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## Chapter 25

### THE LATEST EVOLUTION CRISIS: EVENTS FROM 1959 TO 2006

#### *The most recent news in the Evolution Battle*

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**This is an important chapter, for it will provide you with recent developments in the ongoing creation-evolution controversy. But first we need to briefly review how the self-assuredness of 1959 was gradually torn to pieces by one discovery after another.**

*1959*—The greatest celebration ever held by evolutionists occurred over a five-day period at the University of Chicago. It opened on November 24, one hundred years after 1859 when Charles Darwin received, fresh off the press, the first copy of his new book, *On the Origin of the Species*.

Every important evolutionist of any rank made certain that he was present for this gala celebration of the victory of evolutionary theory over the backwardness of every other interpretation of scientific facts.

It was fitting that this gathering occurred, for it would be followed by the smashing of one subsidiary theory of evolution after another.

Two years earlier Sol Tax, a University of Chicago anthropologist, had decided that this forthcoming celebration, which was going to occur somewhere, should be held in his university in Chicago. The key to success was to get the most prestigious evolutionist in the nation to agree to attend and give a major speech.

Sir Julian Huxley was the grandson of Darwin's "bulldog," Thomas H. Huxley—the man who promoted Darwin's theory so forcefully in England—by heaping ridicule on creationists—that the scien-

tific community switched to evolution as the “great explainer” underlying all scientific discoveries.

By 1959, it seemed that all was going well for the evolutionists. In December 1952, Stanley Miller, a graduate student at the University of Chicago, had produced a few amino acids. Afterward, Miller called it “the first laboratory synthesis of the organic compounds under primitive Earth conditions.” He had filled an elaborate glass apparatus with a mixture of gases (methane, ammonia, and hydrogen) and then swirled them in hot water vapor while continually zapping them, hour after hour, with electrical sparks, as if with ancient lightning. As a result, hydrogen cyanide and some aldehydes dissolved in the water, along with the ammonia. And their reactions with each other had produced some amino acids.

In 1953, the same year that the world was told how amino acids had been “created,” James Watson and Francis Crick solved the puzzle of what DNA looked like: It was in the shape of a double helix. Now, at last, it was hoped that the precise nature of how evolution changed one species to another, by mutations, could be figured out!

In addition, a few old bones had earlier been found—which were triumphantly declared to be from ancient half-men/half-apes. Add to this the fact that massive amounts of fossils of plants and animals had been collected. Surely, transitional species would soon be found!

During the 1959 five-day celebration at Chicago, more than a thousand ticket-holders in attendance saw a new film, *The Ladder of Life*, praising evolution. One evening they packed Mandal Hall for an original showboat-style Darwinian musical, *Time Will Tell*. The media went wild, trumpeting the glories of evolution.

On Thanksgiving afternoon, a bell tower carillon echoed across the snow-dusted campus, as a long procession of robed scholars slowly marched to Rockefeller Chapel.

Sir Julian Huxley strode to the pulpit and gave a thrilling speech, declaring the death of faith in God and a glorious future of evolution.

“All reality is a single process of evolution . . . In the evolutionary pattern of thought there is no longer either need or room for the supernatural. The earth was not created; it evolved. So did all the animals and plants . . . Finally, the evolutionary vision is enabling us to discern, however incompletely, the lineaments of the new religion that we can be sure will arise to serve the needs of the coming era.”

Waxing more eloquent, Huxley continued:

“The first point to make about Darwin’s theory is that it is no longer a theory but a fact . . . Darwinianism has come of age, so to speak. We are no longer having to bother about establishing the fact of evolution.”

The Centennial Celebration ended and the participants and audience left, well-satisfied that the future belonged to them. In 1959, there were almost no voices raised in dissent. George McCready Price, the outstanding opponent of earlier decades was dead. The future surely did look bright for the evolutionists.

That same year, the *Biological Science Curriculum* was founded, in order to provide textbooks teaching evolution in every public school in the nation. It quickly received \$7 million in government money from the National Science Foundation for the project.

**At this juncture, let us begin a brief but fascinating journey from that time on down to our own. In doing so, we will obtain a better overall understanding of the great Evolution Crisis which exists at the present time.**

**1959**—The search for extra-terrestrial intelligence began this year, as the U.S. Congress appropriated millions of dollars to this purpose. What our giant radar dishes were looking for were obviously intelligent codes. But none were found. This research project would come back to haunt the evolutionists in the 1990s, when it was pointed out that all nature about us—plants, animals, and man himself—contain billions of very obviously built-in codes which reveal an immense amount of careful planning and must have been caused by an Intelligence of the highest order.

**1959**—Louis Leakey had abandoned his wife for Mary, who wanted to search for fossils. Chasing after her to Africa, he suddenly became famous in 1959—and gained funding by evolutionary organizations—when one hot day in July, Mary found a skull in Olduvai Gorge in Tanzania. It was either a human skull or that of a young ape (which has a very similar skull). Naming it *Zinjanthropus*, they brought it triumphantly to the Darwin Centennial.

However, in the decades which followed, little more was found. Although newspapers trumpeted every discovery, no mention was made of the fact that—if man had indeed lived for over a million years before the present,—there should be billions of ancient bones in Africa’s hot, dry deserts; and immense numbers should be half-human.

**1962**—More problems for the evolutionists developed when Henry Morris and John Whitcomb began debating on college and university campuses. In 1962, they wrote *The Genesis Flood*, a scathing attack on several evolution theories. Several years later, they founded the *Institute for Creation Research* (ICR) and it started sending out teams of debaters. In the years which followed, additional creationist organizations began producing books, tapes, and lecturers.

**1962**—The first quasar was found. These strange objects in the sky have caused problems for astrophysicists who are trying to fit evolution time schemes into a workable pattern. According to the evolutionists' speed theory of the red-shift, the quasars were traveling at nearly the speed of light. Later, in 1977, one was found which was traveling eight times faster than the speed of light! The speed theory is one of the two bases on which the "Big Bang" is founded. (The other one, radiation fluctuations, has never been adequately proved.)

**1965**—Working with associates in 1948, Fred Hoyle had proposed the Steady State Universe, a theory which claimed that hydrogen was constantly "blipping" into existence. But in 1965, he publicly declared his theory unscientific for five reasons.

**1960s**—By the 1960s, strong doubts began to arise about Miller's amino acid experiment. It required the total absence of oxygen; yet the world's atmosphere is filled with it.

Miller's professor, Harold Urey, had theorized that earth's "primitive atmosphere" contained no oxygen or carbon dioxide, but only methane, ammonia, and hydrogen. —But all living creatures require oxygen and/or carbon dioxide to survive, moment by moment; yet there was none in Miller's glass jar when those few amino acids were produced! Nothing could have lived in such a theorized atmosphere.

