for a design inference?' If you answer this second question positively as well as the first question,

you accept intelligent design theory. It's that simple. ID is not creationism. Nor is it natural theology. ID is not a threat to the scientific soul of America or any other country. ID is a threat to the scientific status quo, but it is a scientific threat.

Recommended Resources

Exhiled from Groggs, 'Review of BBC Horizon' @ <http://exilefromgroggs.blogspot.com/2006/01/review-of-bbc-horizon.html>

Andrew Rowell, 'A War On Science' @ <http://idintheuk.blogspot.com/2006/02/war-on-science.html>

'Intelligent Design FAQ' @ www.arn.org/id_faq.htm

Michael Behe, 'Whether Intelligent Design is Science: A Response to the Opinion of the Court in Kitzmiller vs. Dover Area School District.' @ www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=697

Michael Behe 'Philosophical Objections to Intelligent Design' @ www.arn.org/docs/behe/mb_philosophicalobjectionsresponse.htm

William A. Dembski, 'In Defence of Intelligent Design' @ www.designinference.com/documents/2005.06.Defense_of_ID.pdf

William A. Dembski, 'The Logical Underpinnings of Design' @ www.designinference.com/documents/2002.10.logicalunderpinningsofID.pdf

William A. Dembski, 'Still Spinning Just Fine: A Response to Ken Miller' @

www.designinference.com/documents/2003.02.Miller_Response.htm

William A. Dembski, 'Irreducible Complexity Revisited' @

www.designinference.com/documents/2004.01.Irred_Compl_Revisited.pdf

Steve Fuller, 'Designer Trouble' @

<http://education.guardian.co.uk/higher/profile/story/0,,1698284,00.html>

Stephen C. Meyer, 'Intelligent Design is not Creationism' @ Scott A. Minnich & Stephen C. Meyer, 'Genetic Analysis of Coordinate Flagellar and Type III Regulatory Circuits' @

www.discovery.org/scripts/viewDB/filesDB-download.php?id=389

Bradley Monton, 'Is Intelligent Design Science? Dissecting the Dover Decision' @

http://philsci-archive.pitt.edu/archive/00002583/01/Methodological_Naturalism_2.pdf

Peter S. Williams, 'If SETI is Science and UFOlogy is Not, Which is Intelligent Design Theory?' @ www.arn.org/docs/williams/pw_setivsufology.htm

Peter S. Williams, 'Design and the Humean Touchstone' @

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Peter S. Williams, 'Focus on Intelligent Design: Some Advice on Avoiding Journalistic Embarrassment' @ www.arn.org/docs/williams/pw_focusonid.htm

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