

ARTHUR JONES AND DAVID TYLER

Engaging with Intelligent Design? Reflections on the Rhetoric of Howard Van Till

Howard Van Till's paper on Intelligent Design (ID), published in this journal, (2003) 15(2), presented readers with what purported to be a scientific demolition of William Dembski's arguments for ID. Here we argue that Van Till's presentation was seriously flawed, presenting a distorted picture of ID, and misrepresenting the contributions to ID of William Dembski and Michael Behe. We explore the background to Van Till's paper and provide a more accurate account of what ID is about.

Key Words: Intelligent Design, Howard Van Till, William Dembski, Michael Behe, origins, evolution, creation, theistic evolution, God of the gaps, Darwinism.

In the long history of Christian reflection on origins, the intelligent design approach (hereafter 'ID') is genuinely different. For many it has provided a way into the topic that avoids the stereotyped and unhelpful creationist/evolutionist polarisation. Perhaps we have failed hitherto to ask the right questions.¹ If we start with the wrong questions the ensuing debate may be framed by the very philosophy we ought to challenge.

ID is a deliberately minimalist position. It unites people with diverse agendas and theologies around just two basic assertions: 'Naturalism is false' and 'Design is empirically detectable.' Naturalism is the reductionist claim that the only causal factors to be considered in scientific explanations are natural law and chance. Although often presented as either a scientific conclusion, or a necessary methodological assumption, naturalism is a philosophical commitment that would have been rejected by most, if not all the founders of modern science. The second assertion distinguishes ID from some versions of theistic evolutionism. In the sense explained here, ID is not a credal movement. All human beings – scientists included – function with world-view commitments, but ID is a broad church that is compatible with a range of positions from agnosticism, through theistic evolutionism to young earth creationism. ID includes those who believe that all design may have been frontloaded on to the initial conditions of a theistic evolution story. Where they differ from their naturalistic colleagues is that they believe that even frontloaded design is detectable and researchable. We (AJ & DT) do not find that the scientific evidence points in

1 Johnson, P.E. *The Right Questions: Truth, Meaning & Public Debate*, Downers Grove, IL: IVP (2002).

that direction,² but it is a genuine ID position.

For those attracted by this minimalist stance of ID, Howard Van Till's recent article³ is deeply unsatisfactory. There are fundamental problems in his engagement with ID, notably the ones we set out below. We cannot address all the issues here, nor can we give them the depth of discussion they warrant, but we hope that this article will remove some undergrowth and contribute to a greater understanding of what ID is about.

Before we address the content of Van Till's essay, we must note a major ecological problem: his essay is rather like an organism without an environment. It is a contribution to a debate that has been in lively progress for over ten years, but, apart from via the internet, one from which we have been largely excluded in the UK. The UK IVP has just published Dembski's *The Design Revolution*,⁴ an event which neatly illustrates the problem. Dembski's book is a partisan reflection on all that has taken place and includes numerous articles in newspapers and journals, radio and TV programmes and interviews, national and local ID events, debates before school boards and so on. But almost without exception all this activity has been in the US. There the debate has invaded the general culture in a way that has previously never been achieved by Christian scholars on the topic of origins. Never before have secular scientists felt under such pressure to respond. Consequently, the literature from ID proponents and opponents is already vast.

Promoting ID we have major works by Behe,⁵ Dembski,⁶ Denton,⁷ Ratzsch,⁸ Broom,⁹ Simmons,¹⁰ and Gonzalez & Richards.¹¹ Against ID we have works by

2 For example, see the discussion of continuity towards the end of this article.

3 Van Till, H. J. 'Are Bacterial Flagella Intelligently Designed? Reflections on the Rhetoric of the Modern ID Movement', *Science & Christian Belief* (2003) 15(2), 117-140.

4 Dembski, W. *The Design Revolution: Answering the Toughest Questions about Intelligent Design*, Leicester: IVP (2004).

5 Behe, M. *Darwin's Black Box*, New York: Free Press (1996); Behe, M., Dembski, W. & Meyer, S. (eds.) *Science and Evidence for Design in the Universe*, San Francisco: Ignatius Press (2000). For Behe's replies to critics see www.crsc.org (follow link 'Response to Critics').

6 Dembski, W., *The Design Inference: Eliminating Chance through Small Probabilities*, Cambridge, UK: Cambridge University Press (1998); *Intelligent Design: The Bridge Between Science & Theology*, Downers Grove, IL: IVP (1999); *No Free Lunch: Why Specified Complexity Cannot be Purchased without Intelligence*, Lanham MD: Rowman & Littlefield (2002), *The Design Revolution*, Leicester: IVP (2004). For Dembski's replies to critics see www.designinference.com

7 Denton, M. *Nature's Destiny: How the Laws of Biology Reveal Purpose in the Universe*, New York: Free Press (1998).

8 Ratzsch, D., *Nature, Design and Science: The Status of Design in Natural Science*, Albany, NY: State University of New York Press (2001).

9 Broom, N. *How Blind is the Watchmaker? Nature's Design and the Limits of Naturalistic Science*, Leicester: IVP (2001).

10 Simmons, G. *What Darwin Didn't Know*, Eugene, Oregon: Harvest House Publishers (2004).

11 Gonzalez, G. & Richards, J. *The Privileged Planet: How Our Place in the Cosmos is Designed for Discovery*, Washington, DC: Regnery (2004)

Miller,¹² Pennock,¹³ Forrest & Gross,¹⁴ Perakh,¹⁵ Ruse¹⁶ and Shanks.¹⁷ There are popular books on ID from Johnson,¹⁸ Newman *et al*¹⁹ and O'Leary.²⁰ There are books on the theological nature of Darwinian argument from Hunter²¹ who also surveys the scientific evidences. On the scientific evidences we also have Spetner,²² Wells²³ and ReMine.²⁴ Wiker²⁵ and Weikart²⁶ explore the consequences of Darwinian materialism, and Campbell and Meyer²⁷ the implications for education. A final indication of the unprecedented impact of ID is the fact that two histories of the movement have already appeared.²⁸

All this is the context of Van Till's essay and Dembski's new book. Unfortunately many readers of *S&CB* are probably unaware of this backdrop of pub-

12 Miller, K.R. *Finding Darwin's God*, New York: Cliff Street Books (1999)

13 Pennock, R.T. (ed.) *Intelligent Design Creationism and Its Critics: Philosophical, Theological and Scientific Perspectives*, Cambridge, Mass: MIT Press (2001)

