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# Origins Science Needs Design Rehab

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# ORIGINS SCIENCE NEEDS DESIGN REHAB

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## The boat containing evolution's most precious cargo seems to be leaking.

**D**uring the past decade, a fresh, enlightening breeze has been blowing into every corner of the house that Darwin built. The enterprise promoting this sea change, known as Intelligent Design (ID), began to cohere in the mid-1990s.

Lehigh University biochemist Michael Behe published his book *Darwin's Black Box*, in which he convincingly showed that many biological structures display “irreducible complexity.” Structures like vision cascades, cellular cilia, bacterial flagella, and other “molecular machines” require many complex and coordinated molecular working parts. Behe combed the literature in search of evolutionary scenarios involving many small steps, to account for the origin of such structures, but

found them few and far between, and totally inadequate.

For biological machines to work, all—or most—of the molecular parts are needed at once. The complexity cannot be reduced to some much simpler state. Individual component proteins, or small selections of them, do not function at all. Hence the Darwinian mechanism cannot build the observed complexity by gradual selection of increasingly efficient precursors. Irreducibly complex mechanical and electronic machines offer a pertinent analogy and are known to be the products of intelligent minds taking advantage of natural laws. Conse-

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***[H]ow is it possible to decide if something has been designed or if the design is only apparent? An important step was taken by mathematician and philosopher William Dembski, who established criteria for detecting design. Dembski drew attention to the fact that detecting design is already a well-established scientific activity in fields such as forensic science, archaeology, and cryptology.***

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quently, Behe argued that biological machines are powerful evidence of intelligent design in biology.

At about the same time, Berkeley law professor Phillip Johnson applied his relentless logic in his book *Darwin on Trial* to show that the full diversity of Darwinian evolution is not supported by compelling factual evidence from paleontology or by empirical data from biology. Most important, Johnson highlighted the fact that the main support for Darwinian theory derives from its philosophical assumptions. Evolutionists see science as essentially materialist and based on philosophical naturalism. Only chance and the laws of nature are admitted as acceptable explanatory tools. Any interpretation departing from this narrow arena will automatically be rejected as non-science or—worse still—as superstition.

But how is it possible to decide if something has been designed or if the design is only apparent? An important step was taken by mathematician

and philosopher William Dembski, who established criteria for detecting design. Dembski drew attention to the fact that detecting design is already a well-established scientific activity in fields such as forensic science, archaeology, and cryptology. Methods employed with obvious success in these areas to distinguish criminal from accidental activity, to differentiate artifacts from natural objects, and to decode messages should also be applicable to biological structures and to events in nature.

In his book *The Design Inference*, Dembski described a general method he called “specified complexity” for identifying design and distinguishing it from the effects of natural causes. He demonstrated that systems exhibiting high complexity combined with “specification” are always produced by intelligent agents. To be “specified,” an object or event must correspond to an independent pattern or dynamic sequence. An example of specification would be a dart board

with a bull's eye in the center. The bull's eye is the specified target. Randomly throwing darts is unlikely to result in hitting a bull's eye. There is something special about hitting a bull's eye in a board on a wall that is very different from throwing darts, then drawing a bull's eye around them wherever they hit. The difference is that the bull's eye is specified. It turns out that nature—and particularly biology—is equivalent to a long series of bull's eyes that have all been hit by darts. When something has the property of specified complexity, it is logical and rational to conclude it was designed.

Dembski, Stephen Meyer, and others have applied the specified complexity criterion to biological phenomena and find good agreement with Behe's conclusion that their origin implies intelligent design. It is especially significant that the ID criterion enables data from across a spectrum of scientific areas to be rationalized. Physicists have discovered that the existence of life in the universe depends on a highly improbable balance of fundamental factors, often referred to as the "fine tuning of the universe" or as "anthropic coincidences." Application of the specified design criterion to this cosmic enigma also signals intelligent design as the most likely cause.

It is apparent that this is a fresh, logical, and rational way of thinking, which enables design to be detected

independently of any philosophical or religious beliefs. Objective thinkers will welcome this as a way of shedding light on some of science's most perplexing impasses. In practice, ID is growing in influence among scientists and philosophers who are willing to consider design as a third fundamental cause along with chance and natural law. On the other hand, the old school of materialists, who hold that only chance and necessity are admissible causes, oppose ID with every means their powerful establishment positions give them.

Richard Dawkins and Jerry Coyne are long-time members of this vintage group and are adamantly opposed to ID. No surprises there! The intolerant tone of the article written by Dawkins and Coyne, "One Side Can Be Wrong," which appeared in the *Guardian* on September 1, 2005,<sup>1</sup> shows that an emotional and ideological attachment to their worldview has led them deeply into wrong territory. For them, evolution should brook no rivals. Origins research is one of the softest sciences, so proponents particularly need to cultivate an impartial and objective attitude.

