

An ‘introduction’, in-depth

A review of
*The Design of Life: Discovering
Signs of Intelligence in
Biological Systems*
by William A. Dembski
and Jonathan Wells
Foundation for Thought and
Ethics, Dallas, TX, 2008

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When first hearing the advertising for *The Design of Life*, I suspect many were skeptical about the value of yet another ‘introduction to intelligent design.’¹ Are there not enough already? We have Phillip Johnson’s classic, *Darwin on Trial*, Dembski’s *Intelligent Design*, and Wells’ *Politically Incorrect Guide to Darwinism and Intelligent Design*, to name a few that are all touted as great ‘introductions’ to the Darwin versus design debate. But *The Design of Life* was written for a somewhat different audience, as its textbook-style indicates. *The Design of Life* was designed as a follow up volume to *Of Pandas and People*,² the successful textbook on design that has been around for almost two decades. While *The Design of Life* was in the works, *Pandas* was making headlines in its own way. In a small Pennsylvania town in 2004, a school board passed a resolution requiring teachers to tell students that Darwinism was ‘not a fact’. Teachers were instructed to inform students that they could learn about an alternative theory of origins, intelligent design (ID), by consulting a reference book in the school library, *Of Pandas and People*. The end result was a highly publicized court case that struck down the school’s pro-ID policy.³ The court did not go so far as to take the ID textbook, *Of Pandas and People*, off the school bookshelves. But the book in the midst of this controversy has not had an update since 1993, well before modern ID’s

most important arguments were even put forward.

Filling the need for a fresh textbook presentation is where *The Design of Life* comes in. *The Design of Life* now fills an important position, as one of the most systematic (and up-to-date) presentations of the case for biological intelligent design.

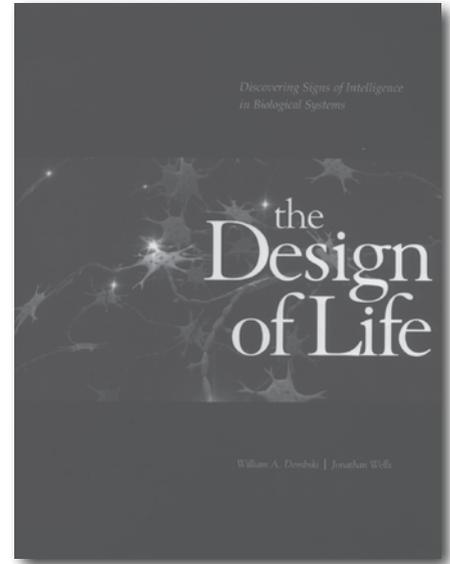
Making the case, strategically

The Design of Life opens with a chapter on human origins, focusing especially on the mind and evolution. The chapter begins with the fascinating story of William Sidis (1898–1944), ‘perhaps the smartest person who ever lived’ (p. 1). He was reading the *New York Times* when he was eighteen months old, taught himself Latin at age two, and graduated *cum laude* from Harvard at age sixteen. Dembski and Wells then transition to a discussion of the gap between man and the great apes. After a quick survey of the fossil record, they return to the issue of intellect with a critique of the evolutionary explanation for *Homo sapiens*’ big brain. If the evolution of the brain is not difficult enough for evolutionists, Dembski and Wells bring in the origins of morality and altruism, critiquing the explanations proposed by E.O. Wilson and the sociobiology school.

From the start, Dembski and Wells are tactically astute. They are hitting evolution where the evolutionists are often most uncomfortable, and where observers already have their strongest instinct against naturalism. So as they proceed with the book, their readers will already have some healthy scepticism regarding evolution.

ID systematics

The more systematic treatment of evolutionary theory begins with chapter two, ‘Genetics and Macroevolution’. This chapter is worth summarizing, as it gives a good sense of the overall tone of the book: generally familiar concepts get fresh presentations



and newer research, in a systematic, textbook format.