In addition, only a few amino acids were found; and they had a 50-50 ratio of left- and right-handedness. Yet only left-handed amino acids exist in animals. Add to this the fact that the hundreds of different proteins in animal bodies are produced by extremely complicated sequences of amino acids! Contrary to what the media had said, Miller had not "created life"!

**1960s**—With the passing of years, the fossil business ran into more and more problems. No transitional species had ever been found! The one possible exception, archaeopteryx, has been declared by so many reputable scientists to be a fake that it

has now been hidden away so no one can examine it. Even noted evolutionists who accept it as authentic say it “doesn’t count” as a transitional form. (S.J.Gould, Niles Eldredge, *Paleobiology*, 3 (1977): 115-151) “Gould, S.J. and N. Eldredge. “Punctuated equilibria: the tempo and mode of evolution reconsidered.” *Paleobiology*, 3 (1977): 115-151. [Considering Archaeopteryx, Gould and Eldredge write, “Smooth intermediates between Bauplane [body plans] are almost impossible to construct, even in thought experiments: there is certainly no evidence for them in the fossil record (curious mosaics like Archaeopteryx do not count)” (p. 147).]

**1960s**—Then there was that discovery of DNA. Its coiled pattern launched geneticists into a nightmare of new discoveries refuting evolutionary theory. First, there was the utterly complicated millions of chemicals in the sequence of each DNA molecule. The randomness that evolutionary theory required could never have produced that! Second, there was the fact that, when mutations did affect the sequence of a DNA molecule—the result was always tragic, and often devastating. DNA was just too complicated and perfect for evolutionary theory to explain.

**1960s**—In this decade, a large number of French biologists and taxonomists (called cladists), who classify species, revolted and declared that evolutionary theory was ridiculous.

**1960s**—Evidence began to accumulate that the 1948 Big Bang theory (the name given it in derision by Fred Hoyle in 1952) was unworkable, because there was no way that matter speeding outward from a single source could stop, turn, and form itself into stars and galaxies.

**1966**—A major headache for the evolutionists was the advent of the first electronic calculators! These machines could produce fabulous amounts of calculations within a few hours,—and later in a few moments. By 1965 Murray Eden, a professor of electrical engineering at MIT, along with the French mathematician Marcel P. Schutzenberger and others, had begun to model natural selection of random mutations using the probability theory. After repeated attempts to get mutations to produce positive results in producing new species—Eden’s group were astounded by the fact that, *mathematically*, neither so-called “natural selection” nor mutations could ever produce the positive changes required by evolutionary theory. Repeatedly, they tried new

algorithms, but without success.

When their skepticism became known to evolutionary biologists, within a matter of months a meeting was organized that attracted many well-known Darwinian scientists to discuss the problem with Eden's group. The result was the July 1966 debate at *Wistar Institute of Anatomy and Biology*, located on the campus of the University of Pennsylvania in Philadelphia. Although pretty much hidden from the general public, evolutionary scientists recognized it as the first death knell of the theory. This is because the findings presented at Wistar were unanswerable. Evolution is impossible.

The focus of the discussions was the evolutionary requirement that only "randomness" could produce beneficial change and new species. D.S. Ulam argued that it was impossible for the eye to evolve by the accumulation of small mutations, because the number needed would be too great and the amount of time too small for them to appear.

Schutzenberger told the Wistar gathering that computers could figure out such data to millions of years in the past, and that it was totally impossible for "random mutations"—or any mutations (only harmful and often lethal ones exist) to produce beneficial evolutionary change. And he added, "There is a considerable gap in the new-Darwinian theory of evolution, and we believe this gap to be of such a nature that it cannot be bridged within the current conception of biology." Schutzenberger would later teach at MIT and Harvard, and be elected to the French Academy of Science, and become a vigorous opponent of the claims of evolution.

The Eden group declared, in summary, that it was mathematically impossible for Darwin's tiny variations to add up to a new organism. When asked whether they believed in God, they shouted from the audience, "No!" Their complaint was that evolutionary theory was not mathematically sound.

The wrangling at Wistar produced a stalemate, but also a transcript of the conference: *Mathematical Challenges to the New-Darwinian Interpretation of Evolution*.

**1967**—The next year, Michael Polanyi published an article in *Chemical Engineering News*, titled "*Life Transcending Physics and Chemistry*," in which he told the already worried evolutionists that there was something in living creatures which transcended a mere collection of chemicals. There were irreducible higher principles of some kind at work in plants and animals. This opened up the frightening

possibility that there might be a Higher Intelligence at work,—and drew from evolutionists a volley of protests.

**1969**—Two years later, Arthur Koestler convened the *Alpbach Conference* “for the express purpose of bringing together biologists critical of orthodox Darwinism.” Invitations to the conference “were confined to personalities in academic life with undisputed authority in their respective fields, who nevertheless share that discontent.” Their findings only added to the crisis.

**1969**—Although the situation appeared threatening, evolutionists took fresh courage from the publication of *Biochemical Predestination* in 1969 by Dean Kenyon. He voiced the hope that lifeless cells (poetically called “coacervates” and “proteinoid microspheres”) could mysteriously begin living!

But by the late 1970s, after reading scientific criticisms of evolutionary theories, Kenyon would radically change his mind—and he became an outspoken critic of evolution. By that time, space physicist Robert Jastrow and New York University Robert Shapiro were also writing attacks on the possibility of chemical evolution.

**1970**—Walter Lammerts, a skilled biologist, personally examined the collection of Darwin’s finches (from the Galapagos Islands) at the California Academy of Sciences in San Francisco. He found them all to be almost identical to one another. Except for body length and bill size, which slightly varied, these little gray birds looked almost alike. —Yet this had been declared a primary evidence of evolutionary change!

**1971**—The first complete “bone inventory” of “human ancestors” was published. Although over 1,400 were described, most are little scraps. All of them together only cover the top of a table. Experts had repeatedly shown that the pieces could be arranged in various ways to prove almost anything.

**1972**—In 1972, Stephen Gould, a paleontologist (fossil expert) at Harvard, teamed up with Niles Eldredge, Curator of Invertebrates at the American Museum of Natural History in New York City—and together produced the first of a series of devastating articles against the fossil evidence! The initial paper, with a very scientific title, “*Punctuated Equilibrium: An Alternative to Phyletic Gradualism*,” declared that every 50,000 years or so, a million beneficial mutations suddenly

occur—producing a newborn creature which is a totally different species! The classic statement is that a reptile lays an egg and the first bird hatches into existence. Of course, they admitted that, nearby, another multimillion beneficial mutations just happened to produce a mate for this new creature, which they named a “hopeful monster.”

The idea, of course, was ridiculous; yet it had the effect of thrusting the two men into the limelight as leading “scientific thinkers.” Evolutionary scientists, desperate for some kind of solution, well-knew that mutations and natural selection could not accomplish the task, so perhaps “punctuated equilibrium” was the answer.