14 Forrest, B.C. & Gross, P.R. *Creationism's Trojan Horse: The Wedge of Intelligent Design*, New York: Oxford University Press (2003)

15 Perakh, M. *Unintelligent Design*, Prometheus Books (2003)

16 Ruse, M. *Darwin and Design: Does Evolution Have a Purpose?* Cambridge, Mass: Harvard University Press (2003)

17 Shanks, N. *God, the Devil, and Darwin: A Critique of Intelligent Design Theory*, New York: Oxford University Press (2003)

18 Johnson, P.E., *Darwin on Trial*, Washington: Regnery Gateway (1991) This is the book that launched the movement; a UK edition followed in 1994 (Crowborough: Monarch); *Reason in the Balance: The Case Against Naturalism in Science, Law & Education*, Downers Grove, IL: IVP (1995); *Testing Darwinism: An Easy-to-Understand Guide*, Leicester: IVP (1997); *Objections Sustained – Subversive Essays on Evolution, Law & Culture*, Downers Grove, IL: IVP (1998); *The Wedge of Truth: Splitting the Foundations of Naturalism*, Downers Grove, IL: IVP (2000); *The Right Questions: Truth, Meaning & Public Debate*, Downers Grove, IL: IVP (2002)

19 Newman, R., Wiester, J., Moneymaker, Janet & Moneymaker, Jonathan *What's Darwin Got to do with It? A Friendly Conversation about Evolution*, Downers Grove: IVP (2000). This is a cartoon book – a difficult medium, but this book succeeds superbly.

20 O'Leary, D. *By Design or By Chance?: The Growing Controversy Over the Origin of Life in the Universe*, Minneapolis, MN: Ausburg Books (2004) In our judgment this is also the best popular introduction to ID.

21 Hunter, C.G. *Darwin's God: Evolution and the Problem of Evil*, Grand Rapids: Brazos Press (2001); *Darwin's Proof: The Triumph of Religion over Science*, Brazos (2003)

22 Spetner, L. *Not by Chance! Shattering the Modern Theory of Evolution*, 2nd edn, New York: The Judaica Press (1997)

23 Wells, J., *Icons of Evolution: Science or Myth? Why Much of What we Teach about Evolution is Wrong*, Washington: Regnery (2000). Wells' exposé of the peppered moth story in *Icons* has now been brilliantly complemented by Hooper J., *Of Moths and Men: Intrigue, Tragedy and the Peppered Moth*, Fourth Estate (2002). For Wells' response to critics see: www.discovery.org

24 ReMine, W. *The Biotic Message: Evolution versus Message Theory*, Saint Paul, Minnesota: St Paul Science (1993)

25 Wiker, B. *Moral Darwinism: How We Became Hedonists*, Downers Grove, IL: IVP (2002)

26 Weikart, R. *From Darwin to Hitler: Evolutionary Ethics, Eugenics, and Racism in Germany*, Palgrave Macmillan (2004)

27 Campbell, J. & Meyer, S. (eds.) *Darwinism, Design and Public Education*, East Lansing: Michigan State University Press (2003)

28 Witham, L. *By Design: Science and the Search for God*, San Francisco: Encounter Books (2003); Woodward, T. *Doubts About Darwin: A History of Intelligent Design*, Grand Rapids, Michigan: Baker Books (2003).

lishing activity and debate. It is now very unlikely that the UK will remain a refuge from the debate and UK Christians in science will be expected to contribute. If that debate is to be productive then, at the very least, we should understand and address the actual arguments and not straw men.

Turning to Van Till's essay, we would start with a general comment. Discussions of ID demonstrate an urgent need for a framework whereby Christian scholars (scientists and non-scientists) can engage meaningfully on matters of science. We consider that an excellent starting point for this is provided by Trigg²⁹ and, specifically with regard to design, by Ratzsch.³⁰ However much many scientists would wish it otherwise, the reality is that science is built on metaphysical foundations. Historically Christianity provided that philosophical foundation.

The early scientists, deeply influenced by the Christian world-view, did have a position on the relationship between God and his creation. This understanding came to be known as the doctrine of providence. God is continually active in his creation. He upholds and sustains it, so as to provide for all the creatures he has made. This sustaining is constant and continuous. It can be described in terms of natural laws because God's activity is not fickle and unpredictable, but according to his eternal purposes. These consistent and predictable ways of working ground the scientific method. When God acts in miraculous ways he is no more and no less active. The difference relates only to his will. He can choose to govern his creation in a different way, as when he made iron float (2 Kings 6:6) and when Jesus turned water into wine (John 2:1-7). In Scripture, miracles are presented as signs of God's presence, not typical manifestations of God's laws. Consequently, no Christian scientists have ever expected miracles to wreck their investigations. Christians who support ID see God at work in the ordinary processes as well as in those which are (from our human perspective) extraordinary. The intimate relationship between the Creator and his creation preserves Christian scholars from seeing the Cosmos as impersonal and unplanned. Science, in the hands of Christians, is an activity of worship as well as of exploration and service.

That leads us to a common misconception about ID. By arguing that the causal explanation of a specified system includes intelligent design, the ID scientist is neither excluding all naturalistic processes, nor arguing that other systems are not designed. A particular aspect of design is in focus.

The diverse molecular patterns of snowflakes can be explained in terms of law and of chance. For all the wonder they excite, they have no functional meaning for anything beyond themselves. By contrast DNA molecules store

29 Trigg, R. *Philosophy Matters*, Oxford: Blackwell (2002); 'A Christian Basis for Science', *Science & Christian Belief* (2003) 15/1, 3-15

30 Ratzsch, D. *op. cit* (8)

functional information³¹ – information that is required for the formation of specified predetermined products in given organisms – and have functional meaning for things beyond themselves. The question is, ‘Can naturalistic processes on their own bring about the quantity and quality of those functional relationships we observe in living organisms today?’ Or are other causal factors required?