One label Dawkins and Coyne immediately stick on ID is: "There is nothing new about ID. It is simply creationism camouflaged with a new name."<sup>2</sup>

The major players in ID science emphatically reject this assertion.

Proponents of ID regard it as a scientific research program that investigates the effects of intelligent causes. ID advocates such as Behe and Dembski are not young-Earth creationists and do not reject evolution.

Dembski intends to use ID to re-examine design as a way of remaining true to science. Meyer observed that rather than focusing on which naturalistic explanation is most reasonable for the origins of life on Earth, we should be looking at what actually *caused* life. The specified complexity criterion for detecting design makes no appeal to sacred books and is independent of all religious authority.

Phillip Johnson remarked that “Our objective is not to impose a solution, but to open the most important areas of intellectual inquiry to fresh thinking.” Of course, ID research has important implications for creationism, but support for creationism is not its objective. ID advocates accept evolution, but they doubt that it can do everything that Darwinists claim. Their purpose is to follow the evidence wherever it leads. This statement has become a slogan of ID

advocates and is entirely in harmony with the open-minded attitude with which any scientific investigation should be pursued. It is important to understand that ID is not a claim that miracles occur. Rather, it seeks to establish whether design is an actual feature of the universe that cannot be duplicated by the effects of natural law and chance.

Early in their article, Dawkins

and Coyne say, “So, why are we so sure that intelligent design is not a real scientific theory, worthy of ‘both sides’ treatment? Isn’t that just our personal opinion? It is an opinion shared by the vast majority of professional biologists. . . . If ID really were a scientific theory, positive evidence for it, gathered through research, would fill peer-reviewed scientific journals. This doesn’t happen. It isn’t that editors refuse to publish ID research.”<sup>3</sup>

As already mentioned, for material naturalists, “real science” admits only chance and necessity as valid causes. Dawkins and the majority of his evolutionary peers automatically rule out ID on these philosophical grounds and consider it a waste of time to evaluate the evidence.



***The majority of professional biologists work in institutions dedicated to evolution and its sister disciplines. Many institutes are specifically named “Evolutionary Biology” or some variant of this. The research funding, the livelihoods, the careers, the professional reputations of all these scientists depend on adherence to evolutionary orthodoxy. Objectivity on foundational questions of origins is not an option for them in these circumstances.***

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In any case, Dawkins and Coyne, after making their misleading point, admit that it is nonsense: “But of course science does not proceed by majority vote among scientists.”<sup>4</sup>

It is totally unsurprising that ID research is not reported in mainline science journals. Contrary to Dawkins and Coyne’s assertion, editors

routinely refuse to publish. When Richard Sternberg, editor of the *Proceedings of the Biological Society of Washington*, published a single paper by Cambridge-educated Stephen Meyer making the case for ID, he immediately became the subject of a closet campaign of ridicule and intimidation. “They were saying I accepted money under the table,” said Sternbert, “that I was a cryptopriest, that I was a sleeper cell operative for the creationists.” He was advised not to attend a biological society meeting because feelings were running so high that order couldn’t be guaranteed.

An independent agency, the U.S. Office of Special Counsel, examined e-mail traffic emanating from the Smithsonian Institution, where Sternberg held a fellowship, and noted that “retaliation came in many forms. . . . Misinformation was disseminated through the Smithsonian

***Evolutionists assert that the large steps to really new structures (macroevolution) are just an accumulation of smaller steps. It is very significant, however, that even after all this time, verifiable laboratory evidence is completely absent, the fossil record presents major problems, and only fanciful scenarios are on offer. The point ID scientists are making is that the time has now come to examine alternative explanations in which design is evaluated alongside natural causes.***

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and to outside sources. The allegations against you were later determined to be false.”<sup>5</sup>

Editors are well aware of the intimidation and harassment they will face, so it is small wonder they shy away from publishing articles favorable to ID. It is ironic for Dawkins of all people to denigrate ID because, he writes, “Its advocates bypass normal scientific due process by appealing directly to the non-scientific public and—with great shrewdness—to the government officials they elect.”<sup>6</sup> Yet these are exactly the methods he himself adopts! His main contribution to science is the series of popular books expounding his brand of evolution to the general public. In fact, Dawkins is following a long line of evolutionists including Charles Darwin, Thomas Huxley, and Stephen Gould, all of whom have appealed directly to the non-scientific public in books and popular articles.