This chapter introduces the concept of natural selection, and points out that Darwin did not originate the idea of natural selection—Dembski and Wells mention Edward Blyth, a ‘proponent of design in biology’ (more precisely, a creationist when he formulated his theory of natural selection), as one notable researcher who beat Darwin to the idea (p. 27). What was original with Darwin was the ascription of creative powers to natural selection, in contrast to Blyth’s much more limited conception of natural selection as a ‘conservative’ ‘quality control’ force (p. 27). But since natural selection acts only on pre-existing structures, Darwin’s problem was that he needed ‘something within organisms to give rise to new traits’ before natural selection could begin to act on them (p. 29).

Darwin knew nothing of Mendel’s discoveries in genetics, but today this is the flashpoint of controversy. Dembski and Wells devote several pages to explaining the basic principles of genetics sufficiently for a lay reader, including an explanation of how natural selection operates at the genetic level. Observed examples of natural selection acting on species—such as the distribution pattern of varieties of the English sparrow in the United States—involve natural selection selecting ‘advantageous combinations

of genes already present.’ But this leaves unanswered the key question for Darwinists: ‘does natural selection merely preserve existing genes or does it also help to create new ones (as it must if it is to bring about the novel genetic information required to originate new species)?’ (pp. 34–36).

The typical Darwinian response is an appeal to mutations, so this is where Dembski and Wells turn their attention next. They note several problems for the Darwinist: first, mutations are rare; second, most mutations are harmful; third, the kinds of changes that would be required for actually originating new biological structures are multifarious. This final point is particularly important, and given extensive space.

Another way of saying it is that a single mutation is often inherently incapable of producing the kind of change that would be beneficial; thus, natural selection would not select for the mutation; thus it is useless for explaining the origins of new biological information. Dembski and Wells cite the giraffe’s neck, the classic example⁴ of what they call an ‘adaptational package’: the giraffe has a long neck and long legs, neither of which would be useful without a powerful heart to get blood to the brain. Yet with this setup alone, the blood vessels in the giraffe’s brain would burst and kill the giraffe if it lowered its head to get a drink of water. The reason giraffes survive is a complex coordinated system of blood pressure controls.

The point of all this is to illustrate that the adaptational package does not serve any purpose until the whole system is in place. (This really is another form of ‘irreducible complexity’, although in practice, Dembski and Wells limit the use of that term to biochemical settings.) Thus, ‘to generate an adaptational package requires not piecemeal change but integrated, systematic change’ (p. 44). This requires information, and massive amounts of it all at once. Intelligence, Dembski and Wells remind us, is the only source that we know of ‘capable of generating information such as we see in biological systems’ (p. 44).

They then round out the chapter by addressing evo-devo (evolutionary developmental biology), which some evolutionists have proposed as the key to the origin of new biological features.

Further chapters examine the fossil record; explain speciation to rebut the Darwinian claim that we have observed ‘evolution in action’; critique genetic phylogenies; and respond to arguments from homology. The chapter on irreducible complexity marks a subtle change in emphasis, from negative (arguments against Darwinism) to positive (arguments for design). Dembski and Wells review the original arguments for irreducible complexity that Michael Behe made over a decade ago and devote substantial space to answering the criticisms from Darwinists.

A sophisticated presentation of complexity

Dembski and Wells make two important observations regarding irreducible complexity arguments that are often missed in popular discussion. First, they identify two distinct arguments that come under the term ‘irreducible complexity’: a logical argument and an empirical argument. The logical argument states that no direct Darwinian pathway⁵ can account for an irreducibly complex system. The empirical argument states that no *indirect* Darwinian pathway⁶ has been identified. Keeping these arguments straight highlights the extremely limited range of options that Darwinists have to work with if they want to answer the irreducible complexity argument.

Second, Dembski and Wells succinctly distinguish and explain the negative and positive sides of the irreducible complexity argument:

‘In making its logical and empirical points, the argument from irreducible complexity assumes a negative or critical role, identifying limitations of the Darwinian mechanism. By contrast, in making its explanatory point, the argument from irreducible complexity assumes a positive

or constructive role, providing positive grounds for thinking that irreducibly complex biochemical systems are in fact designed.’ (p. 159).