Van Till talks much about ‘full causal specificity’ and comments that it ‘is, of course, the goal of all scientific explanations’.³² There is no simple ‘Yes’ or ‘No’ to this, because all such statements are metaphysically loaded. The ID claim is that full causal specificity cannot be achieved if there is an undeclared eliminative reductionism at work – eliminating from consideration any and all causal factors beyond those of naturalistic science – law and chance. Enriching the concept of causality by including design does not lead the sciences astray, nor shut them down. Rather, it enlarges their explanatory power and scope. In other words, this is as much a scientific empirical question as anything else. Dembski, Behe and their colleagues have provided rigorous arguments that functional design can be identified and researched. We therefore want to know from Van Till the empirical grounds on which he dismisses ID from consideration.

From Van Till’s writings in general it is clear that his objection to ID is primarily philosophical / theological. He believes in a God who gives to the matter he creates all the requisite abilities to organise itself into simple living forms and then self-transform into the complex forms we see today. He expresses faith in the organisational and transformational capabilities of matter and organisms (120, 135). His God is one who acts naturally, not supernaturally; who persuades, but does not coerce or overpower (‘naturalistic theism’, 121). Persuasion, he believes, is not empirically detectable. Our question to him is obvious: how does he know that persuasion is not empirically detectable?

A major consideration for Van Till is the problem of evil. He rejects the traditional Christian answers and instead seeks to distance God from what actually goes on in the natural world. In a 2002 interview, he stated it thus:

If ‘God’ represents some external (other worldly) agent whose character and relationship to the world is of the sort that is presumed by traditional supernaturalism, then ‘God’ is culpable for horrendous failures and caprice. The theodicy problems that are generated by the omnipotent God of supernaturalism are to me a clear signal that some other portrait of ‘God’ is necessary. That’s why I have abandoned supernaturalism’s portrait of ‘God’ and

31 On ‘functional information’, see Szostak J., *Molecular Messages*, Nature (2003) 423, 689 Paul Davies has a useful discussion (contrasting snowflakes and DNA in terms of syntactic vs semantic information) in *The Fifth Miracle: The Search for the Origin of Life*, London: Penguin (1999), 36-37.

32 Van Till *op. cit.* [3], 126.

am on a search to find a better portrait of what 'God' represents. I seek a 'God' who is intimately resident in all that transpires 'naturally'. David Ray Griffin's articulation³³ of naturalistic theism (in the vocabulary of process theology) is very attractive to me at the moment.³⁴

We can respect Van Till's conclusion and the reasons for it, but that is a much wider and quite different debate from the one we thought was taking place in the pages of *S&CB*. What is the relationship between Van Till's beliefs and orthodox, biblical Christianity? How does he integrate into his naturalism the biblical affirmations that God *does* take responsibility for the evil as well as the good?³⁵ How does he integrate the biblical witness to the life, death and resurrection of Jesus Christ? In relation to science, if Van Till 'knows' that design is not detectable, knows that God does not act coercively, then isn't *that* a science stopper? Why look for something you 'know' won't be found? It is reminiscent of the Darwinian identification of vestigial organs. In some cases that 'identification' delayed research into the function of these organs by a century or more.³⁶

Van Till consistently misrepresents the contribution of ID scholars. We wonder why he doesn't quote them on such crucial matters. This is apparent in the way he summarises the arguments of leading proponents. Behe's irreducible complexity (IC) is declared to be 'so remarkable that it could not possibly be the outcome of unguided natural processes alone' (119). This is not a good summary of Behe, who writes: 'By *irreducibly complex* I mean a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning.'³⁷ Behe's definition was used by Thornhill and Ussery,³⁸ in their interesting discussion of the concept. The Van Till explana-

33 For Griffin's views, see Griffin, D.R. *Religion and Scientific Naturalism: Overcoming the Conflicts*, Albany NY: State University of New York Press (2000); *Reenchantment without Supernaturalism: A Process Philosophy of Religion*, Ithaca, NY: Cornell University Press (2000)

34 St Matthew-in-the-City Anglican Church, Auckland, New Zealand, 'Intelligent Design Theory: What's at Stake in the Debate?' An e-dialogue [February 2004] between the vicar Ian Lawton and Howard J. Van Till, Professor of Physics and Astronomy, Emeritus Calvin College, Grand Rapids, Michigan USA, <http://www.stmatthews.org.nz/>, accessed 08 February 2004.

35 A few examples: 'Who gave man his mouth? Who makes him deaf or mute? Who gives him sight or makes him blind? Is it not I, the Lord?' (Ex 4:11); 'for God did not endow her with wisdom or give her a share of good sense'. (Job 39:17 – God explaining to Job why the ostrich may not be a good mother); 'When disaster comes to a city, has not the LORD caused it?' (Amos 3:6)

36 For example, Darwin regarded the external ear (pinna) and the associated muscles as vestigial in humans (and apes). Other biologists agreed and no research was carried out until 1959. It was then shown that the pinna performs 'an acoustical transformation which is essential to localisation in human hearing' (Batteau, D.W. 'The Role of the Pinna in Human Localisation', *Proceedings of the Royal Society* (1967) B168, 158-180). If the pinna has a function then it must be supplied with sufficient muscles to maintain the blood flow necessary for nutrition and warmth. Biologists often forget that muscles serve other functions besides the movements of body parts.

37 Behe, M. *Darwin's Black Box*, New York: Free Press (1996), 39

38 Thornhill, R.H. & Ussery, D.W. 'A Classification of Possible Routes of Darwinian Evolution', *Journal of Theoretical Biology* (2000), 203, 111-116

tion of IC misses Behe's key contribution, that molecular biology has opened a window into the operation of biochemical systems in living cells. Many of these systems exhibit features that elude Darwinian mechanisms of evolutionary change. The argument is not from incredulity, but from an understanding of how cellular systems operate.

A police detective faced with a suspicious death asks, 'Was the fatal fall accidental, or did she commit suicide, or was she pushed?' Whatever the accumulating direct and indirect evidence for design (murder), it will always be possible to imagine some coincidence of circumstances that would explain it as an accident. In the light of accumulating evidence for design there simply comes a point beyond which it is unreasonable to hold out for chance. ID scholars conclude that we now know enough about some biomolecular systems for it to be unreasonable to continue to appeal only to natural law and chance events as an explanation of their origin. In the case of these biomolecular systems, the improbabilities are many orders of magnitude greater than those encountered by forensic scientists.³⁹

It is at this point that Van Till raises the cry 'god of the gaps'. Actually gaps arguments are not necessarily bad.⁴⁰ Of course, it is a gaps argument *from ignorance* that Van Till alleges is the meat of the ID argument. The concern here is that ID claims will reflect badly on Christianity once the advance of science shows that they are false. It will then be perceived as another retreat for Christianity and victory for secular science. Thus of Dembski's specified complexity (SC) he writes (127): 'We have firm empirical evidence that some biotic system X could not possibly have been actualised (at least not for the very first time) by purely natural processes; therefore X must have been intelligently designed.' However this is a misrepresentation of ID. Finding the best explanation of a phenomenon requires invoking causes that have the power to produce the effect in question. On the one hand, we know (have actual empirical evidence) that intelligent agents can produce vast amounts of functional information. On the other hand, we have no evidence that naturalistic causes can produce the quantity and quality of functional information we find in the complex biomolecular systems that we observe. The design inference is not an explanation based on ignorance, but an inference from knowledge, from evidence.

