

DENYSE O'LEARY

Intelligent Design

Beyond Creation vs. Evolution



A DARE BOOKLET

Copyright © Denyse O’Leary 2002

All rights reserved

Published by Digory Publishing
#2–5311 Lackner Crescent
Richmond, BC
Canada V7E 6B7

Printed by North York Printing & Graphics Inc
North York, ON

Contents

PART 1: What Is Intelligent Design (ID) Theory? — An Overview of the Controversy	1
PART 2: Why Do Intelligent Design Theorists Challenge Current Evolution Theory?	4
PART 3: What Are the Arguments for Intelligent Design and Who Is Making Them?	9
PART 4: What Do Key Opponents of ID Theory Argue?	13
PART 5: Key Questions Intelligent Design Theory Must Answer	17
PART 6: Is This a Conflict Between Science and Religion?	19
PART 7: Must We Believe in Any Creation Theory?	24
Resources for Further Reading	29

Intelligent Design

Beyond Creation vs. Evolution

PART 1: What Is Intelligent Design (ID) Theory? – An Overview of the Controversy

Is the universe intelligently designed? Or is it a product of chance that only gives the appearance of design? Scientific discoveries in recent decades, far from putting this debate to rest, have actually intensified it.

Here are the key questions:

- Can science even consider the possibility that the universe was designed by an intelligent creator? Or is the idea intrinsically outside the definition of what science can consider?

- Is there *evidence* for the universe being designed by an intelligent creator – evidence, that is, as distinct from proof?
- Is it possible to *prove* that the universe was designed by an intelligent creator?
- Is there evidence that the designer of the universe is a being such as the God described in the Bible?

This booklet can do no more than introduce a growing controversy. Its intention is to help readers understand what the controversy is about, and to move towards their own conclusions.

Intelligent Design (ID) theory postulates that the weight of evidence suggests that life on Earth cannot have had a random origin, that is, an origin by chance alone. It must have been intelligently designed. Current evolution theories, on the other hand, propose that the universe was not designed, but is rather the product of undirected chance. Therefore, ID theory is on a collision course with the theory of undirected chance evolution (hereafter referred to simply as “evolution”).

ID proponents argue that, for life to originate by chance, the building blocks of life – cells – must be quite simple. However, the development of the electron microscope and the resulting growth of biochemistry since the 1930s show that the building blocks of life are in fact very complex.¹ ID proponents argue that the relevant degree of complexity could not and does not develop by chance. An Intelligent Designer must have provided some organization.² Proponents of evolution argue that the evidence for design is only apparent, not real. Only one of these two positions can be right.

My intention is to focus on the arguments regarding the structure of life on earth. There are many other arguments for design that concern the structure of the universe itself.³ However, the biological arguments are currently the more controversial ones.

ID theory does not clash with evolution theory on the question of whether evolution occurs. ID proponents do not argue that evolution does not occur. They argue rather that the processes of life, including evolution, show evidence of design.

“Design” is a loaded word in science today. At one time, scientists recognised three categories of causation: chance, necessity, and design. Evolution theory was supposed to have simplified the forces of causation by eliminating the concept of design, leaving only chance and necessity (what could possibly happen and what must necessarily happen). Thus evolutionary biologists argue that life shows only apparent design, that in reality the organisation we see is the result of random mutation and natural selection.

Key ID proponents such as William Dembski, Michael Behe, Philip Johnson, and Jonathan Wells argue that the evidence is real. I will be offering a brief overview of their arguments in Part 3.

However, one misunderstanding is worth clearing up at the outset. ID theory is not the same as biblical creationism. Biblical creationism argues that the Bible’s account of creation must be accepted as literal or factual, even if scientific evidence appears to contradict it. ID theory relies on evidence rather than any sacred scripture. It stands or falls on scientific evidence.

Thinkers who oppose ID theory start from a variety of positions. Some defend naturalistic evolution – evolution by

chance. Others, Christian evolutionists, believe that the God portrayed in the Bible created the universe, but allowed it to unfold using the processes of evolution.⁴ They oppose ID because it implies that God did not work entirely through evolution. A third category, biblical creationists, oppose ID theory because they do not accept any theory that depends entirely upon the validity of scientific evidence, apart from the interpretation of the Bible.

Some thinkers have wanted to avoid the whole discussion of ID on the grounds that it might appear to lead to the vindication of – or opposition to – a religious tradition. In reality, however, everyone contributing to the discussion is speaking from a religious tradition, including the tradition of 19th and 20th century atheistic naturalism, itself a religious standpoint. So there is no escape from religion. But, we must ask, what religion is most in tune with the way the universe really is?

PART 2: Why Do Intelligent Design Theorists Challenge Current Evolution Theory?

Although evolution is typically presented as a single theory, there are actually two competing versions, and these two versions are quite different. One was championed by Charles Darwin and is still held by his supporters and the other, newer, one is not. This distinction is not always made clear.⁵

Darwin and his supporters argue that life originates and new species evolve by a very slow process of mutation in which only the fittest members of an ancestor species survive. The members best able to cope with the challenges of life leave more and fitter offspring. The objections that are raised against Darwinism include the following:

1. If “fitness” is the criterion of survival and survival is the proof of fitness, the criterion of fitness is tautological. It amounts to saying that “the survivors survived,” and tells us nothing specific about fitness. If fitness is a real category, as opposed to a synonym for survival, there must be an extraneous standard of fitness to which we can refer.
2. Available evidence suggests that major life forms did not evolve slowly over vast periods of time, as Darwin thought they must have done. They often appeared quite suddenly, in a process that evolutionist Stephen Jay Gould calls “punctuated equilibrium.” For example, the Burgess Shale at Field, British Columbia, has been found to preserve evidence of most major modern animal groups from 570 million years ago.⁶

If fitness is not an independent criterion and evolution is not necessarily a slow process of mutation, how are we to understand evolution? Stephen Jay Gould is one writer who takes a different tack from Darwin. He argues that new species can appear comparatively suddenly. He believes that the sudden appearance is caused by the chance survival of a characteristic in an isolated group of life forms. The characteristic turns out to be useful later but was *not* “fittest” at the time. It may even have been a useless or undesirable characteristic that did not happen to be lethal.