In 1980, Gould would write a major book defending his theory. The aftermath of this was interesting. In 1980, Gould declared (in an article in the journal, *Paleobiology* 6) the modern theory of evolution to be “effectively dead” and asked, “Is a new and general theory of evolution emerging?” Of course, in his paper, he meant his own beloved theory.

Yet, as we will later discover, in 1989, Gould would totally deny the validity of his pet theory and return to the standard evolution theory.

**1972**—When the National Association of Biology Teachers met in San Francisco, a debate among them over the truthfulness of Darwin’s theory dominated the session. In an attempt to soothe them, Theodosius Dobzhansky, a leading evolutionist at Columbia University, said, “Nothing in biology makes sense except in the light of evolution.”

**1973**—The situation became worse when, the next year, Pierre P. Grasse, France’s leading naturalist, ended a long and distinguished career by writing a book which, he said, would “destroy the myth of evolution.” His book, *L’Evolution du Vivant*, originally published in 1973, was printed in America as *Evolution of Life* soon after. It argued that Darwin’s theory was actually a mystical fable, reminding the reader that only fossils could prove evolution true—and they had failed to do it.

“Over whole millennia, no new species are born. A comparative study of the sera, hemoglobins, blood proteins, interfertility, etc., proves that the strains remain within the same specific definition. This is not a matter of opinion or subjective classification, but a measurable reality.”—*Pierre Grasse, Evolution of Life, quoted in Phillip Johnson, Darwin on Trial, p. 18 (1991).*

“The ‘evolution in action’ of J. Huxley and other biologists is simply the observation of demographic facts, local fluctuations of



genotypes, geographic distributions . . . Fluctuation as a result of circumstances, with prior modification of the genome, does not imply evolution, and we have tangible proof of this in many panchronic species [plants and animals living today which are exactly like their fossil counterparts in “millions of years old” strata].”—Grasse, *ibid.*, quoted in *Darwin on Trial*, p. 27 (1991).

Still trying to champion evolution, Dobzhansky decided to respond to Grasse’s “frontal attack on all kinds of Darwinism.” Yet Dobzhansky’s comments about Grasse were so favorable that they only caused scientists to become more interested in reading and accepting Grasse’s attack! This is what Dobzhansky wrote:

“One can disagree with Grasse, but he cannot ignore him. He is the most distinguished of French zoologists, the editor of the 28 volumes of *Traite de Zoologie*, author of numerous original investigations, and ex-president of the Academies of Sciences. His knowledge of the living world is encyclopedic.”—Dobzhansky, “*Darwinian or Oriented Evolution?*” *Evolution* 29, June 1975, pp. 376-378.

**1973**—Nobel laureate Sir Francis Crick (co-discoverer of the DNA molecule) had begun tinkering with his own idea about origins. A highly skilled biologist, it was obvious to him that evolutionary theory was worthless. So he began working on a new book, which would only shake things up the more. More on this later.

**1973**—In 1973, in honor of the 500th year of Nicolaus Copernicus’ birth, celebration meetings were held in Washington, D.C. and Copernicus’ native Poland. It was at one of the meetings, held in Cracow by the International Astronomical Union, that something new was disclosed. At Symposium No. 63, Brandon Carter spoke on “*Large Number Coincidences and the Anthropic Principle in Cosmology.*” From that day to this, the so-called “anthropic principle” has been another nail in the evolutionary coffin.

Carter showed that a complicated set of mathematical “coincidences” in the universe were astounding. Arthur Eddington, an astronomer earlier in the century, had made several amazing discoveries about *mathematical factors in nature which exactly enabled the universe to function and life to exist.* Carter amplified on these factors. Since then, entire books have been written on the subject. Whether it be water, light, eyesight, the rocks and heat below us, the elements in our body and in the atmosphere, or the size of the planets, or their distance from the sun—all point to a Designer who made everything!

**1973**—Repeatedly, polls of U.S. citizens and students clearly showed that they wanted creationism to be taught in the schools of the land. The one taken this year found that 89% wanted creation to be taught in the public schools.

**1975**—By this year, a back-and-forth tug-of-war over the “Hubble constant” (the ratio of the velocity of galactic recession to distance) was going on among astronomers. In this year, Allan Sandage said it meant that the universe was 20 billion years old. But later it see-sawed back and forth, sometimes down to 8 billion. The news media loved the ruckus, but the public began to wonder why the astronomers could not make up their minds.

**1975**—As a result of extensive research, H.C. Dudley announced that *all methods* of radiodating by radioactive elements in rocks and other substances were unreliable, due to several major problems, including unknown amounts of pressure, temperature, and magnetic change in the past. Knowledgeable experts in the field already knew that dates obtained from such sources were wildly erratic and confusing, and only those dates in agreement with the 19th-century theory were accepted; the rest were discarded.

**1976**—As with every other evolutionist book written for the general public, in 1976, in her book *Darwin in America*, Cynthia Russett wrote that there never had been and never would be any doubt about the certainty of evolution as a fact of science.

“The theory remains as it was one hundred years ago, and the essentials are beyond controversy . . . Skepticism is not a tenable position today.”

**1980**—Angered by the outcome of the Wistar and Alpbach meetings, evolutionists convened the Chicago Evolution Conference in October, to bring the rebels into line. But at this gathering an even bigger explosion of charges and countercharges were hurled at one another. The following month, *Newsweek* (November 3) reported that a large majority of those in attendance agreed that evolution by mutations, working with natural selection, could not produce evolutionary change of one species to another.

**1980s**—Ken Ham started a new creationist organization, *Answers in Genesis*, and began giving debates and lectures throughout the world. A powerful speaker with a rapid-fire mind, Ham has accomplished a good work. Other creationist speakers have also presented scientific

facts to large audiences on radio, television, and in lecture halls. May their numbers increase!

**1981**—Over the course of a year, Luther Sunderland interviewed the three leading paleontologists in charge of the largest fossil collections in the world: Dr. Colin Patterson at the British Museum of Natural History in London, Dr. David Raup at the Field Museum of Natural History in Chicago, and Dr. Niles Eldredge at the American Museum of Natural History in New York City. With their permission, Sunderland made taped recordings of each interview. In charge of 50% of all the collected fossils in the world, each man was a lifetime expert in paleontology,—and each one admitted that there were no transitional species! Another authority at the American Museum explained how they select which bones to call “man’s ancestors”:

“ ‘We’ve got to have some ancestors. We’ll pick those.’ Why? ‘Because we know they have to be there, and these are the best candidates.’ That’s by and large the way it has worked. I am not exaggerating.”—\*Gareth Nelson, quoted in Phillip Johnson, *Darwin on Trial* (1991), p. 76.

**1981**—Sunderland must have gotten Colin Patterson thinking. As a result, Patterson, head curator of fossils at the British Museum, traveled from one scientific conference to another; and, everywhere he spoke, he asked the same question: “Can you tell me one thing about evolution that is true, just one thing?”

