

The Merits of Intelligent Design

As of this writing, a trial is taking place in Harrisburg, Pennsylvania.¹ It is both a legal trial and one of ideas. The impact of its result will be felt throughout the country; indeed, everyone from school teachers to the President has commented on the issue at its heart.² That issue is called intelligent design. It is the idea that there is scientific evidence for intentional design, and thus for a designer, of life. Labeled by many, especially those in the scientific community, as creationism re-worked and re-named, it is claimed by its proponents to be a revolutionary breakthrough which has been repressed by orthodox scientists but will change the way we view the world. The debate is one of great importance, for it affects the education of our children. Is the debate one which can be resolved, or is it over questions which cannot be answered?

People have thought about and questioned their origins, usually in mythological ways, since before written history began. Darwin's *Origin of Species*, first published in 1859, crystallized the ideas of the past and introduced the theory of evolution through natural selection. Modern evolutionary theory began with the modern synthesis of evolutionary thought and other fields of science, especially genetics, in the first half of the twentieth century.³ According to the synthesis, evolution occurs by selection of favorable traits, which appear through genetic mutation, over long periods of time.⁴ Or, to put it more succinctly, "Evolution is a change in the gene pool of a population over time."⁵ The theory has, to say the least, upset those who do not accept its validity since it was first put forth as a unified idea by Darwin. The contentiousness of the central idea of evolution – that humans and all other forms of life evolved gradually from much less complex forms – has not been much reduced since Darwin's book was first published. However, despite the contentiousness of the theory and the determination of its opponents, evolutionary theory remains one of the cornerstones of biology, as the opening of the National Association of Biology Teachers' "Statement on Teaching Evolution" demonstrates:

As stated in *The American Biology Teacher* by the eminent scientist Theodosius Dobzhansky (1973), "Nothing in biology makes sense except in the light of

evolution.” This often-quoted declaration accurately reflects the central, unifying role of evolution in biology. The theory of evolution provides a framework that explains both the history of life and the ongoing adaptation of organisms to environmental challenges and changes.⁶

Evolution continues to be the dominant paradigm of both biology and paleontology, and has shown ability to weather severe criticism. But the newest opposition to evolutionary thought, intelligent design, is making headway into the public consciousness.

Intelligent design, or ID, originated in the late 1980’s and early 90’s.⁷ The idea grew throughout the 90’s as several books, such as *Darwin On Trial*⁸ and *Icons Of Evolution*⁹ were published. Now the main concepts behind it are Michael Behe’s irreducible complexity and William Dembski’s specified complexity. Irreducible complexity is the idea that there exist complex systems in which the removal of any one part will cause the system to cease functioning. Such a system, therefore, could not have gradually evolved, as it requires all of its parts to be put in place at one time.¹⁰ Some examples of irreducibly complex systems that Behe offered are the bacterial flagellum and blood clotting.¹¹ Dembski’s specified complexity is a more abstract idea which focuses on a methodology, using information theory, for determining whether an object is designed or not.¹² ID in its current form is based upon these two concepts, although it also incorporates a more standard oppositional approach of pointing out actual or perceived flaws in evolution’s ability to explain natural phenomena.

The arguments seem straightforward enough, and when one reads the literature involved, both sides are presented in technical language and scientific terms. However, mainstream scientists claim that ID is “outside the realm of science”¹³ on the one hand, and proponents of ID claim that a “Darwinian establishment” is in place which keeps ID off of the table and evolutionary theory safe “from the menace of public opinion.”¹⁴ Such antagonistic attitudes and hyperbolic language are not limited to the ID side, however: the entry for ‘Intelligent Design Theorist’ in Richard Dawkins’ *The Ancestor’s Tale* reads: “See Creationist,”¹⁵ and at pandasthumb.org, a web site dedicated to critiquing ID, Paul Z. Myers, a biologist at the University of Minnesota, Morris, refers to ID proponents on the Kansas Board of Education as “...the wretched sucktards of Ignorance”.¹⁶ It would appear, then, that one cannot determine which side is valid by accusing the other of engaging in mere

demagoguery. However, a firm understanding of the questions involved and the methods used to answer them would require a considerable amount of time, and would most likely involve earning a degree, if not multiple ones.

