

# Intelligent Design: Why Has It Become a Battleground Between Science and Religion?

By Nathan Aviezer

**T**wo of the leading proponents of intelligent design (ID) are the mathematician and philosopher Professor William Dembski, at the Southern Seminary in Louisville, Kentucky, and the biochemist Professor Michael Behe, at Lehigh University in Bethlehem, Pennsylvania. Both scientists, who are religious Christians (the relevance of this fact will become clear presently), point to various features of animals that, so they claim, are too complex to have come about through gradual evolution (“irreducible complexity”). They therefore claim that these animals must be the product of an “intelligent designer” who produced these sudden changes. Sudden changes in a species are incompatible with Darwin’s theory of gradual evolution for

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reasons that are explained in every biology textbook.<sup>1</sup> In fact, Darwin himself asserted in his famous book, *The Origin of Species*, that if abrupt changes had ever occurred in a species “that fact would be fatal to the theory of evolution through natural selection.”<sup>2</sup> Since the proponents of ID can point to many examples of abrupt changes in species, it follows, in accordance with Darwin’s own words, that the theory of evolution fails to account for the development of the animal kingdom. This, in a nutshell, is the argument of ID.

In fact, many of Professor Behe’s examples of abrupt changes in species have subsequently been challenged by other scientists. These scientists claim that the indicated features *can be explained* on the basis of gradual change, and therefore, these features are *not* a challenge to Darwin’s theory.<sup>3</sup>

## QUESTIONS

We begin our discussion of ID by posing the three questions, seemingly quite compelling, that proponents of ID often ask their opponents.

1. What logic is there to the December 20, 2005 ruling of the United States Federal Court in Pennsylvania? This ruling banned the teaching of ID, and decreed that Darwin’s theory of evolution is the only explanation of the animal kingdom that may be taught in the science classroom. Why? Isn’t a major goal of science education to teach the student to keep an open mind and consider various alternative approaches to explain the physical and biological data? If so, what impelled the Federal Court to forbid teaching ID in the classroom as a possible alternative to Darwin’s theory?

2. Don’t religious people believe that God created (and therefore designed) the world, including the animal kingdom? Isn’t this precisely the claim of ID? Therefore, doesn’t it follow that all Torah-observing Jews automatically accept ID as a tenet of their religious belief?

3. Why is the entire scientific community so adamantly opposed to ID? Some of the most ardent Darwinists have called attention to the

difficulties that have arisen in recent years in trying to accommodate the current fossil evidence with the concept of gradual evolution.<sup>4</sup> Therefore, there seems to be at least a reasonable chance that ID may be the correct answer. Isn't it the fundamental task of science to seek the truth wherever it may be found? Perhaps the strident opposition to ID on the part of non-religious scientists derives from a hidden agenda, and these scientists are not approaching this question with the appropriate level of objectivity.

Answering these questions will be the main focus of this article. We will also discuss why ID produces a deep uneasiness among many believers in Torah *hashkafah*. Indeed, we shall see that there is a striking similarity between ID and the ideas that underlie idolatry. Therefore, it should not be surprising to learn that religious scientists can be found in the forefront of the opposition to ID. Finally, a suggestion will be presented regarding how the religious high school science teacher might affect a synthesis between Torah and science regarding the formation of the animal kingdom.

## SCIENCE

Science is the enterprise that attempts to explain the functioning of the physical and the biological world on the basis of the laws of nature, *without invoking supernatural causes*. Science is based on two fundamental assumptions. 1. The universe (that is, matter and energy) exists, and science does not have to explain what caused it to exist. 2. There is regularity to the universe (the laws of nature), and science does not have to explain the origin of this regularity. The laws of nature are few in number—the scientist is not entitled to propose a new law of nature whenever he encounters difficulty in explaining some physical phenomenon.