Van Till further comments that, 'To the ID movement, to be a God who is not empirically detectable is to be a dispensable God.' (122). The suggestion here is

39 Dembski *op. cit.* [6]: (1998), (2002) and (2004).

40 In recent years there has been a re-evaluation of gaps arguments, demonstrating that previous discussions contained much mythology: good gaps arguments are perfectly possible. See Reynolds J., 'God of the Gaps: Intelligent Design & Bad Apologetic Advice', In Dembski W.(ed.), *Mere Creation: Science, Faith & Intelligent Design*, Downers Grove, IL: IVP, 1998, ch 13, 313-331; Snoke D., *In Favor of God-of-the-Gaps Reasoning*, June 2001, webbed at www.cityreformed.org/snoke (accessed 28/04/2004); Larmer R., Is there anything wrong with 'God of the gaps' reasoning? *International Journal for Philosophy of Religion* (2002) 52(3), 129-142.

that a certain type of apologetic approach, or theological agenda is central to ID. This is simply false. So many critics of ID just cannot seem to grasp that, as explained above, ID is not a credal movement. We are confident that the central goal for many, ourselves included, is not to develop a design apologetic to confront naturalism but, since we recognise the hallmark of design in nature, to discover how design inferences can be articulated within a scientific community that has ruled out intelligent design as a matter of principle. How can we show that the design inference is empirically fruitful in scientific research?

The biological systems at the centre of this origins debate are some of the most complex systems in the known universe. The ID proponent concludes, 'This is not just *apparent* design; it is *real* design. I need to learn more about it.' The opponent responds, 'There you go with your religion again.' Surely, the question is, 'What does the evidence show?' Isn't it those who come to the evidence with a philosophy that excludes design (detectable design) who are limiting science? ID subsumes (methodological) naturalism. Van Till's theistic naturalism excludes (even methodological) design. In our opinion ID is a strong scientific claim that is consistent with the evidence we have available today, whereas the naturalistic alternatives currently fail as causal explanations. No wonder, then, that so many biologists actually do operate with the tools of methodological design.

Paradoxically, Van Till's argumentation assumes an outdated mechanistic picture of the universe and of God's relationship to it. Otherwise the talk of God giving the universe all the capabilities to fulfil his purposes, and of not coercively interfering, would make no sense. But why are we bound to that kind of clockwork picture of the relationship? There are other possibilities. The Cappadocian Church Father, Gregory of Nazianzus, used the picture of playing a lute. It is entirely appropriate to play, or interact with, a musical instrument; indeed that is what it is created for. Even if we stick with a mechanistic picture, there are alternative images. Consider, for example, an aeroplane with autopilot: it can fly on its own, but it is perfectly proper for the pilot to fly it manually when he sees fit. In short, our pictures must illuminate the evidence; they cannot replace it.

The above examples demonstrate to us that Van Till has not understood the arguments put forward by ID scholars. We also need convincing that Van Till's article provides a serious appraisal of the issues. It is immensely to their credit that ID scientists have actively sought exposure to secular critique and have benefited from it. But Van Till undermines his response in several ways. His opening sentence (117) refers to 'religiously motivated opposition to scientific theories' and he goes on to treat ID as a form of creationism. This is of course a common secular tactic. The ID community actually includes both agnostics and theistic evolutionists; it is not (to repeat) a credal movement. But this kind of *ad hominem* analysis serves to paint the movement in a negative light: as a fringe group that is opposed to the scientific enterprise. This polemic appears repeatedly in Van Till's essay.

It is because he treats ID as a form of creationism that Van Till asks: 'What do ID advocates actually mean when they say "X was intelligently designed" ... Presuming that Intelligent Design is some form of action, what kind of action? And, action by what sort of agent? ... How does a non-physical agent exert physical forces?' (127). We are at a loss to understand Van Till here. ID is focused on ways of objectively testing design inferences. Once design is established as an objective feature of living things, the questions raised by Van Till will certainly become relevant. But then they will need to be addressed by *all* scholars.

However, Van Till is clearly being polemical. Answering the questions will require us to go outside the framework of methodological naturalism that currently dominates the scientific community. But Van Till deems that to be unacceptable. ID scientists argue that if the design inference is validated (and many think it already is) then the rest of the scientific community will have to respond by relinquishing some of their hallowed commitments. ID should not be faulted for bringing challenges to some of the traditions of modern science. If science is to be healthy, it needs competing explanations and hypotheses, and, at the very least, the ID contributions ought to be welcomed as a stimulus to research.

Van Till's talk of self-organising and self-transforming capabilities contains a critical assumption: that of *continuity*. The assumption is that changing historical and ecological contexts creates the continuity of entities and processes that Darwinian evolution requires (Dawkins' gentle grassy slope up Mount Improbable,⁴¹). This assumption is so self-evident to Darwinists that, from Darwin to the present day, it has been referred to as the 'principle of continuity' or 'law of continuity'.⁴² However it remains no more than an assumption, and one that looks increasingly vulnerable. To take just one example, the rapidly accumulating data on protein sequences indicates that functional sequences (*i.e.* sequences that produce stable, folded structures) are incredibly rare in sequence space (tiny isolated islands in vast oceans of non-function).⁴³ Are theistic evolutionists open to empirical disconfirmation of continuity?

41 Dawkins, R., *Climbing Mount Improbable*, London: Penguin, 1997. For the parable of the unscalable cliffs versus the gentle grassy slopes see chapter 3, page 64.