Thus, even though we sometimes hear in the media that there is no debate in the scientific community about evolution, the original theory of evolution, Darwinism, has been strongly disputed for decades. Despite that, Darwinism is the form of evolution theory that most lay people know. Deeply embedded in modern folklore is the notion that evolution always means an ascent to higher forms of life. Hence, an

unfashionable old person is called a “fossil” or “dinosaur.” Such folklore assumptions are not well supported in modern evolution theory, but Darwin regularly triumphs over Stephen Jay Gould around the dinner table. The historical Darwin, from what we know of him, would have deeply regretted this victory.

Intelligent Design theorists take a different tack from evolutionists. They do not necessarily dispute that evolution happens. They ask two questions:

1. *Can simple life forms occur by chance, leading to more complex life forms?* Biochemist Michael Behe has refocused the question, away from animal or plant behaviour to biochemistry, that is, the chemical processes within cells that make life possible. The cells that make up our bodies are extremely complex.⁷ Before the development of the electron microscope, scientists like Darwin assumed that cells would be simple little jellies that could somehow arise naturally from the six organic elements.

In fact, Thomas Huxley, one of Darwin’s strongest supporters, believed he had found an organism so simple that it was halfway between life and non-life, which he named *bathybius haeckelii*, according to a letter he wrote to embryologist Ernst Haeckel in 1868. The substance created considerable excitement at first but turned out to be a mixture of exoskeleton, preservative, and mud. Clearly, nineteenth-century scientists were not expecting the complexity that we now know to exist in life forms.

Here is the nub of the problem: cells are what Behe calls “irreducibly complex.” He means that there are no “simple” cell systems that could arise just by chance and then evolve into complex systems. That is because there is no simple way of doing the jobs these systems do, and few if any possible variations. A creature with a simpler arrangement could not

live at all. And there is little room for random variation. A little malfunction here or there and the cell does not evolve to a higher form of life: it dies. One reason for this complexity is the fact that the processes that life forms need to engage in, in order to live, are often contrary to the regular behaviour of the elements used.

Scientists now believe that the universe has not existed forever, but perhaps for fifteen billion years. Therefore we can reasonably ask, within the age of the present universe, does chance produce the complex molecular machines that form the building blocks of life?

2. *Do new species really originate in the way that evolutionary theory claims?* The issue in dispute is not natural selection. If some animals die without breeding and others live and breed, some sort of natural selection obviously takes place, even if it is only a random selection. The key questions are rather: Does chance explain the complex information that enables an ancestor species to arise? Does the survival of the fittest ancestor (or any ancestor, however chosen) lead to the development of *new* species? The evidence for these propositions is surprisingly thin.

To see how some of the issues play out, consider the saga of the beaks of Darwin finches in the Galapagos Islands.⁸ In the 1970s, naturalists discovered that in dry seasons the average beak size of finches increased slightly. This finding was widely hailed by prestigious science organisations as evidence of evolution in action, and duly written up in textbooks. It was assumed that new species would result within 200 years.

In reality, the finch beaks returned to their normal size during subsequent rainy seasons during the 1980s. This fact was not widely publicised. The most reasonable explanation for the phenomenon is not really evolution in action. Rather, variation in beak size is a survival mechanism of an existing

species. It has not been demonstrated as a means of producing a new species. In an ironic twist, some species of Galapagos finches appeared to be merging rather than diverging, which is pretty much the opposite of what evolution theory predicts.⁹ But the textbooks continued to cite the finch beaks as an example of evolution in action.¹⁰

The issue of the finches' beaks is not simply a difference of opinion about the natural history of disputed bird groups. The chief virtue of Darwinian theory and all of its modern successors is that they purport to explain how life can arise and change by pure chance, for example, through differing environmental conditions. For example, evolutionist Ernst Mayr writes:

*The real core of Darwinism ... is the theory of natural selection. This theory is so important for the Darwinian because it permits the explanation of adaptation, the 'design' of the natural theologian, by natural means, instead of by divine intervention.*¹¹

But is chance the best explanation for the complex world of life forms that we see around us?¹²

ID theorists offer an alternative answer. They argue that the design we see is real, not merely apparent. They argue that ignoring design creates more problems than it solves. For example, time is wasted looking for explanations of how complex organisms can arise by chance. Arguments that appeal to chance get far more credit than they deserve, with the result that textbooks frequently feature discredited or questionable examples.¹³ We will look at their arguments in more detail in the next part.

PART 3: What Are the Arguments for Intelligent Design and Who Is Making Them?

Michael Behe

As a Roman Catholic, Behe was comfortable with the idea of evolution, because the Roman Catholic Church does not oppose it in principle. However, as a professor of biochemistry at Lehigh University in Pennsylvania, he began to doubt that the bewilderingly complex machines that drive every cell of a living body could arise by chance. When he surveyed the literature on evolutionary biology, he did not find satisfactory answers. In 1996, he argued in *Darwin's Black Box* that natural selection by chance does not account for the complexity of cellular machines. He argued that life is more appropriately seen as a product of Intelligent Design.

Behe introduced the concept of "irreducible complexity" to the public. *Irreducible complexity* describes a system that cannot work if any part is missing or malfunctioning. He argues that, without directed design, no irreducibly complex system arises. Behe challenges evolutionists to show rigorously how such a system can originate by chance.¹⁴

Behe's conclusions and challenges were widely denounced at first in the scientific establishment, but his position as a respected biochemist has enabled him to continue to make his case.