This distinction is important because it answers the key philosophical objection that Darwinists have levelled against irreducible complexity, namely, that it is an ‘argument from ignorance—you don’t know how it could have evolved, so therefore, it must have been designed.’ But this objection would only be true if the negative side of irreducible complexity were all that we had to work with. Because irreducible complexity has a positive side, it is an argument from knowledge, not from ignorance.⁷

Next is a lengthy chapter on ‘specified complexity’. This is probably the most conceptually difficult chapter in the book, but it is explained thoroughly and well. The chapter is not simply a repeat of the many summaries that Dembski has already written of his mathematical ‘explanatory filter’ (explaining that ‘complex specified information’ is statistically explainable only by design).⁸ In fact, Dembski and Wells do not so much as mention the

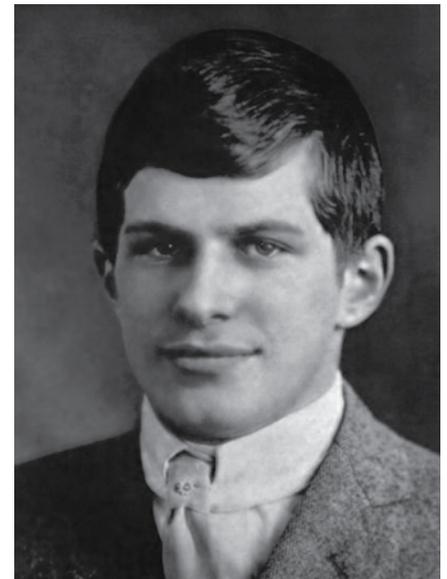


Photo from <www.wikipedia.com>

Can evolution explain the human mind? Dembski and Wells introduce this subject with a discussion of William Sidis (1898–1944), considered to be one of the smartest people to have ever lived. Sidis is pictured here at his graduation from Harvard in 1914, when he was sixteen years old.



Photo taken by Jessica Spykerman

Dembski and Wells argue that the giraffe poses a problem for Darwinism: the individual components of the giraffe's 'adaptational package' do not serve any purpose until the whole system is in place. So how could natural selection have 'selected' for the giraffe's 'package'?

'explanatory filter' by name, explaining it all in a way that felt fresh, if the basic ideas were not. (Actually, for those who—like myself—have read many variations on the theme of explaining Dembski's explanatory filter, *The Design of Life's* version would have been easier to follow with more explicit references to that filter.)

The final chapter revisits the origin of life controversy. Oparin, Haldane and the Miller-Urey experiment⁹ all get coverage, but with more space allocated to discussion of new proposals, such as 'RNA first',¹⁰ the 'iron-sulfur model' and others. The chapter concludes with a return to the theme of information science and the necessity of an information source that is intelligent and 'cannot be reduced to materialistic causes' (p. 261).

The audience

The Design of Life will be particularly useful to two groups of readers. First, it will provide a good

introduction for those who have some familiarity with science, but have had no real exposure to design arguments. Dembski and Wells' presentation is sufficiently thorough and systematic that even someone fairly committed to Darwinism will have difficulty sidestepping.

Second, it will be helpful for those who have already been introduced to the Darwin-versus-design debate with popular level literature (such as Wells' *Politically Incorrect Guide*) or older literature (such as Phillip Johnson's classic, *Darwin on Trial*). *The Design of Life* will fill in a lot of the detail and sophistication that is lacking in the popular level literature, and will bring readers up to speed on the most important new arguments.

The demographic that probably won't be reading *The Design of Life* is the general public, the readers of *New York Times* bestsellers. For the average man-on-the-street, this is probably not the best introduction. But

there are plenty of good popular level books on this subject. If *The Design of Life* furthers the goal of convincing people who are at least somewhat more serious about science than the man on the street, if it helps design proponents make more sophisticated arguments, the book will have done its job. Beating a foe like Darwinism requires that the fight be waged on many fronts. We cannot afford to focus on either the ivory tower or on public opinion to the exclusion of the other. *The Design of Life* fits in as a bridge between these two fields, both facilitating the transfer of sophisticated argument to a popular audience and equipping budding academics.