These seemingly “obvious” assumptions are really quite profound, with very important implications. The first assumption eliminates, for the scientist, all conclusions based on the cre-

ation of the universe. The universally accepted “standard theory of cosmology,” known as the Big Bang theory, asserts that the universe had a beginning, which cosmologists commonly refer to as the “creation.”<sup>5</sup> For example, Nobel laureate Paul Dirac writes: “It seems certain that there was a definite time of creation.”<sup>6</sup> Dirac could make this assertion and still remain a card-carrying atheist. However, the believing Jew will see in Dirac's scientific statement a striking confirmation of the opening verse of the Torah: “In the beginning, God created the heavens and the earth.” This difference of opinion between the believer and Dirac has nothing to do with science, but rather it relates to faith.

The second assumption of science is no less important. There is no a priori reason why there should be regularity to nature. Albert Einstein found the existence of laws of nature to be quite surprising, and wrote in an essay in 1936: “The most incomprehensible feature of the universe is that it is comprehensible.”<sup>7</sup> Does the regularity of nature imply that miracles do not occur? If so, it could pose a serious problem, because Rambam has emphasized that one who does not believe in the occurrence of miracles is a heretic.<sup>8</sup> How does a religious scientist accommodate science's assumed regularity of the universe with Rambam's dictum about the existence of miracles?

The answer is that science does *not* assume that miracles do not occur. Rather, it assumes that the universe *usually* operates through the laws of nature, so often in fact that one may entirely ignore the miraculous in seeking explanations for physical phenomena. Thus, my atheist colleague will claim (and that is all that it is—a claim) that miracles never occur, whereas I will claim (based on my religious beliefs) that miracles do occur, at the will of the Almighty, but their occurrence is so rare that miracles do not intrude into my scientific research. Thus, the religious scientist never invokes the supernatural as the explanation of any physical phenom-

non. He or she recognizes that the acceptance of the existence of miracles is based on religious belief. *This belief is not science, and it can never be verified.*

This leads to the first question posed above, namely, why did the Federal Court ban the teaching of ID in the classroom? The answer is clear. ID invokes a supernatural cause (“intelligent designer”) to explain the animal kingdom. ID may or may not be true, but that is not the point. The point is that ID is not science, but rather, a religious tenet. The Court has no interest at all in the true origin of the animal kingdom. But the Court cares very much about the teaching of religion in the science classroom, and hence its unequivocal ruling against ID.

## MIRACLES AND THE TORAH

The Torah completely confirms the assumption of science that there is regularity to nature and that the physical universe operates according to fixed laws: *olam keminhago noheg*.<sup>9</sup> Indeed, it is forbidden to depend on an overt miracle for supplying one's needs or for solving one's problems: *ain somchin al hanes*.<sup>10</sup> Similarly, praying to God for the occurrence of a supernatural event is denounced in the Gemara as a *tefillat shav* (useless prayer) and is strictly forbidden.<sup>11</sup>

All of this, however, should not be interpreted as implying that God does not interact with the physical world. This is certainly not the case, as Rambam has emphasized. Otherwise, our prayers for Divine help would have no meaning. Thus, the key question is not *whether*, but *how* God influences events.

The Gemara answers this by saying that Divine providence is bestowed in a manner that is “hidden from the eye” (*samooe min ha'ayin*).<sup>12</sup> In other words, the framework in which God interacts with the physical world is *within* the laws of nature. God's intervention rarely involves overtly supernatural events. Miracles occur every day, man's needs are provided, human problems are solved—but it is all “hidden

from the eye.”

This brings us to the second question posed above—must the religious person accept ID because he or she believes that God created the world and everything within it? The answer is “no” because, as we have seen, God’s creative activities are usually carried out within the framework of His own laws of nature. Torah *hashkafah* does not view the laws of nature as a non-religious, materialistic explanation for the functioning of the universe. Quite the contrary. The laws of nature were established in the universe by God Himself and form an important expression of His faithfulness to mankind. The first chapter of Bereishit teaches us that the Creation was not the result of capricious battles between warring deities, as stated in the Babylonian and Greek creation stories. Rather, the Creation followed the universal rules laid down by God.