One significant aspect of Behe's work is that, as a biochemist, he is arguing from existing organisms. Most arguments about evolution have depended on data from long-extinct organisms. Sometimes the data that survive apparently support Darwinian evolution (the whale series, for example) and sometimes they don't (the Cambrian explosion). No one

knows what difference the lost evidence would make. By contrast, if we are talking about existing organisms, then all information is either present or potentially achievable. Therefore, we can ask, what view does the current organism support?

William Dembski

Dembski is associate research professor in the conceptual foundations of science at Baylor University. He argues for a method of detecting design in the universe, which is important to the argument for Intelligent Design. Behe's observations may be interesting, but in science observations go nowhere unless they become a testable theory.

Dembski argues that it is possible to determine whether the design of the universe follows the logic of principles of design as we understand them. We can usually identify artefacts made by a human being. The situation is more complex, however, when we encounter an object such as a living cell. The level of complexity invites the interpretation of design, but obviously human beings did not design it. How can one speak about the situation scientifically? Assume for a moment that we find Richard Dawkins's claim that the cell only "gives the appearance" of being designed to be unconvincing. How can we describe what we sense is true without saying more than we know?

Dembski proposes the concept of *specified complexity*, which he sees as an improvement on Behe's concept of irreducible complexity:

*An object, event or structure exhibits specified complexity if it is both complex (i.e. one of many live possibilities) and specified (i.e. displays an independently given pattern).*¹⁵

For example:

- A long sequence of scrambled Scrabble pieces is *complex* without being specified. The sequence doesn't relate to anything outside itself and could have arisen by chance.
- A short sequence of Scrabble letters that appears to mean something, such as "When," is *specified* but not complex. "When" could be information, but the arrangement could also be accidental, and there is no way to tell the difference without more information.
- But consider the sequence, "When my love swears that she is made of truth, I do believe her though I know she lies." That sequence, spelled out in Scrabble letters, would not likely be an accident.¹⁶ It is both *complex* and *specified*.

Dembski has developed a collection of mathematical theorems that, in his view, prove that theories of evolution by chance do not work mathematically. In his words, they cannot provide "a computational justification for the Darwinian mechanism of natural selection and random variation as the primary creative force in biology."¹⁷ By developing theorems that require a response, he has raised the debate to a new level of intensity.

Phillip Johnson

Johnson is the Jefferson E. Peyser Professor of Law at the University of California, Berkeley. He has argued in many writings and debates that the true discoveries of science – as opposed to a materialist philosophy that has (in his view) been imposed upon science – point clearly towards Intelligent

Design in biology. He is best known for combating the theories of evolution by chance in public forums. Indeed, Johnson is the person mainly responsible for forcing a debate on the subject. In his book, *The Wedge of Truth*, he also argues that many Christian academics have tried to accommodate materialistic science theories and evolution by chance, in order to avoid ridicule.¹⁸

Jonathan Wells

Wells, who has a PhD from Berkeley in molecular and cell biology, is best known for his book, *Icons of Evolution*, which demonstrates that many of the common examples cited in textbooks for the processes of evolution are false, misleading, or questionable.

For example, Haeckel's oft-reproduced drawings of embryos claim to show that embryos of vertebrate species are very similar to one another, which suggests that they descended from a common ancestor. But Haeckel altered the appearances of embryos to make them look more alike. He also left out those that did not fit his theory. More important, he assumed it is in the early stages that embryos look most alike. In fact, they look quite different in the early stages, develop superficial similarities only in middle stages, and diverge again later. The true representation of embryos would not provide nearly so much support for the textbook theories.

Wells identified a number of similar "icons of evolution" that appear repeatedly in biology textbooks, but not necessarily in nature. He proposes grading textbooks by the number of errors, a suggestion that has produced considerable controversy. In some circles, evolution by chance seems to have become a religion, to be defended against unbelievers in the face of contrary evidence.

There are, of course, Intelligent Design advocates who proceed from different positions. The four above are profiled because they have had – and continue to have – a major impact on the debate in North America. Perhaps because there is no ready solution available to the problems raised by Intelligent Design theorists, the debate, which was once a staple of church basements, is increasingly heard at academic levels. But what do the opponents of Intelligent Design say? We will consider that next.

PART 4: What Do Key Opponents of ID Theory Argue?

The idea that the universe was intelligently designed has come under attack both from atheists and from theists. But they proceed from very different positions and end up in very different places.

Atheists: Naturalistic Evolution

Objection 1: Proponents of naturalistic evolution argue that *design is not evident in nature*. We infer design because of our own prejudices as human beings. In reality, chance and natural selection account for all the complexity that we actually see.

Presently, there is no clear explanation of how the complex biochemistry of cells could arise from random processes. However, naturalistic evolutionists strongly believe that they will be able to demonstrate these steps one day. Time will tell whether they can or not.

Objection 2: *Science must proceed as if we know that the*

universe is not intelligently designed.

Harvard biologist Richard Lewontin provides an example of this view when he asserts that “materialism is absolute, for we cannot allow a divine foot in the door.”¹⁹

Lewontin means that scientists must reject Intelligent Design in principle. In his view, the purpose of science is to explain all phenomena by “naturalistic” assumptions. Science must assume that time and chance account for everything in the universe. His fear is that, if Intelligent Design were accepted, science would become a branch of religion and cease to progress. Thus Keith B. Miller writes: “Using an Intelligent Design approach, the inference of Intelligent Design would be made, and any motivation for further research would end.”²⁰

Suppose Lewontin is right about the facts. If indeed time and chance account for everything, then any model of the universe that assumes another starting point would be illusory. But – and this is a point frequently overlooked – if he is mistaken, then *his* starting point is illusory. If there is indeed evidence for Intelligent Design, considering that evidence is critical to the future of science. One approach or the other is a waste of time. But which one?

Objection 3: Science cannot in principle know whether the universe was intelligently designed, or if it can, the subject is in principle of no interest to science. How do we know that science can never know?²¹ A proof that information cannot be obtained must be a mathematical one. The Intelligent Design proponents claim that they have evidence, principally through physics, mathematics, and biochemistry. Surely, their case must be heard on its merits. It is hard to see why the question is of no interest if it can actually be answered.