Patterson was a life-long expert at examining fossils and differentiating between various fossil species. Yet in all his years of research, he had found no transitional species (no evidence of change of one species into another). Disgruntled, Patterson openly expressed his disgust everywhere he went. Evolutionists were horrified.

**1981**—At the New York Evolution Conference, held at the American Museum of Natural History, Patterson read a paper in which he declared that evolution was “positively anti-knowledge”; and, he added, “All my life I had been duped into taking evolution as revealed truth.” Commenting later on this shocking confession, Michael Ruse, in *New Scientist* (June 25), said that the increasing number of critics of evolution included many with “the highest intellectual credentials.”

**1981**—Walter Cronkite invited Richard Leakey and Donald Johanson to his television program, *Universe*, to explain the origin of human beings.

You will recall that Louis and Mary Leakey had found two or three old skulls in Africa and, upon pronouncing them our ancestors, were handsomely rewarded with various grants of money for the rest of their lives. Richard Leakey, their son, carried on their work after Louis died in 1972; but, not long after, his territory was invaded by Johanson. These men had the strange ability to look at a bone—and then solemnly declare that it was exactly so many millions of years old. Such talk thrilled the evolutionists, and the money rolled in to support them. The Leakeys alone had pushed back the theoretical age of early man from hundreds of thousands to 1.8 million years! They had tripled the “known age” of humans.

On the Cronkite show, the two men disagreed on nearly everything about “ancient man” and his ancestors. Finally, Cronkite asked Leakey to tell what he thought was man’s ancestors. Going to the chalkboard, Leakey with a laugh drew a large question mark.

**1981**—Sir Francis Crick, the discoverer of DNA, published a book, *Life Itself*, which totally repudiated evolutionary theory as unworkable. Declaring that there was absolutely no scientific evidence supporting it, Crick stated a new theory, which was even more fantastic: Living creatures had arrived on Planet Earth, “seeded” by aliens from a distant world! His “evidence” was the fact that life itself is so astounding that it could never have originated by chance. His theory is generally referred to as “panspermia.”

“An honest man, armed with all the knowledge available to us now, could only state that in some sense, the origin of life appears at the moment to be almost a miracle, so many are the conditions which would have had to have been satisfied to get it going.”—*Francis Crick, Life Itself.*

The situation was becoming increasingly uncomfortable for evolutionists; yet there was more to come.

**1982**—British physicist Paul Davies produced a research study on more amazing “coincidences” in the physical universe which only a super Intelligence could produce. This was an addition to a growing collection of data on, what was called, the anthropic principle.

**1983**—After 30 years of research, Halton C. Arp had conclusively shown that the speed theory of the redshift (the basic “proof” that the “Big Bang” had occurred)—was not correct. In response, he was fired from his research position at Palomar and Mount Wilson

Observatories, in spite of protests from many astronomers who valued his in-depth research studies.

**1984**—Karl Popper, the world's leading scientific philosopher, declared that "natural selection" was a ridiculous term; since it actually said nothing, and neither did "survival of the fittest." Regarding the first term, he correctly said that randomness (the cause of evolutionary change) cannot "select" anything useful, positive, or progressive. Regarding the second term,—he said that, of course, the fittest survive—but that does not prove evolution!

“ ‘Survival of the fittest’ . . . amounts to the tautology that those organisms that leave the most offspring leave the most offspring.”—*A Pocket Popper*, pp. 242-243.

**1984**—Mary Leakey traveled to the American Museum of Natural History in New York City for the greatest exhibit of hominid (ancient man) bones ever held. —But, as she well-knew (because she was an expert on the subject), she only found on display a tabletop full of bones, most of them consisting of small pieces—all the "evidence" about ancient man ever found! Her comment, made in an address to the imposing assembly of evolutionists, was that there was a risk of gathering all those precious bones in one place, where a religious "fundamentalist could come in with a bomb and destroy the whole legacy." Of course, this remark made the headlines.

**1984**—At the Cambridge Evolution Conference, evolutionists, desperate for a solution, discussed whether or not they should accept Gould and Eldredge's foolish once in 50,000-years, multimillion-mutation pair of new species. Unknown to them, five years later Gould, the major champion of this theory, would totally deny it—and return to traditional natural selection and mutations.

**1984**—Orce Man, another in a long line of half-man/half-ape bone frauds, after it had been certified by a distinguished team of paleontologists as "the oldest man in Europe," was shown to be the skull fragment of a young donkey! So much for these "experts."

**1984**—Charles Thaxton published *The Mystery of Life's Origin*. Thaxton, who obtained his doctorate in chemistry in 1968, had spent years fascinated with chemical evolution—the highly speculative field which tried to figure out how, at some earlier time, sand and seawater magically turned into the first life forms. But, by the late 1970s, he had discovered the sad truth that evolutionary theory was a massive

hoax. So, together with Walter Bradley and Roger Olsen, he worked on an exposé of chemical evolution.

Just before it was ready for the press, Dean Kenyon, also formerly an outspoken evolutionist, wrote the book's Introduction.

Enraged that these men should attack evolution, an immense number of articles in scientific journals attacked the book and its authors.

**1985**—Stephen Gould, one of America's leading fossil experts and a professor at Harvard, published a devastating attack on evolutionary theory (*The Panda's Thumb*). In order to bolster his pet theory of sudden multimillion mutations in two creatures every 50,000 years, producing a new species (called a "hopeful monster"),—Gould witheringly attacked evolution by showing that the fossil evidence does not support it in two crucial ways: First, there is no change in the species found in the rocks; each remains a distinct species different than the others. Second, when a new species appears in the rock strata, it suddenly appears, without any transitions from earlier species.

"The history of most fossil species includes two features particularly inconsistent with gradualism [gradual evolutionary changes of one species into another]: (1) *Stasis*. Most species exhibit no directional change during their tenure on earth. They appear in the fossil record looking much the same as when they disappear; morphological [shape] 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.' "—Gould, *The Panda's Thumb*, p. 182.

**1985**—Six leading scientists, including Fred Hoyle, found conclusive evidence that *archaeopteryx* in the British Museum had been fraudulently produced. *Archaeopteryx* had been the only "transitional species fossil" ever found!

**1985**—An Oxford biologist, Richard Dawkins released his book, *The Blind Watchmaker*. This radical attack on God and creationism was equally stunning. (In the early 1800s, William Paley wrote a book in defense of God and Creation. In it he mentioned a simple and extremely logical illustration: If you were walking in a field and found a watch on the ground, you would know that it had to have been made by a watchmaker. In the same way we can know that we, who are far more complicated than a pocket watch, were made by God. As might be expected, evolutionists have an extreme dislike for that illustration—but their typical method of disproving it is ridicule. Lacking

scientific evidence, what else can they do?)