42 See quotations and references in Jones, A. *Science in Faith: A Christian Perspective on Teaching Science*, Christian Schools' Trust (1998), 60-61

43 Nelson, E. & Onuchic, J. 'Proposed mechanism for stability of proteins to evolutionary mutations', *Proceedings of the National Academy of Sciences* (1998) 95/18, 10682-10686.

Blanco, F.J., Angrand, I. & Serrano, L. 'Exploring the conformational properties of the sequence space between two proteins with different folds: an experimental study', *Journal of Molecular Biology* (1999) 285/2, 741-753

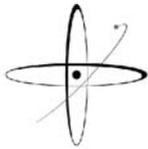
Axe, D.D. 'Extreme functional sensitivity to conservative amino acid changes on enzyme exteriors', *Journal of Molecular Biology* (2000), 301/3, 585-595

Taylor, S., Walter, K., Kast, Peter and Hilvert, D. 'Searching Sequence Space for Protein Catalysts', *Proceedings of the National Academy of Sciences* (2001) 98/19, 10596-10601.

In other contexts, it is commonplace to hear that science is not determined by a majority vote, and that ought to be the case here. Yet Van Till declares that the 'vast majority of biologists' (125, *cf.* 124) are (exclusively) supportive of 'natural processes'. However, in our view, the vast majority of biologists have had neither the incentive nor the opportunity to consider the issues properly and most, unsurprisingly, have never offered a view. In most cases, they have never even been exposed to a serious presentation of ID. At best they may have read an anti-ID article and thus know ID only through the eyes of its opponents. As we noted at the beginning, in the UK, ID literature has not been easily available to readers. The debate has hardly yet begun here. Within *CiS*, the sole presentation was at an annual conference on the theme 'Design in Nature' by one of the writers (DT). All the more reason, therefore, to create an environment where these issues can be explored with respect, clarity, and vigour.

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HOWARD J. VAN TILL

Apples, Oranges and Portraits of the ID Movement

During the past fifteen years North America has seen the rise of a movement known by the label, 'Intelligent Design'. This ID movement is characterised by several factors: scientific claims, rhetorical strategies, political goals and religious motivations. In a recent essay (S&CB 15:2, 2003) my assessment of the ID movement focused mostly on the rhetorical strategies and scientific claims made by leading ID advocates, principally by theorist William A. Dembski. Arthur Jones and David Tyler have offered a very different portrait of ID and charge that what I presented was a highly distorted picture of ID that misrepresented its leaders. In this response I shall explore some of the reasons for the vivid contrast between our two portraits of the ID movement in North America.

One ID Movement, Two Perceptions

The response by Arthur Jones and David Tyler to my essay, 'Are Bacterial Flagella Intelligently Designed?' (S&CB, 15 (2)) vigorously takes issue with my critique of the Intelligent Design movement (a predominantly North American phenomenon). In the course of their rebuttal, Jones and Tyler charge me with both, a) failing to understand the argumentation of ID theorists, and b) consistently misrepresenting the position advocated by proponents of ID. These are serious charges and, as a seasoned veteran of numerous discussions concerning the implications of modern scientific theorising for certain cherished religious beliefs, I am familiar with the intense passion with which such charges are levelled. However, I must say as candidly as I am able that I find Jones and Tyler's charges to be wholly without merit.

Is it possible to identify the underlying cause for these differences in judgment? To answer as succinctly as I can, it seems to me that there are two vastly differing perceptions of the ID movement, each one held with conviction, that are operative in this exchange. The evaluation of ID that I presented in my essay is based on many years of personal engagement with ID's chief theorists, advocates and major publications. This is no superficial measure. However, neither is it necessarily the picture of ID that its advocates or sympathisers wish to be seen in plain view. Nonetheless, it is one that I believe needs to be more widely known, which is precisely why I wrote the essay now under scrutiny.

The portrait of ID presented by Jones and Tyler, on the other hand, is a selectively informed and highly idealised one and, I believe, one that could be maintained only by presuming that the North American ID movement is using key terminology in the same manner that Jones and Tyler might themselves wish to employ it in delineating or advancing their own position on the actual-

isation of new kinds of life forms since the beginning of time.

The ID Movement as I Have Experienced it

The ID movement of which I wrote in my essay is the one that I have observed, engaged with and critiqued for a decade and a half. As I recall, my first encounter with ID advocates occurred in 1990 (the year prior to the publication of Phillip E. Johnson's book, *Darwin on Trial*) at the annual meeting of the American Scientific Affiliation, the North American counterpart to Christians in Science.¹ Johnson and I (Johnson, a teacher of law, is the founder and energising force of the ID movement) shared the platform at that meeting for an exchange of ideas concerning such topics as creation, creationism, evolution and naturalism. Since that time we have shared the platform on several occasions and have also exchanged our views in writing.²

From the outset I have shared with Johnson and other advocates of the ID movement a concern that biological evolution ought not be taught in our state-operated school systems in such a way as to imply that it provided warrant or encouragement for a wholly materialistic (atheistic) world-view. At the same time, however, I have been very candid in rejecting Johnson's repeated contention that accepting the concepts of biological evolution and genealogical continuity effectively constituted a capitulation to materialism. For instance, after defining Darwinism in a way that necessarily entails the basic tenets of a materialistic world-view Johnson has asserted that 'all of the basic tenets of Darwinism are implied in the concept of ancestral descent'.³ On the contrary, I see no necessary connection at all between the biological concept of common ancestry and the metaphysical stance of materialism. On this question, however, Jones and Tyler apparently take the same position as Johnson. (More on this below in the section on genealogical continuity.)

Since my initial exchanges with Johnson and other Intelligent Design advocates, I have continued to engage with the literature of the ID movement.⁴ My recent attention has been focused on the work of William A. Dembski, hailed as chief of the ID theorists for his work in crafting the probabilistic arguments now commonly employed as the foundation of ID's claims to have empirical evi-

1 Johnson, P.E. *Darwin on Trial*, Downers Grove, IL: InterVarsity Press (1991).

2 See, for example, Van Till, H. J. and Johnson, P.E. 'God and Evolution: An Exchange', *First Things*, (June/July 1993) 34, 32-41, and also 'Intelligent Design: The Celebration of Gifts Withheld?', In Lamoureux, D.O., Johnson, P.E., et al. *Darwinism Defeated? The Johnson-Lamoureux Debate on Biological Origins*, Vancouver: Regent College Publishing (1999), pp. 81-90.