Objection 4: Intelligent Design theory is just biblical creationism. This argument is widely used in political forums, but, as

we saw in Part 1, it is factually wrong. Biblical creationists differ from one another on many points but one characteristic unites them: they must reject any account of creation proposed by scientific research that differs from the account in the opening chapters of the Bible. Thus, the scientific account must always give way to the biblical one in matters of fact.²² The Intelligent Design debate concerns the interpretation of the scientific evidence, not its relation to the Bible.²³

Theists: The Diminishing God of the Gaps

Many Christian thinkers are committed to the theory of evolution as the explanation for the origin of species. They oppose the concept of Intelligent Design. *Denis Lamoureux* and *Howard van Til* and are orthodox Christians in this camp.

In the words of Denis Lamoureux of the University of Alberta, Intelligent Design is just another version of “the God-of-the-gaps” theory. He is referring to a historical tendency to attribute natural processes we do not yet understand to direct, miraculous interventions by God. Lamoureux warns that:

once natural processes are discovered to account for the creation of a once acclaimed irreducibly complex structure, God's purported intervention is lost to the advancing light of scientific research. A serious consequence of filling these gaps (once believed to be the sites of God's active hand) is that God appears to be forced further and further into the dark recesses of our ignorance; and yes, the dangerous notion arises that maybe human ignorance is in effect the 'creator,' a resident only of our minds.²⁴

One difficulty with Lamoureux’s approach is that ID theorists are not arguing from ignorance. Their position is that actual findings – for example, the complexity of biochemistry – are better explained by design than by chance. Lamoureux

assumes that the “advancing light” of scientific research will confirm current theories. But if further understanding leads to more specified complexity rather than less, his anticipated outcome may not happen. The gap could widen dramatically instead of narrowing. It is worth recalling that the complexity of biochemistry was itself an unexpected find.

A greater difficulty with this point of view is that it is sometimes hard to distinguish the position of Christian theists from that of naturalistic evolutionists in practice. For example, Howard van Til, professor emeritus of physics and astronomy at Calvin College, has often argued against Intelligent Design. This is a characteristic statement:

if the universe is a creation, as ... Christians profess, then its natural capabilities are part of its God-given nature. That being the case, I am more inclined to look for the Creator's signature in the generosity with which the creation's formational gifts have been conferred.²⁵

He believes that God gifted the universe in advance to create the life forms we see. It only looks as though they arise by chance. Essentially, he is saying the opposite of Richard Dawkins who, as we have seen, argues that the universe arises by chance and only appears to be designed.

In practice, van Til's view means that we must accept on faith that God intentionally gifted the universe, in the same way that Richard Dawkins accepts on faith that there is no God and no design.

Quite apart from actual objections such as those listed above, many scientists are uncomfortable with the controversy and wish it would just go away. However, that is unlikely to happen. The dispute between the proponents and opponents of Intelligent Design theory is a dispute about how to interpret unexpected facts. Proponents argue that Intelligent

Design best explains the evidence. Opponents argue that it doesn't.

So far, Intelligent Design advocates have mainly detracted from the evolutionists' case. What would they need to do to strengthen their case?

PART 5: Key Questions Intelligent Design Theory Must Answer

- Can ID proponents establish that the universe is intelligently designed?

In scientific terms, that does not mean that the ID proponents must “prove” Intelligent Design. Outside mathematics, it is very difficult to prove anything. Most scientific theories are not proven in the mathematical sense. Major scientific theories (relativity, quantum mechanics, and evolution, for example) are accepted because they are judged to explain observed phenomena better than other theories do. The predictions that scientists make using these theories come true. The theories do not create more problems than they solve. They are also useful, in that they lead to advances in knowledge, insight, and technique.

Incidentally, relativity and quantum mechanics clearly demonstrate that a theory must not be rejected simply because it is contrary to most people's intuitions or most scientists' opinions – or because groups have formed to support or oppose it or pass laws about it. Albert Einstein's relativity theory was rejected in his native Germany because Germany had come under the control of the Nazis, who opposed it. Einstein himself refused to accept quantum theory

because it ruled out determinism.²⁶ In the end, both relativity and quantum theory were accepted by scientists. The reason they were accepted was not because they were popular with all scientists but because they explained the behaviour of natural phenomena better than other theories did. Theories in science are not won or lost on polls, but on evidence.

The questions a scientist should ask about Intelligent Design are these:

- Can Intelligent Design explain an observed phenomenon better than undirected evolution?
- Does ID lead to advances in knowledge, insight, and technique?

If ID is true, it should explain some phenomena better than undirected evolution. As a result, a scientist who predicts an outcome on the basis of Intelligent Design should be more successful than one who predicts it on the basis of randomness or survival of the fittest.²⁷ If that happens, ID will be accepted, no matter what kind of trouble it causes for other theories.

ID theorists are beginning to construct testable theories. For example, William Dembski's new book, *No Free Lunch*, offers a mathematical proof. Obviously, his proof will be rigorously sifted by his critics, but it is a start on a scientific discussion. What happens to ID as a theory will likely depend on whether that trend extends to arguments in biology.

One strength of Dembski's analysis is his insistence on addressing the subject in a scientific way. For example, many critics have attacked Intelligent Design on the grounds that the design of life on earth is not perfect. Dembski responds:

To exclude design from biology simply because not all examples of biological design live up to our expectations of

*what a designer should or should not have done is an evasion. The problem of design in biology is real and pervasive, and needs to be addressed head on and not sidestepped because our presuppositions about design happen to rule out imperfect design. Nature is a mixed bag ... Nature contains evil design, jerry-built design, and exquisite design. Science needs to come to terms with design.*²⁸

Similarly, whether ID coincides with current Christian theology, current science curricula or the aims of important pressure groups is finally irrelevant. Dembski deserves credit for focusing discussion within science – a discussion that frequently goes off the rails – on the true science issue:

- Does the weight of the evidence support Intelligent Design?