In his book, Dawkins carried this ridicule to the extreme while, at the same time, trying to vindicate evolution. The following startling admission reveals the futility of his whole theory:

“The only watchmaker in nature is the blind forces of physics . . . A true watchmaker has foresight: he designs his cogs and springs, and plans their interconnections, with a future purpose in his mind’s eye. Natural selection, the blind, unconscious, automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind. It has no mind and no mind’s eye. It does not plan for the future. It has no vision, foresight, no sight at all . . . It is the *blind* watchmaker.”—*Richard Dawkins, The Blind Watchmaker, p. 5 [italic his]*.

Elsewhere, he explained that which he preferred in life: “Although atheism might have been logically tenable before Darwin, Darwin made it possible to be an intellectually fulfilled atheist” (*ibid, p. 41*). Venting his hatred of those who refused to believe in evolution, Dawkins said:

“It is absolutely safe to say that if you meet somebody who claims not to believe in evolution, that person is ignorant, stupid, or insane (or wicked, but I’d rather not consider that).”—*Ibid., 9*.

Dawkins’ book was destined to accelerate the placing of nails into the coffin of a theory which evolutionists refused to admit had been dead for years.

Richard Dawkins and Michael Denton, who knew nothing about each other’s book, each released his own book in that same year. The astounding contrast between the two was destined to cause a new devastating attack on evolution to begin.

**1985**—In 1985, Michael Denton’s equally amazing *Evolution: A Theory in Crisis* came off the press. First published in England, it was released in America the next year.

Denton’s book caused an explosion that continues to this day. It did this by bringing other men into the battle against evolutionary theory. Denton was a British-educated biochemist and medical doctor laboring in the clinical department of a Sydney, Australia, hospital. Becoming disgusted with the theory, Denton began writing his book in 1980. Upon its release in 1985, it was strongly attacked in the public press. Michael Ruse and Niles Eldredge denounced it in the scientific journals. (Remember Eldredge? He was the one who, with Gould, had earlier denounced Darwinian evolution, in favor of those 50,000-year

multimillion mutation pairs. Now he was denouncing a book which refuted the evolutionary theory he himself had earlier rejected.) Commenting on Denton's book, Philip Spieth warned in a scientific journal: "There is a crisis in evolutionary biology of fatal proportions" (*Zygon*, June 1987).

Reading Denton's book, MIT's Murray Eden and Marcel Shutzenberger (the two mathematicians at Wistar) joined the battle against evolution. Even Ashley Montague praised Denton's book.

**1986**—The British mathematician, John Barrow, teamed up with the American physicist, Frank Tipler, on a research project about many astounding factors which made life on earth possible and filled the universe with stars. Still more data on the anthropic principle, which will be covered in detail in a later chapter in this book (p. 927).

**1986**—Fred Hoyle and Chandra Wickramasinghe printed their book, *Evolution from Space*. In this book, the authors (one an atheist and the other a Buddhist) showed that evolutionary theory could not possibly produce life—so life forms must have flown in from outer space!

In their book, Hoyle and Wickramasinghe estimated the probability of forming a single enzyme or protein at random, in a rich ocean of amino acids, was no more than one in 10 to the 20th power. They then calculated the likelihood of forming by chance all of the more than 2,000 enzymes used in the life forms of earth. This probability was calculated at one in 10 to the 40,000th power. A totally impossible number to achieve in a trillion, trillion, trillion, trillion years, with all the universe filled with amino acids to select from.

It was in this book that Hoyle gave that vivid, and often quoted, analogy that believing in the chemical evolution of the first cell from lifeless chemicals—is equivalent to believing that a tornado could sweep through a junkyard and form a Boeing 747.

**1986**—Robert V. Gentry released his book, *Creation's Tiny Mystery*, which clearly proved that evidence from polonium-218 radiohalos in granite, the bedrock underneath every continent on earth, was formed solid within three minutes! This is an astounding discovery, and totally disproves the molten origin of Earth theory.

**1987**—The third largest opportunity to prove that large doses of mutations could produce new species of stronger, healthier people—occurred this year. The nuclear explosion at Chernobyl in the Ukraine,



like Hiroshima and Nagasaki in 1945, produced intense radiation and only sickened or killed thousands of people.

**1987**—Michael Behe, a biology teacher at Lehigh University, opened a copy of Denton’s book—and was astounded to find that he had been believing a lie all his adult life. Rejecting evolutionary theory, Behe began researching the subject. He would later become a leader in a major new movement attacking the foundations of evolution.

**1987**—In early October, Berkeley law professor Phillip Johnson arrived with his wife in London for a sabbatical year, in which he could work on a research topic of his choice. But, so far, he had found none. While walking one morning, he stopped in at a bookstore and purchased a copy of two new books: Dawkins’ *Blind Watchmaker* and Denton’s *Evolution: A Theory in Crisis*. Taking them to his office at the University College, he began to carefully read them—and was astounded at what he discovered: two men defending totally opposite positions. The basic arguments on both sides were all there, laid out before him.

Johnson found that Denton used solid scientific data to blow away evolutionary theory as worthless. In contrast, Dawkins began his book with Paley’s illustration about finding a watch in the field, which had to be made by a watchmaker. Dawkins admitted that Paley had at least one thing right: He had correctly singled out the key problem that evolution had to solve—biological complexity. Dawkins then said that the solution was that random mutations were “filtered” by natural selection, “which is the very opposite of random.” A little thought, of course, reveals that random mutations, worked on by what is really random selection, can only produce random results. Johnson recognized this.

But Dawkins took it even further. He declared that natural selection could produce any kind of complicated work requiring a creator, even the production of the sonar-like navigational system of bats or the formation of the human eye! Johnson clearly saw the foolishness in such thinking. Evolutionary theory was here being presented by the best of its defenders, and in the process showing itself to be a gigantic hoax.

“Organized complexity is the thing that we are having difficulty explaining [by evolution]. Once we are allowed simply to postulate organized complexity [assume that evolution could somehow produce it], if only the organized complexity of the DNA/protein repli-

cating engine, it is relatively easy to invoke it as a generator of yet more organized complexity. That indeed, is what most of this book is about.”—*Richard Dawkins, Blind Watchmaker, p. 141.*

Johnson turned from the whopping tall tales one must believe in order to accept evolution—and instead accepted the scientific facts, presented one after the other, in Denton’s book.

Phillip Johnson was no ordinary attorney. He had graduated at the top of his class; and, in 1966, he began a term as clerk for Chief Justice Earl Warren of the U.S. Supreme Court. Then he became a law professor at the University of California in Berkeley. Johnson had a powerful mind, able to quickly grasp and remember factual detail, and ably defend it with rapid-fire logical reasoning.

Within a week, he had read both books through twice and had started to dig into scientific literature on evolution on both the popular and technical levels. Then he began writing, as he continued his research on the subject, from November 1987 through June 1988. He read everything in print, absorbing it, and all the while applying to it careful rhetorical analysis.