A caveat about ID

The Design of Life is squarely within the Intelligent Design (ID) camp. This book embodies many of the valuable contributions that ID has made to the origins debate, most notably fresh presentations of important creationist arguments (such as the argument based on information). But this book also embraces the key philosophical and theological flaw in the ID movement: the unwillingness to identify the designer. The issue is rarely addressed in the book, but when it comes up, Dembski and Wells quickly make it clear that the designer need not look at all like any typical concept of God (certainly not the God of Scripture). They write, '... an intelligence that brought life into existence need not be supernatural—it could be a teleological organizing principle that is built into nature and thus be perfectly natural' (p. 262).

This, of course, is in line with ID's 'big tent' strategy, trying to unite all possible opponents to Darwinism from whatever religious background. Strategically, this is supposed to bring together the most possible people to oppose Darwinism, and also emphasize the scientific (as opposed to 'religious') basis for design. That this is generally well intentioned I have no doubt. But when this allows for appeals to 'teleological organizing principles', the efficacy of this strategy is questionable—it hardly sounds

‘more respectable’ than the discredited vitalism or ‘life force’ that some early evolutionists appealed to,¹¹ with almost pantheistic overtones.¹² (Vitalism is refuted by the biblical teaching that God *finished* His work of creation after Day 6 (Gen. 2:3).)

It’s also worth noting that ID’s ‘big tent’ claim rings hollow at times. While the ID camp does credit young-earth creationists for opposing evolution and for pioneering the information argument (Prof. A.E. Wilder-Smith¹³), they too often pretend by omission that YECs make little contributions to the design argument today.¹⁴

Whether leaving the identity of the designer for later is good strategy or not, it is assuredly bad *theology*. Salvation rests not on the fact that we were designed, but on the intervention of the designer as the identifiable Saviour, Jesus Christ.¹⁵ And soteriology is just the tip of the iceberg. If Christianity is true, and the Bible is the very revelation of God, then we have a duty to take every thought captive to the obedience of Christ, to do all things to the glory of God. As Christians, we must recognize God’s sovereignty over biology as well as everything else. But the standard ID approach states that if design happened, the identity of the designer is a question that is yet to be determined. Unfortunately, this stands in opposition to any robust Christian scholarship. If, on the one hand, we believe God’s word to be the truth, and God to be the sovereign creator of all things, it does not appear consistent to say on the other hand that the designer’s identity is inconsequential (or, worse, is ‘up for grabs’) in the field of science.¹⁶ Avoiding the identity of the designer has another significant problem: it gets in the way of important scientific and philosophical theorizing. Dembski and Wells suggest that we don’t have to know the designer’s identity to learn things about that designer—we don’t have to know who the designer is to recognize that the designer is ‘not less than a nano-engineer’, for instance (p. 254). What this standard ID position fails to recognize, however, is that this minimalist approach fails to

meet another aspect of the Darwinian challenge.

Darwinism is *history* as much as it is anything else. Since ID lacks a coherent history of the acts of a designer, it has two major vulnerabilities that misotheists (like Richard Dawkins) and theistic evolutionists (like Kenneth Miller, see pp. 19–23)¹⁷ exploit:

1. Apparent ‘bad design’ in the world, as well as design features that are designed to hurt. But biblical creationists recognize that we live in a cursed world that resulted from the Fall of Adam, so we are not seeing the world as originally created.
2. Extinctions and the fossil record: why would a designer be so incompetent that his creatures die out? But this death is not only the result of the Fall, but also the global Flood.¹⁸

And as long as the ID camp is unwilling to face the question of the identity of the designer, it never will be able to offer an alternate historical account of origins. Without the historical framework (which does depend on the identity of the designer), ID can challenge Darwinism on many fronts, but it does not have the stuff to replace Darwinism. In the words of an old political cliché, ‘You can’t beat something with nothing.’¹⁹

All of this to say, *The Design of Life*, like all ID materials, must be used with care. Biblical creationists cannot adopt the theological strategy of ID, but at the same time, we cannot afford to miss out on the important work done by the ID community. We must be strategic and make the most of the common interests we share with ID, without compromising our theological and philosophical position.