3 Johnson, *op. cit.*(1), p. 150.

4 Examples include 'The Creation: Intelligently Designed or Optimally Equipped?' *Theology Today*, (Oct.1998), 344-364; 'Does Intelligent Design Have a Chance?', *Zygon* (Dec.1999) 34(4), 667-675; 'Science & Christianity as Partners in Theorizing', In Carlson, R.F. (ed.) *Science & Christianity: Four Views*, Downers Grove, IL: InterVarsity Press (2000); and 'Is the Creation a "Right Stuff" Universe?' *Perspectives on Science and Christian Faith*, (Dec. 2002) 54(4), 232-239.

dence that certain biotic structures could have been assembled only with the aid of non-natural ‘intelligent design’ action. In the essay to which Jones and Tyler have responded I examined in detail, and against the background of more than a dozen years of closely following the Intelligent Design movement in North America, both the rhetorical strategies and scientific claims made by Dembski in his recent book, *No Free Lunch*.⁵ In no circumstances would I accept Jones and Tyler’s repeated accusations that I have either misrepresented or failed to understand the Intelligent Design movement.

On the contrary, by examining Dembski’s written material in detail, and by determining the operative (and often very unconventional) meanings of key terms on the basis of a thorough consideration of the various contexts in which they are employed, I have discovered how ID rhetoric works to craft both its rhetorical and scientific cases. Jones and Tyler may wish that the ID movement were not as I described it, but that is a different matter. The chief purpose of my writing on this topic is to bring to light both the world-view convictions and the rhetorical strategies that are operative behind the shop-window display that many promoters of ID have set up.

Let me here remind the reader of some of the peculiarities that I have identified. For example, when North American ID advocates say, in effect, that ‘we have empirical evidence that biotic structure X could not have been actualised by chance; consequently X must have been intelligently designed,’ I find the following translation guide, developed especially for Dembski’s book, *No Free Lunch*, to be essential:

- contrary to what readers might expect, ‘by chance’ effectively means ‘by the joint action of all natural causes, both known and unknown’.
- ‘we have empirical evidence’ most often means no more than ‘we are aware of no detailed and incontestable scientific account to the contrary’.
- ‘X was intelligently designed’ most commonly means that ‘X was actualised in such a way that required, in addition to all operative natural causes, one or more episodes of non-natural, form-conferring intervention by an unidentified, unembodied, choice-making agent’ (who, as it turns out, bears a striking resemblance to the God of Judeo-Christian supernaturalism). Although terms like ‘design’ and ‘intelligent design’ do occasionally refer to some more ambiguous type of non-natural action or mind-derived quality, I find the ID movement as a whole functioning largely a means of promoting a broadly Christian supernatural interventionism. I do not say this here as an argument either for or against it, but simply to say how it actually functions.

Furthermore, in order to understand what ID advocates like Dembski mean when they say, in effect, ‘if a biotic structure X exhibits specified complexity,

⁵ Dembski, W.A. *No Free Lunch: Why Specified Complexity Cannot Be Purchased without Intelligence*, Lanham, MD: Rowman & Littlefield (2002).

then Darwinism, or the Darwinian mechanism, cannot account for the formation of X', I have found it essential to understand that:

- to exhibit 'specified complexity' means to be both 'sufficiently complex' and 'specified';
- for a biotic system X to be 'specified' it is sufficient that X exhibit a biological function (as the flagellum functions to give the E. coli bacterium mobility);
- biotic system X is considered to be 'sufficiently complex' if the probability, $P(X|N)$, of its being formed by chance (that is, recall, by the joint effect of all natural causes, both known and unknown) falls below the value of 10-150. In my essay I pointed out that $P(X|N)$ cannot, however, actually be computed;
- 'Darwinism' is defined in such a way as to entail a commitment to the tenets of materialism. As such, Darwinism is not treated as a strictly scientific theory, but as a comprehensive metaphysical system that all theists would necessarily have to reject;
- the term 'Darwinian mechanism' includes only strictly gradualistic natural processes and excludes, as non-Darwinian, any biological mechanism or event that entails rapid or large changes. Consequently, Darwinism does not include all possible natural mechanisms.

These and other features of the rhetorical strategy employed by North American ID advocates were the subject of a major portion of my essay. I encourage anyone who is interested in coming to a better understanding of this movement to give Dembski's book, *No Free Lunch*, a thorough read and to see whether or not my assessment of that rhetoric is helpful toward understanding and evaluating the book's numerous claims.

The Intelligent Design Movement as Jones and Tyler Envision it

Jones and Tyler describe the ID movement in terms quite different from mine. Some of their descriptions do, in fact, fit with some statements that appear in literature advocating ID. This overlap notwithstanding, however, my candid judgment remains that the view of ID presented and defended by Jones and Tyler constitutes *a highly selective and idealised view from a distance*. Perhaps their view of the North American Intelligent Design movement is taken from their own vision of what the term 'intelligent design' should represent. Or, perhaps it is what the ID movement could have become if it had been proposed and nurtured in an environment outside of the US, burdened as we are with our peculiar history of dealing awkwardly with the interesting challenges presented to Christian theology by modern science, especially by the theory of biological evolution. Regardless of the reasons, however, I find Jones and Tyler's description of ID to be built from a highly selective subset of the presupposi-

tions, strategies, definitions and claims that constitute the North American ID movement as it has been espoused in works by advocates like Johnson and Dembski.

According to Jones and Tyler, for instance, 'ID is not a credal movement.' Rather, it must be seen as 'a broad church that is compatible with a range of positions from agnosticism, through theistic evolutionism to young-earth creationism'. No doubt Jones and Tyler could find samples of ID literature that make a similar claim, but the reality is, in my judgment, a quite different and more complex matter. For instance, are ID advocates prone to offer any positive encouragement for incorporating ID into a religiously agnostic world-view? Rarely, if ever, I would say. The foundation of standard ID argumentation is a simple *either/or choice*: some biotic system (like the bacterial flagellum) was either formed by natural causation as part of the evolutionary process *or* must be the product of the non-natural action of intelligent design. For example, after explaining that design theorists find the either/or question, '*Which is correct, naturalistic evolution or intelligent design?*' to be 'a perfectly legitimate question', ID theorist Dembski goes on to explain that 'to reject fully naturalistic evolution is to accept some form of creation broadly construed, that is, the belief that God or some intelligent designer is responsible for life'.⁶ I do not see this as a particularly warm welcome for persons who espouse a genuinely agnostic position.