In addition, Johnson had another talent. He was extremely friendly, somewhat humorous, and quick to make friends on both sides. He visited the Darwin home and museum at Down. One day, he went to the British Museum of Natural History and asked if he could speak with its curator, Colin Patterson (the one who in 1981 kept asking scientists if there was even one worthwhile thing that they knew about evolution). A lengthy conversation resulted in a close friendship; and Patterson offered to help in critiquing Johnson’s work as he developed his research paper on evolution. In later years, Johnson continued the practice of sending his papers to scientists to check over.

**1987**—An interesting summary statement, worth reprinting, was made in connection with a U.S. Supreme Court ruling issued this year:

“Tennessee famously banned the teaching of evolution and convicted schoolteacher John Scopes of violating that ban in the ‘monkey trial’ of 1925. At the time, two other states—Florida and Oklahoma—had laws that interfered with teaching evolution. When such laws were struck down by a Supreme Court decision in 1968, some states shifted gears and instead required that ‘creation science’ be taught alongside evolution. Supreme Court rulings in 1982 and 1987 put an end to that. Offering creationism in public schools, even as a side dish to evolution, the high court held, violated the First Amendment’s separation of church and state.

“But some anti-Darwinists seized upon Justice Antonin Scalia’s

dissenting opinion in the 1987 case. Christian fundamentalists, he wrote, ‘are quite entitled, as a secular matter, to have whatever *scientific* evidence there may be against evolution presented in their schools’ [emphasis ours]. That line of argument—an emphasis on weaknesses and gaps in evolution—is at the heart of the intelligent-design movement, which has as its motto, ‘Teach the controversy.’ ‘You have to hand it to the creationists. They have evolved,’ jokes Eugenie Scott, executive director of the National Center for Science Education in Oakland, Calif., which monitors attacks on the teaching of evolution.”—*Time magazine*, August 15, 2005, p. 29.

*Postscript:* In his court paper, Justice Scalia mentioned that his dissenting opinion, favoring the teaching of creationism in the schools, was based on the dissenting opinion of Judge Samuel Alito, a federal judge in Pennsylvania—who on January 31, 2006, became a U.S. Supreme Court justice.

**1988**—In August, on his arrival back in Berkeley, Johnson had completed a lengthy manuscript, entitled “*Science and Scientific Naturalism in the Evolution Controversy*.” It included data covered by Denton plus some recent controversies, including those generated by Gould, Eldredge, Dawkins, and Grasse.

Johnson had repeatedly stated that winning an argument was not as important as getting the discussion started, so people would begin thinking about the issues. With this in mind, and never one to waste time, as soon as he arrived back from England, Johnson organized a faculty colloquium with 20 campus faculty members. Dozens of copies of Johnson’s research paper were mailed out.

Many influential scientists, primarily Darwinists, attended the September 23 faculty seminar. Several days later, he dictated what happened there. It illustrates the clarity of his thinking:

“My argument was that, although most people believe that an enormous amount of empirical evidence supports the general theory of evolution, this is in fact an illusion. Most people in the intellectual world are certain that evolution must be true. . . The evidence is then built up upon this pre-existing theoretical certainty based on philosophical presupposition. Non-evolutionary explanations of the evidence are not considered, and therefore the evidentiary support which seems to exist is the product of the cultural certainty rather than its cause or support.”

This Berkeley colloquium was to be reenacted dozens of times as Johnson spoke in various gatherings, either in lectures or debates. In all of them, Johnson was a precise, fearless, yet very friendly speaker. Both before and after each meeting, he would make friends with his

opponents and others present at the gathering.

**1989**—By late spring of this year, Johnson had completed the first book draft of his forthcoming book. As usual, he mailed out copies of it to many biologists and other scientists for review. Criticisms and suggestions poured in. He also sent drafts to several publishers and found that, fearing to publish on this topic, they all turned him down. One major publisher rejected it on the ground that the book would not be controversial enough to generate interest!

**1989**—Fourteen months after that first meeting, Johnson went to a special private meeting of scientists at the Campion Center on the west side of Boston. It was early December. Many important evolutionists were listed as planning to attend. David Raup would be there; and Johnson was especially cheered that Stephen Gould had decided to attend. In advance of the meeting, Johnson had mailed to all attendees his research paper, along with an eight-page summary.

Before going on the platform, Johnson spoke briefly with Gould. The conversation was polite; but Gould brushed aside Johnson's friendship and told him, "You're a creationist, and I've got to stop you."

To begin that morning's session, Johnson spent over an hour going over his summary, point by point. Near the end, paleontologist David Raup briefly interjected his own view of Johnson's work. He said he had read the paper, had distributed copies of it, discussed it with his students at the University of Chicago, and that he and they agreed that Johnson was accurate in his scientific details and clearly understood the flaws in the macroevolution theory, as well as the fossil gaps. Raup concluded by admitting that the evidence for Darwinian macroevolution were not as strong as one would hope.

As soon as Raup made that remarkable admission, Gould jumped to his feet. Displaying strong agitation in his voice and shaking bodily, he began, what one observer described as, an "obliteration attack" on both Johnson and his positions.

In doing this, Gould totally abandoned his position of two decades that standard natural selection/mutations were worthless—and, instead, totally defended them! In doing so, Gould essentially rejected the "monster mutations" theory he had written about since 1972.

But Johnson was not one to be silent. Very early in the attack, he stepped in with strong rebuttals of point after point of Gould's attack. This only rendered Gould the more furious.

After the session was over, Gould had to board a plane for a television interview in New York City that evening. That afternoon as the entire audience discussed what had happened, they were shocked at Gould's total renunciation of his previous position.

**1989**—A powerful, new anti-evolution movement was just beginning. More and more influential scientists were becoming attracted to it and quietly coming on board. But what was its name? No one really knew. The word, “*design*,” was one that Denton did not wish to identify with, since it seemed to have religious connotations and Denton was an agnostic. But in December 1988, in a lecture he gave to a class at Princeton University, Charles Thaxton included a news article with a photo that the Viking I had taken of a sphinx-like face on Mars. A scientist was quoted as saying it appeared like “intelligent design,” not just a random surface. The phrase went over well with the class, so Thaxton began using it. Shortly afterward, when a new book on the general subject was about to be published (*Of Pandas and People: the Central Question of Biological Origins*), of which Thaxton was editor, the authors cast about for a title for the movement. “*Intelligent design*” was seen to fit it perfectly.

**1989**—In the early 1970s, creationists urged the California State Board of Education to adopt clear rules about the teaching of evolution. After much debate, in early 1989 the Board adopted a *Policy Statement* on the teaching of science and printed a curriculum guide, *The Science Framework*, for teachers and textbook writers:

“Students should never be told that ‘many scientists’ think this or that. Science is not decided by vote, but by evidence. Nor should students be told that ‘scientists believe.’ Science is not a matter of belief; rather, it is a matter of evidence that can be subjected to the tests of observation and objective reasoning . . . Show students that nothing in science is decided just because someone important says it is so [authority] or because that is the way it has always been done [tradition].”—*The Science Framework*, quoted in Phillip Johnson, *Darwin on Trial* (1991), p. 145.