#### HISTORICAL PRECEDENTS FOR ID

ID is not a new concept. Throughout history, people observed phenomena of nature that seemed completely inexplicable, and they postulated supernatural beings (analogous to today’s “intelligent designers”) to explain these phenomena. Raging seas, towering waves, daily tides, terrifying hurricanes—all these seemed to have no possible explanation other than the activities of the god of the seas. The dazzling sun, whose brilliance provides the light, heat and energy that makes life on earth possible, seemed to have no plausible explanation other than the sun god. The list goes on and on, and accounts for the vast pantheon of gods that characterized the ancient world.

The ancients asked sophisticated questions about the world in which they lived. If their questions seem primitive today, it is only in the hindsight of modern science. Consider the following example: My grandson is playing with his ball. Already at the age of four, he knows that if he lets go of his ball, it will fall. Everyone knows that an object falls unless held up by some entity.

The ancients asked: Why does the

earth itself not fall? The obvious answer to the Greeks was that the earth does not fall because some entity is holding it up. Moreover, the entity must be Divine because no human being is strong enough to hold up the earth. Therefore, the Greeks thought that there must be a god, whom they named Atlas, who held up the earth (depicted below at his task). The Greeks understood that one *cannot* ask, “Why does Atlas not fall?” As a god, Atlas was not bound by laws; he may remain suspended at will.

#### THE MIDDLE AGES

Proposed proofs for the existence of a supernatural entity were not confined to the ancient Greeks and Romans. Attempts to prove the existence of God persisted well into the Middle Ages and even beyond. Consider one of the most famous proofs of all—the “prime mover argument.” We all experience in our daily lives the truism asserted by Aristotle: “There is no motion without a mover.” When I rearrange the living room furniture under the close supervision of my wife, I am painfully aware of the fact that the couch will not budge even one inch unless I push it, and the instant that I stop pushing, the couch ceases its motion. If I throw a ball, its motion will persist momentarily even after it leaves my hand because I have imparted some “impetus” to the ball. According to the widely accepted “impetus theory,” the ball will continue to move until it uses up all its acquired impetus. Then, the ball will come to rest because “there is no motion without a mover.”

Let us now turn our attention to the heavens, where one observes the ceaseless motion of the heavenly bodies—night after night, year after year, century after century. What causes the perpetual heavenly motion? Certainly no

human being. It must therefore be a Divine agency (“intelligent designer” in today’s terminology). We have thus proved the existence of God.

The bubble burst in the seventeenth century, when Isaac Newton formulated his famous three laws of motion in *The Principia*, the most important book of science ever written. Newton’s first law of motion (the law of inertia) states, in complete contrast to Aristotle, that a moving body will continue to move forever unless some force causes the object to *stop moving*. In the examples given before, the force that causes the furniture or the ball to stop moving is the force of friction. However, if friction were not present the motion would persist forever. In the heavens, there is no friction. Therefore, according to Newton’s law of inertia, heavenly bodies will continue to move forever without any agency being required to keep them moving.

To complete the picture, Newton’s law of inertia predicts straight-line motion, whereas the planets move around the sun in an ellipse. This was explained by Newton as resulting from the gravitational attraction between the sun and the planets. The famous elliptical orbits of the planets, discovered by Johannes Kepler in 1609, have therefore been completely explained by the laws of nature, without the need to invoke supernatural causes. The “prime mover proof” for the existence of God is thus refuted.

This famous “proof” for the existence of God was based on lack of knowledge of physics. It is an example of what is known as the “God of the gaps.” When some physical phenomenon seems completely inexplicable, one says, “Aha! It must be God Who is



causing this phenomenon.” The problem with this approach is that the “completely inexplicable” phenomenon (“gap” in our knowledge) invariably receives an explanation as science progresses. As each “gap” in scientific knowledge closes, God is forced to retreat to the next “completely inexplicable” phenomenon. “God of the gaps” arguments thus place God in continual retreat before the relentless advance of science. Surely, this is not the path to take in our approach to the Almighty.