What about theistic evolution? An even colder reception is in store for those who espouse this type of view. In Dembski's words,

intelligent design is incompatible with what typically is meant by 'theistic evolution' (or what is also called 'creative evolution', 'teleological evolution', 'evolutionary creation' or most recently 'fully gifted creation'). Theistic evolution takes the Darwinian picture of the biological world and baptises it, identifying this picture with the way God created life...Within theistic evolution, God is a master of stealth who constantly eludes our best efforts to detect him empirically...The current theological fashion prefers an evolutionary God inaccessible to scientific scrutiny over a designer whose actions are clearly detectable...Design theorists think the scientific evidence favors design whereas theistic evolutionists think it favors Darwin or one of his naturalistic successors.⁷

In even more strident language, Dembski has suggested that in the eyes of many people, 'Theistic evolutionists lack the stomach to face the ultimate meaninglessness of life, and it is this failure of courage that makes them contemptible in the eyes of full-blooded Darwinists'.⁸ Given this level of denuncia-

6 Dembski, W.A. *Intelligent Design: The Bridge Between Science & Theology*, Downers Grove, IL: InterVarsity Press (1999), p. 115.

7 *ibid.*, pp. 110-111.

8 *ibid.*, p. 112.

tion, it is difficult to imagine a theistic evolutionist feeling warmly welcomed in what Jones and Tyler describe as the 'broad church' of ID.

What about young-earth creationism? For pragmatic and strategic reasons, I suspect, there is an awkward ambivalence here. Young-earth creationism constitutes a very large community in North America, a community whose support could be of great assistance to the ID movement toward its goal of getting the ID perspective into the science classrooms of the state-operated school system. In the context of this political goal, I presume that it is no accident that the ID movement has chosen to remain silent on issues like the age of the earth or the occurrence of a global flood within human history. After all, why offend the large young-earth creationist community of potential allies by being critical of its core beliefs? At the same time, however, advocates of ID have remained comparably silent on the employment of biblical texts to warrant any episodic creationist perspective. After all, why give your opposition such an easy way of identifying ID as a religiously-motivated movement?

This time, however, ID's strategy of silence appears to be problematic to leading young-earth creationists. In a brief essay titled 'Design is Not Enough', (in the Institute for Creation Research's *Back to Genesis* pamphlet series, No. 127a, July 1999) Henry M. Morris, Founder and President Emeritus of the ICR, commented as follows:

There is a strong movement among evangelicals today to emphasize 'intelligent design' as the argument of choice against naturalism and Darwinian evolution. The movement is also called 'mere creation' or 'the wedge movement,' the idea being to avoid controversial subjects such as the biblical doctrine of creation in talking to evolutionists. Any discussion of a young earth, six-day creation, a worldwide flood and other biblical records of early history will turn off scientists and other professionals, they say, so we should simply use the evidence of intelligent design as a 'wedge' to pry them loose from their naturalistic premises. Then, later, we can follow up this opening by presenting the gospel, they hope.

But this approach, even if well-meaning and effectively articulated, will not work! It has often been tried in the past and has failed, and it will fail today. The reason it won't work is because it is not the biblical method.⁹

It would seem that even though Jones and Tyler may be happy with the intelligent design approach, not all of their young-earth creationist colleagues are pleased with the ID movement's strategy to downplay both biblical considerations and questions regarding the age of the universe.

Is ID No More than a Minimalist, Non-credal Perspective?

According to Jones and Tyler, 'ID is a deliberately minimalist position' that

9 For the full text of this essay, see <http://www.icr.org/pubs/btg-a/btg-127a.htm>.

unites a diversity of proponents ‘around just two basic assertions: “Naturalism is false” and “Design is empirically detectable.”’ Elsewhere they criticise a portion of my essay by noting that, ‘The suggestion here is that a certain type of apologetic approach, or theological agenda is central to ID. This is simply false. So many critics of ID just cannot seem to grasp that...ID is not a credal movement. We are confident that the central goal for many, ourselves included, is not to develop a design apologetic to confront naturalism....’

I must admit that I am mystified by what appears to be a glaring inconsistency here. If the thesis ‘naturalism is false’ is one of two basic assertions of ID, as Jones and Tyler explicitly state, then how could it be the case that to ‘develop a design apologetic to confront naturalism’ is *not* a goal for proponents of ID?

That contradiction aside, however, which particular meaning of ‘naturalism’ do Jones and Tyler have in mind? In my essay I listed four variant meanings that I find to be especially relevant to the evaluation of ID – *maximal* (atheistic) naturalism, *minimal* (religiously agnostic) naturalism, *methodological* naturalism (a statement about science, not about the universe), and *naturalistic theism* (which places a strong emphasis on the ubiquity and necessity of non-coercive divine action). I then developed the thesis that failing to distinguish among these four has been a serious shortcoming of the ID movement. Having chosen to ignore those distinctions, Jones and Tyler have crafted a response that is permeated with one of the central misunderstandings that I sought to prevent.

To understand the Intelligent Design movement comprehensively, I believe that it is essential for a person to recognise that it has not only a scientific dimension but religious and political dimensions as well, each of which should be open to an appropriate form of scrutiny. To neglect the ID movement’s religious dimension or to suggest that ID is a purely scientific enterprise that would exist even if the religious agenda of its most vocal advocates were absent would, in my judgement, be seriously to distort reality by presenting a small portion as if it were the whole. Furthermore, for anyone to suggest that the religious agenda of the current ID movement in North America is not dominated by the concerns of Christian supernaturalism would, I believe, require a denial of the obvious.¹⁰

Is it Fair to Ask ID Advocates What it Means to be ‘Intelligently Designed’?

In the opinion of Jones and Tyler, ‘It is because he treats ID as a form of cre-

¹⁰ For an analysis of the multifaceted character of the ID movement, see Forrest, B. and Gross, P.R. *Creationism’s Trojan Horse: The Wedge of Intelligent Design*, New York: Oxford University Press (2004), especially the book’s final chapter, ‘Religion First—and Last’.

ationism that Van Till asks: "What do ID advocates actually mean when they say that 'X was intelligently designed' ... Presuming that intelligent design is some form of action, what kind of action? And action by what sort of agent?... How does a non-physical agent exert physical forces?" Jones and Taylor then proceed to say, 'We are at a loss to understand Van Till here.'