However, this prompts another key question:

- If science accepted Intelligent Design, what would be the implications for religious beliefs such as Christianity?

PART 6: Is This a Conflict Between Science and Religion?

The Intelligent Design controversy is a conflict about how to interpret unexpected findings in science. Some scientists are concerned that acknowledging “intelligent designership” will stall the progress of science. How valid is this concern? Is it more of a concern for science or for theology?

To deal adequately with the question of whether the Intelligent Design controversy hinges on a conflict between science and religion, we need to clarify what kind of science

evolutionary biology is and what kind of religion Intelligent Design conflicts with.

Is biology a form of mathematics or history?

Some sciences, like physics, can be seen as a form of mathematics. Physics deals with inanimate objects that do not have individual stories. Evolutionary biology, however, is a lot messier than mathematics. It is really a hybrid of science and history. Theories about the origins of life or prehistoric life are a form of “prehistory.” “Prehistory” is, after all, just the history of a time before written documents.

Evolutionary biology is the study of specific events in the history of life that we reasonably believe to have happened. The trouble with any type of history is that it refers to specific people, animals, places and events. Therefore, it cannot usually be deduced backwards from general laws. For example, there is no law that we can state in the present time which would enable us to deduce that (say) the rise of Egypt or the fall of Rome must have taken place or could not have taken place. For any type of history, we have evidence, sound or flimsy. Showing that something “might have” happened a certain way is not proof; it merely transfers one’s thesis from the realm of unfounded speculation to the realm of speculation founded on some (perhaps flimsy) basis.

Unfortunately, many evolutionists have assumed that, because they can identify a way, however improbable, that their speculative history may have occurred, they have solved the problem of understanding what happened in the creation of life. They have not solved the problem. They have merely provided an explanation that needs to be evaluated against other explanations. If their explanation is only very remotely possible (as opposed to very probable), perhaps it should not

receive special weight simply because it leaves Intelligent Design out of the picture.

The famous “Occam’s razor,” for example – the principle that the most economical statement of events is the best one – is useless in dealing with any kind of history. Historical events such as the divergence or coalescence of groups of finches (see Part 2) may not occur in a straightforward way. The job of the historian or prehistorian is to record, insofar as is possible, the way in which the events actually occurred and to make some sense of it. Often, there is not enough documentation to do the job properly. Hence there is a tendency to rely on grand theories such as evolution and to posit them as “laws” that must come true. But the grander the theories, the further removed they may be from the desperate messiness of individual facts.

The historian does not discover order, he imposes it. As a result, the writing of history, including natural history, is at least part literature as well as part science. The most any historian can hope for is that later historians will judge his lifetime’s work to have been more non-fiction than fiction.

As Jonathan Wells’s *Icons of Evolution* demonstrates, many false depictions of evolution arise from a need for a “simple” explanation that fits an existing theory. Often, that simple explanation does not really explain what happened. In such cases, one might say that a line has been crossed from messy non-fiction to escapist fiction.

Therefore, we cannot avoid the implications of the Intelligent Design controversy simply by appealing to “laws of science,” as many have tried to do. These laws turn out, on examination, to be a collection of facts and decision-making tools that form a pattern. Sometimes the pattern enables us to predict events, sometimes it doesn’t. At any rate, they are not laws that require us to interpret events in only one way.²⁹

What kind of religion does Intelligent Design conflict with?

As we have seen in Part 4, many vocal opponents of Intelligent Design theory are theistic evolutionists or “old-earth creationists”³⁰ who argue that Intelligent Design introduces inappropriate ideas about God.

However, if Intelligent Design has a future as a scientific theory, it must succeed or fail on its ability to interpret the scientific evidence in a convincing way. It will *not* succeed or fail on its ability to support existing opinions about the nature of God or God’s work in the universe.³¹ If the only reason that Intelligent Design is controversial is concern over its effects on theology, then we must ask, what effect *would* Intelligent Design have on theology? Assuming that theology accepts that God’s design in the universe is detectable in the same way that human design is detectable, what then?

Although the opponents of Intelligent Design typically rush to defend science, it seems to me that theology has more to fear. Science will get on just fine with any explanation that consistently sheds light on findings. Traditional Christian theology is typically concerned with a different question: Does a proposed explanation offer support for the way in which God is portrayed in the Bible?³²

Intelligent Design does not necessarily offer such support. Here are some of the ways in which it does not:

1. *Intelligent Design is not perfect design.* People who argue against the concept of Intelligent Design frequently assume that they have refuted it simply by demonstrating that the design of life on earth is not perfect. They are mistaken. Design does not need to be perfect in order to be intelligent. However, if proponents of Intelligent Design wanted to use design in the universe as irrefutable proof for an omnipotent creator, as portrayed in the Bible, they could reasonably be

expected to show that the design was perfect. But it is not perfect. There is much wastage of life in the world. The whole complex structure of life forms that we see around us is built on the destruction of other life forms, many of which were just as complex or more so.

2. *Intelligent Design is not moral design.* The amount of suffering that is part of the natural lot of the higher animals of our planet raises questions about the moral nature of the designer.³³ Christian theology has traditionally offered the explanation that these animals are affected by God’s punishment of human beings for the sins they have committed. It is expected that they will be restored to perfection at the end of time when God creates a new heaven and a new earth. But even if that is the eventual outcome, a great deal of suffering has been visited on many generations of dumb animals for no purpose that could be apparent to them.³⁴

3. *Intelligent Design does not require an omnipotent or omniscient creator.* This may be the single thorniest problem that Intelligent Design theory poses. The problem is often obscured by the fact that many opponents of Intelligent Design argue that ID is just a way of “sneaking in the Judaeo-Christian God.” They are mistaken. Remember that Nobel Prize winner Francis Crick has proposed that space aliens designed the universe. While his supposition is easy to ridicule, his reasoning is worth considering. As it exists, the universe shows intelligent but not perfect design. The easiest explanation is that the universe is the product of a lesser god, a demiurge such as Plato proposed in the *Timaeus*. An Intelligent Designer, yes, but not a perfect one.³⁵ Space aliens are an obvious modern candidate for the role because they are gods only in terms of superior technology. They need not be thought of as morally superior, and certainly not as commanding obedience to a higher moral code.