### THE SITUATION TODAY

An old “proof” for the existence of God has now appeared on the scene in the new garb of ID. Let no one have any doubts about the identity of the “intelligent designer”; it is God. Therefore, it is not surprising that *all* proponents of ID are religious people, who see in ID a proof for the existence of God. The popularity of ID has been nothing short of phenomenal. Public lectures, conferences, debates, numerous articles and entire books have been devoted to this subject. The interest in proving the existence of God does not seem to have abated since the Middle Ages. The modern packaging is, of course, very different from that of medieval scholasticism, but the motivation remains unchanged. If the validity of one’s faith can be proved, then belief will be enhanced and doubts will be removed. There seems to be a religious agenda motivating the proponents of ID.

The existence of such an agenda is supported by the fact that ID has been restricted to the subject of biological evolution. Why? There are surely physical phenomena that are even more enigmatic than evolution in the fields of physics (quantum reality), cosmology (dark matter and dark energy) and astronomy (gamma-ray bursts). Yet, in spite of the many current scientific enigmas, no one has suggested ID as their explanation. There is something about evolution, and in particular, human evolution, that seems to pose a threat to religion, and therefore it must be fought

at all costs. And ID has been chosen as the weapon with which to launch the attack.

For the scientist, the most unsettling feature of ID is its frontal attack on science. Because science does not, at this moment, understand some particular phenomenon, the proponents of ID propose to entirely abandon the search for a scientific explanation (that is, within the laws of nature) and to seek a supernatural explanation instead. One would have thought that something would have been learned from past experience. It has been shown again and again that physical phenomena that are not understood at the moment *do* become understood subsequently *within the context of science*. Science has an excellent track record and is not to be abandoned lightly.

This leads us to the third question posed above, namely, why is the entire scientific community so adamantly opposed to ID? This is because scientists see ID as a rejection of science and a return to the ancient world of spirits, deities and other supernatural beings that were previously proposed to explain physical phenomena. The entire enterprise of science is based on the assumption that the laws of nature, and not supernatural entities, are the true explanation for the physical phenomena that we observe. If scientists don’t understand something at the moment, they think harder. They don’t throw up their hands and give up the search.

### IN THE JEWISH CLASSROOM

The final subject to be discussed is what might be taught regarding the “creation of man” in the science classroom of the Jewish high schools. If, as emphasized previously, ID is not the answer, then how *should* the religious science teacher deal with this subject?

There is a wealth of recent scientific data that suggests a point of view that is *completely compatible* with both modern science *and* Torah *hashkafah*. Within the last few decades, scientists have discovered that the universe appears as if it were specifically designed

to permit the existence and promote the welfare of human beings. Many scientists have commented on these findings, and they have given this discovery a name—the anthropic principle. A detailed discussion of what is meant by the anthropic principle, and its important implications for the believing Jew, was the subject of a previous article in *Jewish Action*.<sup>13</sup>

The point to be emphasized is the crucial difference between the anthropic principle and ID. Unlike ID, the anthropic principle operates within the framework of science. In other words, the anthropic principle does not claim that science is insufficient to explain the physical universe. For this reason, the anthropic principle is accepted by, and indeed was formulated by, mainstream scientists. The brief discussion to be presented here is just the tip of the iceberg regarding what might be taught to the religious high school student, *without* abandoning science and *without* compromising Torah values.