Dawkins and Coyne’s belief that it is fine for evolutionists to appeal directly to the public, but wrong for those who disagree with them, is deeply revealing of their ultra-partisan approach.

According to Dawkins and Coyne, ID scientists make unreasonable demands for evidence: “One side [evolution] is required to produce evidence, every step of the way. The other side is never required to produce one iota of evidence, but is deemed to have won automatically, the moment the first side encounters a difficulty—the sort of difficulty that all sciences encounter every day, and go to work to solve, with relish.”<sup>7</sup>

For more than a century, evolutionary scientists have been promising that laboratory science will someday discover a quantifiable mechanism for evolutionary change. Scientifically rigorous explanations have also been promised for: how

life originated; how the genetic code and new genetic information could arise; how complex biological organs like eyes, cilia, etc. originated; how new biological species developed from ancestral forms and why the fossil record does not show the “innumerable transitional forms” Darwin expected.

ID scientists do not denigrate the huge progress that biologists have made in understanding how smaller changes have come about, how new varieties of animals and plants are produced, i.e., microevolution in general. Evolutionists assert that the large steps to really new structures (macroevolution) are just an accumulation of smaller steps. It is very significant, however, that even after all this time, verifiable laboratory evidence is completely absent, the fossil record presents major problems, and only fanciful scenarios are on offer. The point ID scientists are making is that the time has now come to examine alternative explanations in which design is evaluated alongside natural causes. The relish with which scientists work in solving origins problems could be pleasantly enhanced by adding the ID criterion to their arsenal of scientific tools.

Dawkins and Coyne believe: “Biologists, on the other hand, can confidently claim the equivalent ‘cinematic’ sequence of fossils for a very large number of evolutionary transitions. Not all, but very many,

including our own descent from the bipedal ape *Australopithecus*.”<sup>8</sup>

This claim is seriously at odds with considered opinion in the scientific literature emanating from specialists in paleontology. For example, Tom Kemp says, “The observed fossil pattern is invariably not compatible with a gradualistic evolutionary process.”<sup>9</sup>

Even evolutionist icon Stephen Gould admitted: “The history of most fossil species includes two features particularly inconsistent with gradualism: 1. Stasis. Most species exhibit no directional change during their tenure on earth. They appear in the fossil record looking pretty much the same as when they disappear, morphological change is usually limited and directionless; 2. Sudden appearance. In any local area, a species does not arise gradually by the steady transformation of its ancestors; it appears all at once and ‘fully formed.’”<sup>10</sup>

The fossil record does not supply evidence for macroevolution. What is more, if the fossil record were truly as portrayed by Dawkins and Coyne, there would have been no need for the “punctuated equilibria” hypothesis to have been formulated to try and explain the universal gaps.

Dawkins and Coyne keep up their courage by suggesting: “Not a single authentic fossil has ever been found in the ‘wrong’ place in the evolutionary sequence. Such an anachronistic



fossil, if one were ever unearthed, would blow evolution out of the water. As the great biologist J. B. S. Haldane growled, when asked what might disprove evolution: 'Fossil rabbits in the pre-Cambrian.'<sup>11</sup> This is to seriously underestimate the capacity of evolution to absorb bad news! When it comes to the fossil record, even Charles Darwin admitted that it was strong evidence against his theory and appealed to the incomplete nature of the record to try to get around this.

Not surprisingly, Dawkins and Coyne also appeal to the incompleteness of the record. But appealing to fossils that have not been found, and trying to explain away those that have been found, hardly constitute strong evidence supporting Darwinism. There is a great deal of flexibility about exactly what the right evolutionary sequence is.

Furthermore, geochronology is far from an exact science. Different dating methods frequently give discordant results. Samples for radioactive dating may contain contamination from younger material or from older source rock so that the right date can usually be found, either by selection from available samples or by selection from the range of dates. A nice example of this process unconsciously in action during the controversy over the date of skull KNM ER 1470 from the Lake Turkana region of Kenya is described by Roger Lewin in his book

*Bones of Contention.*

Nor do grossly out-of-place fossils like rabbits in the pre-Cambrian present any threat to evolution. Evolutionary palaeontologists *know* such fossils are impossible and therefore they *always* classify them either as intrusive, i.e., buried at a later date by human or natural means, or they are labeled frauds. Sufficient doubt to discredit the find can always be raised.

For a recent example, consider the report by Bennett, Huddart, et al., of fossil human footprints in volcanic ash near Puebla, Mexico, dated to 40,000 years by a variety of techniques including radiocarbon analysis,<sup>12</sup> which challenged evolutionary views about the timing of human entry into the Americas. No surprise that it was rapidly followed by a rebuttal from Renne, et al.<sup>13</sup> re-dating the footprints by a gigantic leap to 1.3 million years and redefining them as "markings" caused by erosion. Although many anachronistic fossils have been found, evolution routinely shrugs them off.