None of this is meant to suggest that theology cannot rise to the challenge, but only that the concept of Intelligent Design may raise unfamiliar and uncomfortable questions for theology.³⁶

The arguments of old-earth creationists and theistic evolutionists against Intelligent Design, as set out in Part 4, strike me as confused and wrong-headed in many cases. However, I suspect that underlying their arguments is a desire to defend the character of God by separating the Creator from direct involvement in the evil, chaotic, or otherwise unsatisfactory aspects of life on this planet.

The Intelligent Design controversy does not represent a struggle between science and religion *at the present time*. That is because science has not adopted Intelligent Design. The natural sciences have been embarked on the project of demonstrating that the universe was constructed without any design at all. But what if that project fails? If science does adopt Intelligent Design, a serious controversy may develop between science's understanding of the "designer" and the Judaeo-Christian understanding of the morally perfect and omnipotent God as portrayed in the Bible.

PART 7: Must We Believe in Any Creation Theory?

Does it matter what you believe about the development of life on earth? What are the options? First, let's look at two extremes, atheistic evolution and literal biblical creationism. These are the two extremes that clashed in the famous Scopes "Monkey" Trial in 1925, regarding the teaching of the theory of evolution in schools in the state of Tennessee.³⁷

Atheistic or non-directed evolution? If you believe in any kind of God, you won't believe the basic message that everything came to exist by meaningless chance. You may, of course, believe that God arranged for the universe and life to come into existence as a result of randomness. In that case, you would reject the concept of Intelligent Design. However, you must still accept that the order that you see in the cosmos is both *real* and *intentional*,³⁸ not merely an "appearance" of order, as (for example) Dawkins who professes atheism, claims.

Literal biblical creationism? This view assumes that the account of creation given at the beginning of Genesis, the first book of the Bible, must be taken literally. Some Christians, often called "fundamentalists," insist on this view, but many other Christians do not agree with them.

There is no simple way to reconcile the account in Genesis with the evidence from the sciences or even from common observation. For example, the story speaks of God creating light, day, and night, "so the evening and morning were the first day" – but the sun and moon are not created until later in the story.³⁹

The difficulty that biblical literalism presents for a scientist is not simply the fact that the biblical account is at odds with the scientific one. That does not, in principle, prove the biblical account wrong. Scientific accounts have often been wrong, and the biblical account might be right. There are different ways of interpreting scientific data just as there are different ways of interpreting the Bible.

The difficulty is this: the biblical literalist demands not only that the Genesis account be accepted as literally true but that a massive body of scientific evidence that contradicts it must, as an act of faith, be set aside. The biblical literalist essentially leaves no role for science except to "prove" what has already

been accepted anyway as an article of faith. In that case, science has no important role at all. Thus, while the biblical literalist view can be embraced by a Christian, the Christian might be very uncomfortable if she then tried to function as a scientist in a discipline relevant to the issues, such as biology.

Theistic Evolution? Believing in evolution does not rule out belief in the Bible. Many Christians, those sometimes called old-earth creationists, believe in both and do not see a conflict between them. They do not take the account in Genesis of the creation of the universe and life on earth as a literal description. They read these chapters as a foundational way to understand the world. In their view, the account of creation in Genesis points out key facts for human existence, but does not function as a scientific document. For example, the opening sentence of Genesis (and therefore of the entire Bible) states: "In the beginning God created the heavens and the earth." That one sentence makes a number of key statements at once: 1. there *is* a beginning; 2. there is only *one* God; 3. God created *everything* out of *nothing*; and 4. God is *outside* the creation. This one single statement opposes the notions of an eternal universe, polytheism, dualism, atheism, and pantheism all at once. The further story of sin and salvation told by the Bible rests on that foundation.

In the Bible's account of creation, we read that God intentionally created both living and non-living nature and that God considers the human race to be the most valuable work of creation because we are capable of having a loving relationship with our Creator and with each other. The details in the text are a poetic elaboration of these central ideas.

This view, in a variety of forms, is generally held by Christians who accept evolution. Most Christians who are scientists accept this view because it does not require them to

ignore the implications of their work when approaching Scripture. In fact, as long as literalism is not insisted on, there is a high degree of congruence between the biblical account of creation and conventional scientific beliefs such as the Big Bang theory.⁴⁰

It is also important to realise that there are many questions people ask about God on which the natural sciences cannot shed any light. These would include, for example, questions such as why God should love human beings, or care what happens to us, or consider us the crown of creation. Christians believe that God does feel this way, on account of personal experience, the experience of others, the Bible or tradition, but there is no means of proving it. We should not be surprised by our inability to prove things about a relationship with God, because we cannot prove things about relationships with other human beings either. We must rely on a reasonable interpretation of our own experience and the experience of others.

Intelligent Design? Right now, Intelligent Design is still only a hunch, a possible way out of the problems created by dogmatic contemporary insistence on *un*Intelligent Design in the face of mounting evidence of complex systems in microbiology. The concept presents no problems in principle for a Christian because Christian teachings clearly identify Jesus Christ as the agency through whom God created the universe and life on earth.⁴¹ But the notion of lesser creators, demigods, Gaia, space aliens, or various intelligences to whom credit should be given and honour paid would certainly conflict with Christian beliefs.

People who are concerned with the question of how the world originated should watch the Intelligent Design controversy closely because it clearly signals an important shift in

ways of thinking about that question. We need to remember, however, that if we think that the design is intelligent, we must consider who should be given the credit and, above all, how we should understand the Designer's purposes for our own lives.