At a loss to understand why I ask what it means to be 'intelligently designed'? How could that possibly be? I ask ID advocates that specific question for one very obvious reason: their chief claim is, in effect, *We have empirical evidence that X was intelligently designed*. Jones and Tyler explicitly affirm this when they identify as one of ID's basic assertions, 'Design is empirically detectable.' However, until I know what ID proponents themselves mean when they say that some biotic structure X was *designed*, or *intelligently designed*, I have no basis for critiquing such a claim. People, including Jones and Tyler, use the word 'design' for all manner of differing concepts. Failure to clarify what is meant by 'design' and 'intelligent design' has led to massive confusion in the literature and in discussion. My request for clarification comes in the context of having observed that confusion in both the propagation and evaluation of ID for well over a decade.

Perhaps the puzzlement expressed by Jones and Tyler can be at least partially understood by looking at how they continue: 'ID is focused on ways of objectively testing design inferences. Once design is established as an objective feature of living things, the questions raised by Van Till will certainly become relevant.' This rhetoric and similar remarks elsewhere in their paper suggest that Jones and Tyler have in mind some preconception of 'design inferences' and of design 'as an objective feature of living things', and that the meaning of this terminology is so universally accepted that it needs no further explication. But that is simply not the case and the strategic ambiguity regarding the precise meaning of these key terms as they are employed by leading ID advocates represents one of the problems addressed in my essay.

On the Question of my Religious Motivations

According to Jones and Tyler, my references to the religious motivation of the ID movement constitutes nothing other than a 'kind of *ad hominem* analysis' that functions as a 'polemic' that only 'serves to paint the movement in a negative light....' Furthermore, say Jones and Tyler, 'From Van Till's writings in general it is clear that his objection to ID is primarily philosophical/theological.'

There is, at best, a partial truth in the latter statement. Yes, I have openly and candidly criticised the philosophical/theological dimensions of ID in other publications.¹¹ In the essay under consideration, however, after noting the importance of understanding the ID movement as one whose primary motiva-

¹¹ See, for example, the essays cited in note 4.

tion is religious, I chose to focus on two quite different aspects of ID: (1) its *rhetorical strategy*, and (2) its *scientific claims*. Furthermore, although I did, in my critique of ID's rhetorical strategy, make reference to Christian perspectives other than traditional supernaturalism, I did not argue in favour of any one particular religious/theological position. Jones and Tyler, however, imply something quite different – that my essay must be seen as an apology for some form of naturalistic theism, citing extensively, not from my essay, but from my contribution to an interview posted on the internet in 2004.

Two brief comments in response: (1) Because I did not explicitly argue in favour of naturalistic theism in my *S&CB* essay, references to it (or to the problem of evil) by Jones and Tyler are simply irrelevant. These references are wholly extraneous to the substance of the essay to which they are ostensibly responding. (2) In stating their criticism, Jones and Tyler appear to be seriously confused concerning what my theological perspective on divine action might actually be. First they assert that I reject traditional Christian answers to the problem of evil and instead seek 'to distance God from what actually goes on in the natural world'. Then they cite a portion of my interview with Rev. Ian Lawton in which I say that 'I seek a "God" who is intimately resident in all that transpires "naturally"'. So, then, what do Jones and Tyler think I am looking for – a God who is distant from what actually goes on in the natural world, or a God who is intimately resident in all that transpires naturally? Jones and Tyler are going to have to make a choice; they cannot chastise me for both!

On Genealogical Continuity

Jones and Tyler close their critical commentary with a challenge to the idea of *continuity* that they find characteristic of Darwinism. They are correct, of course, to note that evolutionary biology finds that the idea of genealogical continuity, or the common ancestry thesis, provides the most fruitful way of accounting for genetic relationships among life forms. Even Michael Behe, one of the principals in the ID movement in the US, says, 'I find the idea of common descent (that all organisms share a common ancestor) fairly convincing, and have no particular reason to doubt it.'¹² But genealogical continuity is just one component of the far more comprehensive assumption that the continuity of natural processes need never be interrupted by occasional episodes of supernatural intervention in order to bring about the actualisation of new life forms. I have called this the *Robust Formational Economy Principle* and I find it to be one of the most fruitful assumptions in the scientific investigation of the universe's formational history.¹³

12 Behe, M. J. *Darwin's Black Box: The Biochemical Challenge to Evolution*, New York: The Free Press (1996), p. 5.

13 For a development of this principle, see my essay, 'Is the Universe Capable of Evolving?', In Miller, K.B. (ed.) *Perspectives on an Evolving Creation*, Grand Rapids, MI: Wm. B. Eerdmans Publishing (2003), pp. 313-334.

But the possibility of uninterrupted genealogical continuity is not acceptable to Jones and Tyler, who hold to the idea of independent creations of 'all the different kinds of living things' that continue to 'reproduce after their own kind'. Noting that not all Christians agree with this type of position, Jones and Tyler lament that, 'A number of Christians ... claim that there is a scientific theory of evolution (neoDarwinism) which they find acceptable, but that evolutionism, which springs from atheistic philosophy, is unacceptable.' But theistic evolution of any sort is rejected by Jones and Tyler, who unequivocally declare that, 'this view is fallacious: there is no scientific theory of evolution! The time is long overdue for the atheistic roots of all evolutionary theories to be addressed by the Christian community.'¹⁴

Given this sentiment, the deep discomfort expressed by Jones and Tyler concerning my critical evaluation of the North American ID movement is not surprising. Nonetheless, I am confident that my critique is based on a sound understanding and a fair representation of what the ID literature says, of how its rhetorical strategies function, and of whether or not its scientific case carries any probative force.

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14 Jones and Tyler express this judgment in a brief essay titled 'Darwinism and Neodarwinism in evolutionary change', posted on the website of the Biblical Creation Society. The basic tenets of the BCS can be found in its Creation Manifesto, which specifies that 'the earth cannot be more than a few thousand years old', and that the Noachian Flood 'was global' and 'really happened in history', that is, within the last few thousand years. Furthermore, for anyone to deny this 'is to disbelieve the words of Christ himself'. The full text of Jones and Tyler's 1992 article can be found at www.biblicalcreation.co.uk/scientific_issues/bcs028.html

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