Conclusion

The Design of Life is a well-conceived and well-written textbook. And the textbook label should not be taken to mean that the book is any less interesting than it would have been in another format. True, books usually sell to general audiences when they are enjoyable to read, and textbooks generally sell to a captive

audience of students who are required to read the books by their teachers. Often, as a result, textbooks can afford to be painstaking with detail and choppy in presentation. But Dembski and Wells cannot count on their book being assigned by many teachers at the moment. Contrary to the textbook stereotype, Dembski and Wells managed to use a textbook format for some very good and readable writing, synthesizing a great amount of information. Hopefully, it will get the attention it deserves.

References

1. Before its release, Dembski was calling it ‘The definitive book on intelligent design’ on his website. *The Design of Life*, 6 December 2007, <www.designinference.com>.
2. Davis, P. and Kenyon, D.H., *Of Pandas and People: The Central Question of Biological Origins*, 2nd ed., Foundation for Thought and Ethics, Dallas, 1993.
3. *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707 (M.D. Pa. 2005). For a detailed critique of the court opinion itself, see DeWolf, D.K., West, J.G. and Luskin, C., *Intelligent Design will Survive Kitzmiller v. Dover, Montana Law Review* 68:7, 2007.
4. The giraffe has been frequently discussed in creationist literature: see, e.g. Bergman, J., *The giraffe’s neck: another icon of evolution falls*, *J. Creation* 16(1):120–27, 2002; Jaronyck, R. and Wieland, C., *The giraffe’s neck: icon of evolution or icon of creation?* <creation.com/giraffe2>, 5 January 2007.
5. That is, a pathway in which each step advances one functional goal, which can then be ‘selected’ by natural selection.
6. That is, a pathway in which each step advances one functional goal, which can then be ‘selected’ by natural selection, and is then later co-opted for an entirely different function, which can then itself be ‘selected’ by natural selection.
7. See further: Weinberger, L., *Whose god? Identifying the god of the gaps*, *J. Creation* 22(1):120–127, 2008.
8. The primary source on this argument is Dembski, *The Design Inference*, Cambridge University Press, Cambridge, 1998, reviewed by Truman, R., *Divining design*, *J. Creation* 13(2):34–39, 1999. For popular level expositions of the argument, see Dembski, *Intelligent Design*, InterVarsity Press, Downers Grove, Illinois, pp. 153–83, 1999; Dembski, *Signs of Intelligence*, in Dembski, W.A. and Kushner, J.M., (Eds.), *Signs of Intelligence*, Brazos Press, Grand Rapids, MI, pp. 171–92, 2001.

9. See Bergman, J., Why the Miller–Urey research argues against abiogenesis, *J. Creation* 18(2):74–84, 2002.
10. See also Mills, G.C. and Kenyon, D.H., The RNA World: A Critique, *Origins and Design* 17(1):9–16, 1996; <www.arn.org/docs/odesign/od171/rnaworld171.htm>.
11. See, for examples, Serafini, A., *The Epic History of Biology*, Plenum, New York, pp. 142, 176, 236, 1993. The post-Darwinian vitalists thought that their theory saved evolution from materialism, fearing (as one historian has written) ‘that if there is no superadded life force in living beings, ... nothing but matter is left.’ Barzun, J., *Darwin, Marx, Wagner: Critique of a Heritage*, Doubleday, Garden City, NY, p. 52, 1958.
12. Compare also Pierre Teilhard de Chardin’s mystical description of ‘directed evolution’ (which, he believed, culminated in ‘something he termed the ‘Omega point’, which he identified with Jesus Christ’). Ruse, M., *Can a Darwinian Be a Christian?* Cambridge University Press, Cambridge, p. 85, 2001; reviewed by Weinberger, L., Preaching to his own choir, *J. Creation* 19(2):42–45, 2005. Teilhard, actually, probably would not mind having his work characterized as somewhat pantheist in its overtones—he was quite forthright about acknowledging his sympathies for elements of pantheism. See his essay, Pantheism and Christianity; in: Teilhard de Chardin, P., *Christianity and Evolution*, René Hague, trans., Harcourt, New York, pp. 56–75, 2002. See also Lane, D.H., *The Phenomenon of Teilhard: Prophet for a New Age*, Mercer University Press, Macon, GA, 1996.
13. Dembski, W., <www.designinference.com/documents/2005.02.Reply_to_Henry_Morris.htm>, 1 February 2005; and see the critical response by Sarfati, J., ID theorist blunders on Bible, <creation.com/dembski>, 7 February 2005.
14. For example, Sarfati, J., *By Design: Evidence for nature’s Intelligent Designer—the God of the Bible*, Creation Book Publishers, 2008.
15. Sarfati, ref. 14, ch. 16.
16. This problem with ID can also be stated in more philosophical terms: basically, ID has embraced the naïve Baconian approach to science, empirical research, and objectivity. See Weinberger, L., The problem with naturalism, the problem with empiricism, *J. Creation* 22(2):28–31, 2008.
17. Woodmorrappé, J., Miller’s meanderings: only the same bogus contentions, *J. Creation* 23(1):19–23, 2009.
18. Sarfati, ref. 14, chs. 12–13.
19. Although, as other writers have pointed out, just because nothing is offered ‘in place of theory X’ hardly means that theory X (Darwinism in this case) is correct.