Contrary to what the above indicates, however, it is possible to discern whether or not ID has any merit as a scientific argument. This can be done not so much by investigating the ideas that ID is constructed around – namely irreducible and specified complexity – but rather by critically examining the way the debate is being carried out. Proponents of ID make many claims about ID and its opponents. Behe, for example, likened ID to big bang theory in that big bang theory

...did not postulate a natural cause explanation for the Big Bang. We don't currently have a natural cause explanation for the Big Bang... But nonetheless, the Big Bang theory is thought by physicists to best fit the data that we currently have. And right now I think intelligent design also best fits data that we currently have.¹⁷

And Behe further comments that the big bang theory also had its opponents initially.¹⁸

ID proponents, then, are claiming that their theory is much like others that have faced opposition from mainstream science before gaining widespread acceptance. While it is true that throughout the history of science, there have been many theories that were initially dismissed with scorn only to be later proven correct – Wegener's idea of continental drift is another such theory. Wegener's theory first gained widespread attention when his work was published in English in 1924.¹⁹ One prevalent scientific contemporary of Wegener's called the theory "utter damned rot!"²⁰ It wasn't for another twenty years that mounting evidence finally allowed Wegener's ideas to gain acceptance.²¹ Certainly, science is no stranger to heated debate.

A classic example of a debate within evolutionary science is punctuated equilibrium, a concept put forth by Niles Eldridge and Stephen Jay Gould in 1972²² that focuses on how changes occur in evolution. Punctuated equilibrium asserts that short bursts of rapid change interrupt (or punctuate) long periods of evolutionary stability (or equilibrium), rather than the constant, slow change more commonly thought of.²³ When it was introduced, and indeed for some time thereafter, the idea was highly controversial within the scientific community. In *The Structure of Evolutionary Theory*, Gould goes on for some length about punctuated equilibrium, including it with other topics in some three hundred pages, which amounts to

almost one quarter of the work.²⁴ He discusses at length the problems and struggles the theory experienced, stating that "...a quarter century of subsequent debate has finally propelled our claim to general acceptance..."²⁵ Note, however, that this 'general acceptance' is not as acquiescent as Gould's statement would have us believe. While punctuated equilibrium might have reached a non-controversial status, its merit is not regarded equally by all in the field. Richard Dawkins, for example, states his view that "...it is an interesting empirical question, which is likely to have a different answer in different particular cases, and which does not deserve its elevation to the status of major principle."²⁶

However, there exists a marked difference between the debate over punctuated equilibrium, big bang theory, and continental drift on the one hand and ID theory on the other: the way in which the proponents of the theories proceeded to establish them. The debate around intelligent design is not in the same class as the debate over punctuated equilibrium. Although one can argue that they both involve disagreement over how best to interpret data, the difference lies elsewhere. The debate over punctuated equilibrium took place using standard scientific methodology and in the standard scientific forum of peer-reviewed journals and conferences, as Gould points out in his section on the theory.²⁷ Supporters of continental drift, such as Harry Hess also put forth their ideas in scientific papers.²⁸ The debate over ID, however, does not involve scientific methodology and does not take place in the scientific literature. Instead of a patient struggle over the course of decades, as was the case with Gould, Eldridge, and Wegener, ID proponents seek to have the theory mentioned in high school classrooms, and attack evolution, in one case attempting to have stickers placed on school textbooks stating that evolution was a theory, not a fact.²⁹ In the *Kitzmiller et al. v. Dover Area School District* case in Harrisburg mentioned above, the Discovery Institute, one of the most prominent proponents of ID,³⁰ attempted to file an *amicus* brief, and the defendants are being provided counsel by the Thomas More Law Center, whose website proclaims that part of its mission is "Defending the Religious Freedom of Christians."³¹