Professor Freeman Dyson, of the Institute of Advanced Studies in Princeton (where Albert Einstein was a professor for many years), writes: “As we look out into the universe and identify the many peculiarities of physics and astronomy that have worked together for our benefit, it almost seems *as if the universe must in some sense have known that we were coming*” (emphasis mine).<sup>14</sup>

Sir Martin Rees, Royal Society research professor at the University of Cambridge and holder of the title astronomer royal (Britain’s most distinguished honor in astronomy), discusses in his 1999 book, *Just Six Numbers*, six physical parameters, which, if any of these six parameters had even a slightly different value, would produce a universe in which life could not exist. For example, one of these physical parameters is the ratio of the gravitational attraction to the electrostatic repulsion between each pair of electrons. In his introduction, Rees writes (p. 4): “Our universe is governed by just six numbers ... *if any one of them were to be only slightly altered, there could be no life*”

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(emphasis mine).

Professor Francis Crick, who received the Nobel Prize for discovering the structure of DNA (the famous double helix), writes: “*The origin of life appears to be almost a miracle, so many are the conditions which would have had to be satisfied to get it going*” (emphasis mine).<sup>15</sup>

Professor Harold Klein, chairman of the United States National Academy of Sciences committee that reviewed origin-of-life research, writes: “The simplest bacterium is so damn complicated that *it is almost impossible to imagine how it happened*” (emphasis mine).<sup>16</sup>

It is surely not difficult to interpret these scientific findings as signs that the Almighty, according to His will, orchestrated the formation of the universe in the very special way that was required to permit the existence of living creatures, as expressed in the first chapter of *sefer Bereishit*.

The above quotes, and many more that could be added, deal with life in general. What can be said specifically about human life? Are there any indications from the scientific data that the appearance of human beings on our planet involved very special events—events that could reasonably be attributed to the Almighty? The answer is a resounding “yes!” Professor Stephen Jay Gould of Harvard University (a recognized authority in the field of evolution), writes: “We [human beings] are an improbable and fragile entity ... *the result of a staggeringly improbable series of events, utterly unpredictable and quite unrepeatable*” (emphasis mine).<sup>17</sup>

To what does Professor Gould attribute this “*staggeringly improbable series of events*” (which he describes in detail in his book) that made human existence possible? Gould concludes that it was all just “luck!” This is, of course, the only possible conclusion of an atheistic scientist. But, as religious Jews, we can reasonably come to quite a different conclusion.

*Man was created on the eve of the Sabbath—and why?  
So that he could begin his meal at*

once.

*This can be compared to a king of flesh-and-blood  
who built a palace and furnished it  
and prepared a meal—  
and then, he brought in his guests  
(Sanhedrin 38a). IA*

Notes

1. See, for example, Eldra Solomon et al., *Biology*, 5th ed. (New York, 2003), 442-443.
2. 1859; Mentor reprint edition (New York, 1963), 305.
3. See, for example, H. Allen Orr, *Boston Review* 21:6 (December 1996): 28-31. Evolutionary biologist Professor Orr summarizes his detailed critique of Behe’s book *Darwin’s Black Box* with the following words: “Behe’s attack on evolution is cleverly argued—and wrong!”
4. Stephen Jay Gould, *The Panda’s Thumb* (New York, 1983), 151.
5. For a non-technical account of the Big Bang theory, see Nathan Aviezer, *In the Beginning* (New Jersey, 1990), chap. 1.
6. *Commentarii* 2:11 (1972): 15.
7. Quoted by Max Jammer, *Einstein and Religion* (Princeton, 1999), 42.
8. *The Guide for the Perplexed* 2:25.
9. Rambam, *Mishneh Torah*, Laws of Kings 12:1.
10. For a listing of Talmudic sources for this principle, see eds., Meir Berlin and Shlomo Yoseph Zevin, *Talmudic Encyclopedia* 1, pp. 679-680.
11. *Berachot* 54a.
12. *Bava Metziah* 29b.
13. Nathan Aviezer, “The Anthropic Principle” (spring 1999): 9-15.
14. *Scientific American* (September 1971): 59.
15. *Ibid.* (February 1991): 109.
16. *Ibid.* (February 1991): 104.
17. *Wonderful Life* (New York, 1989), 14.