Dawkins and Coyne assure us that "in fact, the bacterial flagellum is certainly not too complex to have evolved, nor is any other living structure that has ever been carefully studied. Biologists have located plausible series of intermediates, using ingredients to be found elsewhere in living systems."<sup>14</sup>

This is largely wishful thinking.

***The word evolution has become too ambiguous in its meaning. In many contexts, evolution means simply change, and who would deny change in the natural world? There is indeed a large volume of evidence that microevolution happens. This is not in dispute; but neither is this the process ID scientists are addressing.***

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What is meant by “located”? Does this mean located in the fossil record, located in laboratories, or located in the imagination? When it comes to explaining the origin of the bacterial flagellum, and similarly complex, information-rich biological organelles, evolutionary ingenuity has found little to offer, as recourse to biochemistry textbooks and journals has demonstrated. Of course, a few, short “plausible series of intermediates” for these organelles may be “located” in imaginary scenarios regarded even by their originators as incomplete and highly tentative. Scientific imagination knows no limits! But the broad picture of this area of evolution is noteworthy for the scarcity of ideas and their insubstantial character.

The oft-repeated dictum “evolution is fact” has become a password ritually affirmed by orthodox Darwinians. Even distinguished academics like Dawkins and Coyne cling to this shaky prop: “The weight of the evidence has become so heavy that

opposition to the fact of evolution is laughable to all who are acquainted with even a fraction of the published data. Evolution is a fact: as much a fact as plate tectonics or the heliocentric solar system.”<sup>15</sup>

The trouble is, the word *evolution* has become too ambiguous in its meaning. In many contexts, *evolution* means simply change, and who would deny change in the natural world? There is indeed a large volume of evidence that microevolution happens. This is not in dispute; but neither is this the process ID scientists are addressing. To quote Phillip Johnson: “The point . . . is whether [microevolution] tells us anything important about the processes responsible for creating birds, insects and trees in the first place.”<sup>16</sup>

All the evidence favoring evolution is of the “finch beak” kind: small variations within a known species or closely related group of species. Fossil sequences of trilobites showing size gradations are well known, as are the

laboratory experiments developing fruit flies with divergent morphology. The problem is that this kind of evidence does little to advance knowledge of how trilobites or fruit flies came into existence in the first place. That evolution was supposed to be about the *origin* of species has become lost in a maze of trivia.

For about 150 years, science has striven mightily to explain the origins of everything in terms of only chance, allied with the laws of nature. Dawkins and Coyne offer nothing new, just the same unsubstantiated assertions and unfulfilled promises that have led origins science into decades of sterile wandering. Origins science seems gripped in a mesmeric addiction to games of chance. It is now time to check into design rehab. Their article shows that Dawkins and Coyne are still in full denial. The prime objective of the ID enterprise is to establish design as a basic cause, along with chance and natural law, and hence to advance understanding of how complex biological and other

structures originated. There are hopeful signs that a new generation is recognizing this as a logically sound, rational, and reasonable program. □

#### REFERENCES

<sup>1</sup> Richard Dawkins and Jerry Coyne, "One Side Can Be Wrong," *Guardian* (September 1, 2005); see <http://www.guardian.co.uk/life/feature/story/0,13026,1559743,00.htm>.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

<sup>4</sup> *Ibid.*

<sup>5</sup> See <http://www.rsternberg.net> for Sternberg's own restrained account of the affair.

<sup>6</sup> Richard Dawkins and Jerry Coyne, *op cit.*

<sup>7</sup> *Ibid.*

<sup>8</sup> *Ibid.*

<sup>9</sup> Tom Kemp, *Fossils and Evolution* (Oxford, England: Oxford University Press, 1999), p. 16.

<sup>10</sup> Stephen. J. Gould, quoted in Phillip E. Johnson, *Darwin on Trial* (Downers Grove, Ill.: InterVarsity Press, 1993), p. 50.

<sup>11</sup> Dawkins and Jerry Coyne, *op cit.*

<sup>12</sup> See <http://www.royalsoc.ac.uk/exhibit.asp?id=3616&tip=1>.

<sup>13</sup> *Nature* (2005), p. 438.

<sup>14</sup> Dawkins and Coyne, *op cit.*

<sup>15</sup> *Ibid.*

<sup>16</sup> Phillip E. Johnson, *Darwin on Trial* (Downers Grove, Ill.: InterVarsity Press, 1993), p. 68.