Is the fish really our ancestor?

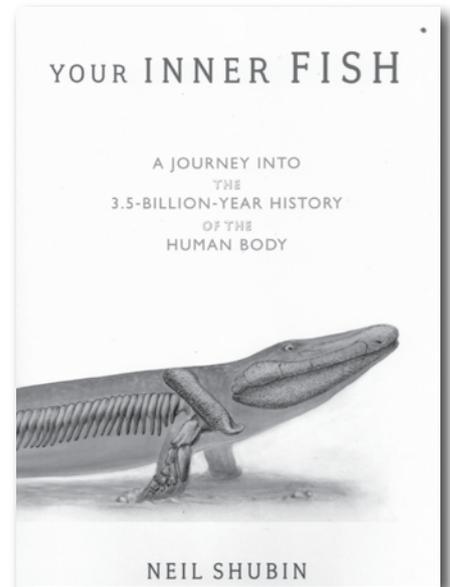
A review of
*Your Inner Fish: A Journey into
the 3.5-Billion-Year History
of the Human Body*
by Neil Shubin
Pantheon Books, New York,
2008

Colin Mitchell

The author, Neil Shubin, is Professor of Anatomy at the University of Chicago and Provost of its field museum. He has wide expertise in both fossils and biology. His co-worker, Edward Daeschler, is Curator of Vertebrate Biology in the Academy of Natural Sciences in Philadelphia. The book is well researched with much information about earlier work and a comprehensive reference section. It is highly readable with the author’s modest and friendly personality coming through strongly. It incidentally includes a most useful guide to fossil hunting. It is illustrated mainly by Kalliopi Monoyios’ graphic and appealing black-and-white drawings.

The author puts his cards on the table from the start. The book’s stimulating title indicates that the central thrust is evolutionary—seeking to explain humans as the product of a succession of life forms from an original cell. It supports the whole multi-million year evolutionary sequence. It emphasizes a common origin for body features such as limbs, hair, teeth and senses in both animals and humans.

It emphasizes three types of alleged evidence: a) similarities between the body parts of living creatures, arguing for common ancestry, b) indications from microbiology which seem to argue the same way, and c) detailed examination of one apparent missing link—that between fish and amphibians: *Tiktaalik*.



Body evolution? Summary of the author’s views

There are remarkable analogies between body parts of creatures which otherwise differ widely. All advanced creatures have similar architecture.

They have heads containing brains and sense organs, spinal columns with an anus at the opposite end of the body from the mouth and comparable plans of flippers, wings, legs and arms. We can see this especially by comparing upper limbs. Whales, birds and humans have single arm bones leading to two more which in turn connect to fingers or toes. In humans, this series runs from the humerus through the radius and ulna to the wrist bones and fingers.

Fish, amphibians, reptiles, birds and mammals all share hard teeth. The book quotes the claim that this could have evolved from the juxtaposition of two layers of tissue, and that this hardness could have evolved from eel-shaped sea creatures called conodonts with tooth-like hard parts allowing them to bite and feed on other sea creatures. Behind this is the idea that the tooth, which is part of our survival