Even if one does not investigate or disregards the numerous examples of selective quotation,³² straw-man arguments,³³ and other methods used to promote ID arguments, there remains the simple fact that the arena in which the debate is being carried out reveals the non-scientific nature of ID. Intelligent design is aimed at high school classrooms, where a

teacher speaks with authority that no journal article has, and the proponents of ID utilize the internet or books which are not subjected to rigorous peer review³⁴ to put forth their arguments. The Discovery Institute had an internal memo, which it calls “an early fundraising proposal,”³⁵ leaked in 1999 or 2000, now known as ‘the Wedge document.’³⁶ The document lays out two goals: defeating scientific materialism and replacing its explanations with “the theistic understanding that nature and human beings are created by God.”³⁷ Furthermore, one of its objectives is to have a “[c]over story on [a] major news magazine such as *Time* or *Newsweek*,”³⁸ – an event which has indeed come to pass.³⁹

There has been one example of an article supportive of ID being published in a peer-reviewed journal: “Intelligent Design: The Origin of Biological Information and the Higher Taxonomic Categories,” was published in the August 20, 2005 issue of the *Proceedings of the Biological Society of Washington*.⁴⁰ Dr. Stephen Meyer, the author of the paper, is the director and Senior Fellow at the Discovery Institute’s Center for Science and Culture.⁴¹ This publication led to a controversy which in turn led to a repudiation of the article by the Society⁴². The rebuttal also states that, apparently, the paper “was not published in accordance with the journal’s established review procedure.”⁴³ But the fact remains that the article was published, and is now available for rebuttal. In fact, there have been two rebuttals already at the Panda’s Thumb – one by PZ Meyers,⁴⁴ and another by Gishlick, Matzke, and Elsberry.⁴⁵ After several court cases involving attempts to introduce the concept into classrooms, after many books and web articles, a paper – written by one of the senior members of an organization which is a leading proponent of ID – has been published in a scientific journal and is available for critique. This again is indicative of the difference between a scientific debate and the debate being carried on by proponents of intelligent design.

Rather than pursue a search for evidence and experimental confirmation to win support for their theories, ID proponents resort to attempts to stir up a controversy outside of the scientific mainstream. Their arguments are based upon assertions that evolutionary theory cannot adequately account for all of what is found in biology – this is exemplified by Behe’s irreducible complexity – and upon the idea that there is scientific evidence for design, as exemplified by Dembski’s specified complexity. But these ideas, whether they have scientific merit or not, are not being tested in the scientific arena. Instead, they are being

promulgated into non-professional circles. And the most dramatic non-scientific circle in which there have been attempts to introduce these ideas is that of the school classroom. It is this methodology which allows us to discern whether intelligent design theory has scientific merit.

It can be easily seen that ID is a controversial issue, and the rhetoric used on both sides of the debate can easily descend into vitriolic name-calling. But on close examination it becomes clear that, name-calling and *ad hominem* attacks aside, one side of the debate is faulty. ID, rather than being a full-fledged scientific theory on equal standing with the modern synthesis, is revealed to be founded upon attacks on the synthesis and then built up with, to coin a phrase, designer-of-the-gaps arguments. More importantly, instead of seeking out peer review and experimental verification, they seek out willing school boards and impressionable students. In the end, the arguments of ID proponents do indeed seem to be nothing more than a re-tooled creationism.

But that does not mean that ID can be dismissed out of hand. Its growing popularity is a clear sign of a lack of critical thinking skills and of basic scientific knowledge among Americans. Perhaps intelligent design should be taught to our children in the public schools after all – as part of a curriculum designed to enable students to learn the valuable skills necessary to recognize and dismantle fallacious arguments.

Notes

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11. *Ibid.*, 70-73, 93-97.
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18. *Ibid.*, 47.
19. Edward J. Tarbuck and Frederick K. Lutgens, *Earth: An Introduction to Physical Geology* (Upper Saddle River, NJ: Prentice Hall, 2005), 43.
20. *Ibid.*
21. *Ibid.*, 45.
22. Gould, *Evolutionary Theory*, 761.
23. *Ibid.*, 766.
24. *Ibid.*, 745-1024.
25. *Ibid.*, 759.
26. Dawkins, *The Ancestor’s Tale*, 605n.
27. Gould, *Evolutionary Theory*, 745-1024.
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