**1990**—It was this year that Bruce Chapman and George Gilder founded the *Discovery Institute* in Seattle. Initially, it was concerned with regional and national public policy; but, in 1993, it would become interested in the anti-evolution debate. Still later, it would become a prominent financial sponsor of some Design projects.

**1990**—The anti-evolution group considered Johnson's encounter with Gould to be important enough that a meeting needed to be held.

Since 1987, such meetings had taken place under the name, *Ad Hoc Origins Committee*, under the leadership of Thaxton the chemist and author of *Mystery of Life's Origin*. (“*Ad hoc*” is Latin for “special purpose.”) At this meeting, all present recognized that Johnson should become the leading figure. Thaxton quietly retreated into the background and became a devoted helper. Phillip Johnson was now the leader of, what had become, the *Intelligent Design Movement*. He had the quick mind, the ability at public speaking, a witty and jovial personality, a determination to push their objectives forward, and a growing network of contacts with scholars. There never was any formal structure to the movement.

**1991**—Finally, a publisher for Johnson’s book was found, and his *Darwin on Trial* was printed in June of this year. The book described evolution as a “pseudoscience.” Another feature of the design movement was its avoidance of connection with the creationism movement, which was defended by many creationist organizations, including the Institute for Creation Research and Answers in Genesis. It should be understood that the design movement was not denying God’s creatorship; but rather focused on a direct attack on evolutionary theory.

Here are the four key points in Johnson’s book:

1 - Biological and paleontological (fossil) evidences and other scientific data, with little exception, tend to falsify the Darwinian theory of macroevolution (possibility of one species changing into another) and its chemical origins of life.

2 - The Darwinian theory is ultimately grounded on the philosophical assumptions of naturalism. That is, everything makes itself, with no help from any outside power.

3 - Darwinism is protected by empty labels, word manipulations, and faulty logic.

4 - Darwinism is the central great myth of modern culture, is at the center of a quasi-religious system, and is treated as a proven fact instead of an unproven hypothesis. No testing of it is permitted and no scientific facts in its defense are considered necessary.

**1991**—Johnson immediately began a heavy schedule of speeches, conferences, and debates. His clear logic and speaking style won audiences to an appreciation of what he had to say.

“With his agreeable favorite-uncle face, wire-rimmed specs, and a perpetual smile in his voice, it was hard not to like Mr. Johnson as he shredded their arguments. And, of all things, he even wanted to

be friends when the debates were through.”—Lynn Vincent, *World*, April 2000.

**1991**—*Science*, the journal of the American Association for the Advancement of Science (AAAS), is as prestigious in America as is *Nature* in Britain. For its June issue, *Science* decided to write a brief attack (entitled “*Johnson vs. Darwin*”) on Johnson’s book, in the hope of not drawing too much attention to it. In it, Eugenie Scott alerted AAAS members and science educators to beware of this confusing book.

That article became very important—because it was read by a biologist named Michael Behe. He wrote a brief reply to *Science* which was published (August 30). His points were so clearly made that Johnson contacted him, and Behe became part of the Design group.

**1992**—Stephen Gould wrote a four-page attack in *Scientific American* (July) against Johnson’s book, *Darwin on Trial*. Gould’s theme was that Johnson was not “qualified” to speak on the subject and that he was a “menace” to science. Gould called it a “very bad book that hardly deserves to be called a book.” In this article, Gould’s objective was not merely to defend evolution or reply to Johnson’s positions—but to attack Johnson personally. This was a device in the defense of evolution which was not new.

“It is a clumsy, repetitious abstract argument with no weighing of evidence, no careful reading of literature on all sides, no full citation of sources . . . [and is] full of errors, badly argued, based on false criteria, and abysmally written.”

*Scientific American* refused to let Johnson reply to Gould’s article, so Johnson included a point-by-point reply in the back of his 1993 revised edition of *Darwin on Trial*.

**1992**—In late March, Johnson and 10 scholars, including Michael Ruse, went to Dallas for a three-day *Darwinism Symposium* on the campus of Southern Methodist University. Five Darwinist and five Design proponents presented papers about a given field, plus attempting to refute an opposite position. This was the first time that Michael Behe took part in a meeting. Two young men who would later write books for the Design movement also did: William Dembski and Steven Meyer. The gathering included a Saturday night debate between Johnson and Ruse.

**1993**—At the annual meeting of the AAAS in February in Boston, Michael Ruse was invited to make a presentation about this new

upstart Design movement. In his talk, Ruse primarily spoke about the Dallas meeting. After some criticism of Johnson's book, Ruse then said, "I always find when I meet Creationists or non-evolutionists or critics or whatever, I find it a lot easier to hate them in print than in person."

Ruse had given a key testimony at the 1981 Arkansas creation trial in Little Rock. In it, he had said that only "natural law" could be acceptable to science. By that, he meant that everything had to make itself, no outsider source could be involved. His points were included in Judge Overton's January 1982 decision, which ruled Arkansas' "Balanced Treatment Law" unconstitutional.

But in this 1993 meeting, Ruse spoke of how he and Johnson had primarily discussed "metaphysics, the whole question of philosophical bases." Then, abruptly, Ruse startled his audience by saying he had been rethinking that for several years and, after participating in that Dallas meeting, he had changed his mind on a key point.

"I must confess, in the ten years since I performed, or I appeared, in the creationism trial in Arkansas, I must say that I've been coming to this kind of position myself."

He went on to explain that "the science side has certain metaphysical assumptions built into doing science, which—it may not be a good thing to admit in a court of law—but I think that in honesty . . . we should recognize . . . For many evolutionists, evolution has functioned as something with elements which are, let us say, akin to being a secular religion . . . Evolution, akin to religion, involves making certain *a priori* or metaphysical assumptions which, at some levels, cannot be proven empirically [factually]."

Ruse concluded by saying he was still an evolutionist, but when he sat down, his audience sat in stunned silence.

Copies of Ruse' audiotape circulated widely among Design advocates.

**1990s**—In this decade, Johnson wrote three additional books: *Reason in the Balance* (1994), *Testing Darwinism* (1997), and *Objections Sustained* (1998).

**1990s**—Also in this decade, the federal government funded the SETI (Search for Extra-Terrestrial Intelligence) project, intended to locate radio emissions from codes, which contained coded sequences that would indicate intelligent origin or actual intelligent radio signals. Millions of dollars were spent to locate what was actually "intelligent design" in



outer space, at the same time that scientists were trying to forbid it from being discussed on earth. By the way, a synonym for intelligent design is “intelligent causation.” (Since the turn of the century, the SETI project has been carried on automatically with radio telescopes and code-recognizing computers.)

**1993**—As a result of that August 1992 *Scientific American* article by Gould, mentioned earlier—which the journal refused permission for Johnson to reply to,—the Ad Hoc Origins Committee obtained a grant to mail a copy of Johnson’s reply directly to 5,000 university science professors. The cover letter was signed by 45 professors.