Resources for Further Reading

A Brief History of Time by Stephen Hawking (New York: Bantam, 1988) is a good introduction for the lay person to issues about the origin of the universe, Big Bang Theory, and current philosophical positions on these subjects.

The Battle of Beginnings: Why Neither Side Is Winning the Creation–Evolution Debate by Del Ratsch (Downers Grove: InterVarsity Press, 1996) provides a useful introduction to philosophy of science and ways of thinking in science. It does not really deal with the Intelligent Design controversy but it does provide a good introduction to biblical creationism.

Darwinism Defeated? The Johnson-Lamoureux Debate on Biological Origins ed. Phillip E. Johnson and Denis O. Lamoureux (Vancouver: Regent College Publishing, 1999) features papers by supporters and opponents of Intelligent Design. These papers also provide a good introduction to Christian and theistic evolution.

Darwin's Black Box: The Biochemical Challenge to Evolution by Michael Behe (New York: Free Press, 1996) argues that the many essential molecular machines of the living cell suggest design rather than the gradual effects of chance and necessity.

Icons of Evolution by Jonathan Wells (Washington: Regnery Press, 2000). In this book, Wells shows how much outdated or questionable stuff is regularly trotted out in biology textbooks in support of the theory of evolution.

Nature's Destiny: How the Laws of Biology Reveal Purpose in the Universe (New York: Free Press, 1998) by Michael J. Denton is an informative look at the ways in which our universe and our planet seem to be "fine-tuned" to permit the origin of life.

No Free Lunch by William Dembski (Lanham: Rowman &

Littlefield, 2002). This is Dembski's complete mathematical case for design in biology.

Summer for the Gods by Edward J. Larson (New York: Basic Books, 1998) is a Pulitzer Prize-winning account of the Scopes Trial (the "monkey trial" made famous by the movie *Inherit the Wind*). The book provides an excellent introduction to the question of how evolution vs. creation became so controversial in North America.

Notes

1. See, for example, *Darwin's Black Box: The Biochemical Challenge to Evolution* by Michael J. Behe (New York: Free Press, 1996) for an explanation of the underlying complexity of the mechanisms that "simple" cells use.
2. ID theory does not necessarily argue that the Intelligent Designer is God, as understood in the Jewish, Christian, or Muslim tradition. This topic will be taken up in Parts 6 and 7.
3. Michael J. Denton's book, *Nature's Destiny* (New York: Free Press, 1998), provides a useful overview and defence of many so-called "anthropic" arguments from the structure of the universe.
4. "Theistic evolutionists," as opposed to Christian evolutionists, believe in God, but not necessarily God as portrayed in the Bible or Judaeo-Christian or Muslim tradition. For space reasons, the many interesting viewpoints on this spectrum cannot be examined within the scope of this booklet.
5. For example, in a recent book, *Darwinism Defeated? The Johnson – Lamoureux Debate on Biological Origins* (Phillip E. Johnson and Denis O. Lamoureux, eds., Vancouver: Regent College Publishing, 1999), evolutionist Michael Denton publicly regrets that he did not make clear that in his 1986 book *Evolution: A Theory in Crisis?* (Bethesda: Alder and Alder), he was criticizing Darwinism in particular, not all evolution theories. See pp. 141-2 of *Darwinism Defeated?* If this level of confusion plagues experts, it is no wonder if the lay public is baffled.
6. See *Wonderful Life: The Burgess Shale and the Nature of History* by Stephen Jay Gould (New York: W.W. Norton & Co., 1985), p. 24.
7. Behe (1996).

8. The finches are often called Darwin finches and science folklore credits Darwin with discovering the variation. Actually, according to Jonathan Wells, Darwin was not particularly interested in the finches and, contrary to his usual practice, contributed only confusion to their study because he kept less accurate records of them than his shipmates did. For a detailed account of the finch-beak controversy and Darwin's true role, see Jonathan Wells, *Icons of Evolution* (Washington: Regnery Press, 2000).

9. There is a real possibility that the explanation for the mergers is that some bird groups were assumed to be separate species because a slight difference in appearance and calls prevent them from mating. However, if they are varieties of the same species, they could perhaps begin to mate if circumstances threw them together in such a way that they ignored their differences. Thus, there is a very real question how many species of finch live on the islands in the first place.

10. According to Wells in *Icons of Evolution*, the following standard texts claim that the beaks provide a good example of the origin of species by natural selection (adaptive radiation), and don't mention the seasonal reversals: Alton Biggs, Chris Kapicka & Linda Lundgren, *Biology: The Dynamics of Life* (Westerville, OH: Glencoe/McGraw-Hill, 1998); Sylvia Mader, *Biology*, Sixth Edition (Boston: WCB/McGraw-Hill, 1998); Kenneth R. Miller & Joseph Levine, *Biology*, Fifth Edition (Upper Saddle River, NJ: Prentice-Hall, 2000); William D. Schraer & Herbert J. Stoltze, *Biology: The Study of Life*, Seventh Edition (Upper Saddle River, NJ: Prentice-Hall, 1999); Cecie Starr & Ralph Taggart, *Biology: The Unity and Diversity of Life*, Eighth Edition (Belmont, CA: Wadsworth Publishing Company, 1998).

11. Foreword to M. Ruse, *Darwinism Defended* (Reading, Mass: Addison-Wesley, 1982, pp. xi-xii).

12. One of the many confusions in this debate is that evolutionists often use language that implies "design" in an organism. But they do not mean design in the usual sense. They do not believe that complex organisms were designed; they believe that the organisms arose by chance and only give the appearance of having been designed. For example, evolutionist Richard Dawkins writes "Biology is the study of complicated things that give the appearance of having been designed for a purpose." (in *The Blind Watchmaker* (London: Longman, 1986, p. 1.)

13. Wells (2000) cites a number of examples from recently published textbooks. See also "Butterfly Tales" in *Faith@Science* by Denyse O'Leary (Winnipeg: J. Gordon Shillingford, 2001), p. 29.

14. Some argue that our cells originated from other cells that themselves originated by chance far back in prehistory. This argument pushes the problem back in time but does not change it.

15. William A. Dembski. *No Free Lunch: Why Specified Complexity Cannot Be Purchased without Intelligence* (Lanham: Rowman & Littlefield, 2002), p. xiii.

16. No accident! It is Shakespeare, Sonnet 138, from *The Complete Oxford Shakespeare*, Volume I, p. 393.

17. Dembski (2002), p. xix.

18. Cited in Johnson and Lamoureux, p. 32.

19. In "Billions and Billions of Demons," a review of *The Demon-Haunted World: Science as a Candle in the Dark* by Carl Sagan in *The New York Review of Books* (January 9, 1997).

20. Keith B. Miller, "Design and Purpose Within an Evolving Creation" in Johnson and Lamoureux. In his essay "Comments on Special Creationism," in the same book, Michael J. Denton

writes, “the fundamental aim of science to reduce all phenomena to purely natural explanations.”

21. The methods that scientists use to test theories are discussed in Part 5.

22. This position is spelled out clearly in, for example, *The Battle for the Beginning* by John MacArthur, (W Publishing Group, 2001).

23. For example, Robert Pennock, author of *Tower of Babel: The Evidence Against the New Creationism* (Cambridge, Mass: MIT Press, 2000), who is sharply critical of the Intelligent Design theory, treats it as a variety of biblical creationism that is merely concealing its real nature.

24. Johnson and Lamoureux, p. 19.

25. Howard J. van Til, “What Good Is Stardust?” *Christianity Today*, August 6, 2001.

26. In science, determinism means that if you had all the data about a phenomenon, you could infallibly predict what would happen. Many scientists of Einstein’s generation strongly favoured this view. However, the behaviour of subatomic particles, as described by quantum mechanics, is random. As a result, predictions can only be based on probability, not certainty. This was bad news for determinists, and they did not take it lying down.

27. The experiment need not involve a laboratory setting. It could involve data from life forms that have not yet been investigated.

28. Dembski (2002), p. xvi.

29. For example, many truisms of television specials on biology are in fact contested within the academy. Current biology fads in the popular media assume, for example, that dinosaurs were warm-blooded and that birds descended from

dinosaurs, but many paleontologists question these claims. See, for example, “*Longisquama insignis*,” *Science*, June 23, 2000, which argues for a non-dinosaur ancestry for birds.

30. “Old-earth creationists” refers to Jews or Christians who believe that the Bible’s account of creation is intended to underscore God’s central role in creation but is not intended to be taken as a technical account of the events.

31. For an excellent summary of the different philosophies of science that are at issue in this debate, see Del Ratzsch, *The Battle of Beginnings: Why Neither Side Is Winning the Creation-Evolution Debate* (Downers Grove: InterVarsity Press, 1996).

32. There are, of course, radical theologies whose aims are very different from the traditional aims of theology, but they do not fall within the scope of this booklet.

33. The expression “higher” animals is used here because there is a legitimate question whether animals that do not have a brain or the equivalent of a brain actually suffer. Unfortunately, there is no question that many warm-blooded vertebrates have the mental equipment needed to experience pain.

34. This discussion leaves human suffering out of account. That is not because it is unimportant. Christian theology offers a variety of ways to account for and respond to suffering in a world made by a loving God. (See, for example, Dare Booklet #4: *Does God Care? A Christian Response to Evil and Suffering*, by John Bowen [Richmond, BC: Digory Designs: 1999].) However, the “built-in” nature of animal suffering is more of a conundrum for the purpose of the discussion of Intelligent Design.

35. From *The Catholic Encyclopedia Online*, “... according to Greek philosophy the world maker is not necessarily identical with God, as first and supreme source of all things; he may be

distinct from and inferior to the supreme spirit, though he may also be the practical expression of the reason of God, the Logos as operative in the harmony of the universe ... a world-maker distinct from the Supreme God." The demiurge, whatever else may be said about him, was intelligent but free to make mistakes. For example, according to L.P. Gerson in *The Oxford Companion to Philosophy*, "Plato, in the *Timaeus*, uses the word for the maker of the universe. Plato says of this maker that he is unreservedly good and so desired that the world should be as good as possible. The reason why the world is not better than it is is that the demiurge had to work on pre-existing chaotic matter. Thus, the demiurge is not an omnipotent creator."

36. Traditional theology assumed a creationist position. Modern theologians avoided the problem described here by accepting evolutionary theory. If neither creationism nor evolutionary theory is completely convincing, then the problem of intelligent but not perfect or apparently moral design becomes a pressing one.

37. For an account of this trial and its consequences, see *Summer for the Gods* by Edward J. Larson (New York: BasicBooks, 1998).

38. See, for example, Psalm 8:3, "When I look up at your heavens, the work of your fingers, at the moon and the stars you have set in place..." or Psalm 139:13, "You it was who fashioned my inward parts; you knitted me together in my mother's womb." The analogy to craftsmanship suggests that randomness, if used at all, operates only under strict guidance.

39. Biblical literalists have responded to these problems by creating alternative scenarios for creation. MacArthur (2001), for example, explains the discrepancy regarding the creation of light as follows: "What form this light took is not clear. Whether it was merely an ethereal glow or a light that

emanated from a specific place is nowhere stated." (p. 79) He asserts that God himself kept time according to 24-hour days prior to putting the sun and moon in place on Day Four.

40. This congruence has not always existed. In the 19th century, for example, many scientists believed in an eternal or "steady state" universe; according to their theories, there was no need for a creator. The 21st century understanding of the universe seems to require a beginning.

41. See *The Gospel of John*, 1:2-3: "Through [Jesus] all things were made; without him nothing was made that has been made."