**1993**—It was this year that the Discovery Institute, based in Seattle, began focusing its financial support to the Intelligent Design movement. The Ad Hoc Committee met for three days in Seattle in August. By this time, Michael Behe had already been recognized as the leading scientist within the Design community. At this meeting, he presented a talk about several ideas he had about the complexity within tiny living cells. He noted that no scientists had written anything about how these systems might have evolved.

**1993**—This same year, Behe presented a more detailed presentation of his ideas at a private conference of 10 Design researchers, including Johnson, William Dembski, Paul Nelson, and Dean Kenyon. Held at Pajaro Dunes resort in California, this meeting was a sounding board for his 2002 book, *Unlocking the Mystery of Life*,—and for his first book, *Darwin’s Black Box*. Behe was convinced that the time had come for this book to be printed. Members of the Design group were excited about what its impact would be.

**1993**—Beginning this year, Paul Nelson, Jonathan Wells, Stephen Meyer, and William Dembski began collaborative research work on opposing evolution. Nelson and Wells developed new data, especially focused on embryology. Meyer worked on specified complexity. Dembski began developing an “explanatory filter” which could definitely identify an instance of specified complexity.

This “design filter” became a major breakthrough. The filter works this way:

The question is this: Does the object being studied show *specified complexity*? If it has specified complexity, it could not possibly have originated by the randomness of evolutionary processes. So how can

we determine this with certainty?

First level - *Is it a highly probable event?* If it is a HP event, it lacks specified complexity, and was produced by natural laws.

If it is not a HP event, it passes to the second level.

Second level - *Is it a medium probability event?* If it could occur naturally once in every so many thousand times, it is a MP event, and natural. If it is not a MP event, it is a small probability event and passes to the third level.

Third and final level (called the specification level). On this level, the item or event must be judged to be of very low probability (could only happen once in a million times, etc.); and, secondly, it must conform to an independently given pattern of “ideal specification.”

The present writer does not play cards, but the filter is sometimes described in this way: In a poker game, a royal flush of spades (one chance in 2,598,960) would be “medium probability”; that is, it could occasionally occur and therefore is ruled out. But if five royal flushes in a row were dealt to a person, then an “ideal specification” (clear-cut, not-accidental pattern) has occurred—and someone cheated. That is, it was not the cards but an intelligent person who caused those five royal flushes in a row.

Dembski’s filter is invaluable for several reasons: (1) It places design theorists within currently accepted science. (2) It is a regular and cautious procedure. (3) It contains a principled system of statistical analysis. (4) It specifies some type of intelligence as the cause, without identifying it.

**1993**—It was in this year that, after a period of collaboration with Johnson and others, Michael Behe coined the phrase “*irreducible complexity*,” which, instead of “specified complexity,” would become the watchword and motto of the Design movement. This is what Dembski’s filter would be searching for. When found, irreducible complexity would prove the existence of an outside intelligence at work.

This is the meaning of “irreducible complexity”: A system or systems whose function depends upon the interaction of many parts; *and* the removal of any part, will effectively shut down the function of the entire system or systems. —A simple but comprehensive definition.

Such systems could not possibly have been built up, step-by-step, by means of natural pathways or Darwinian “natural selection”—either with or without mutations. An outside intervention was required to produce them.

In the published statements of the Design theorists, several examples are cited: An ideal, simple structure is the ordinary mousetrap, with some steel parts fastened to a piece of wood. Remove any part, and the entire system is useless for catching mice. It has “irreducible complexity.” Therefore, we can know that someone made it; it did not make itself.

**1994**—The credibility of the Design movement was enhanced by published videotapes of debates. One of the best, which you may want to obtain a copy of, was Johnson’s 1994 debate at Stanford University with Cornell’s late historian of biology, William Provine. First, it clearly showed Johnson’s case against macroevolution. Second, Provine’s remarkable statements about “the mirage of free will” and his repeated sneering at a belief in God provided a striking example of the anti-religious framework in which Darwinism is set. It is not founded on scientific facts, or it would produce them. Instead, it is founded on atheism—an anti-God religion.

**1995**—From this year onward, the Design movement was buzzing like a beehive with research, book publication, lectures, and debates by several different members of the movement. An “internet village” had been started, which grew from 75 members in 1995 to over 200 in 2003. This quickened the interchange of ideas and data.

**1996**—Alabama’s mandated inclusion of a statewide “disclaimer” on evolution began this year. For several years thereafter it was pasted into the front of every biology textbook in the state’s public schools. Norris Anderson pushed it through the state legislature, and the wording was produced with the help of the Design group. Eventually, a judge ruled this excellent statement to be “opposed to the Constitution.” Here is this complete “disclaimer.” Some may wish to prepare copies to be pasted into textbooks:

“This textbook discusses evolution, a controversial theory some scientists present as a scientific explanation for the origin of living things, such as plants, animals, and humans. No one was present when life first appeared on earth. Therefore, any statement about life’s origins should be considered as theory, not fact.

“The word, ‘evolution,’ may refer to many types of change. Evolution describes changes that occur within a species. (White moths, for example, may “evolve” into grey moths.) This process is *microevolution*, which can be observed and described as fact. Evolution may also refer to the change of one living thing to another, such as reptiles into birds. This process, called *macroevolution*,

has never been observed and should be considered a theory. Evolution also refers to the unproven belief that random, undirected forces produced a world of living things.

“There are many unanswered questions about the origin of life which are not mentioned in your textbook, including:

“Why did the major groups of animals suddenly appear in the fossil record (known as the “Cambrian Explosion”)?

“Why have no new major groups of living things appeared in the fossil record for a long time?

“Why do major groups of plants and animals have no transitional forms in the fossil record?

“How did you and all living things come to possess such a complete and complex set of ‘instructions’ for building a living body?

“Study hard and keep an open mind. Some day you may contribute to the theory of how living things appeared on earth.”

**1996**—It was Michael Behe’s *Darwin’s Black Box*, published this year, which propelled Design into the spotlight of media attention and firmly lodged the “Design inference” as a plausible scientific point in the American consciousness. Whereas Johnson was an attorney, Behe wrote as a tenured professor of biology. In addition, Behe’s attack on Darwinism was highly focused on a few recent discoveries in biochemistry.

The living cell, for Darwin and his contemporaries, was a “*black box*”—an utter mystery. Ernst Haeckel, Darwin’s disciple and popularizer in Germany, contemptuously described the cell as a “simple little lump of an albuminous combination of carbon.” In his book, Behe capitalizes on a statement made by Charles Darwin in his *Origin of the Species*. It is a statement worth memorizing:

“If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down.”—*Charles Darwin, The Origin of the Species, 6th ed., London: John Murray, 1859, p. 182.*

Behe seizes this quote as a tool, a falsification test of Darwin’s own gradualistic theory. Behe declares that, using molecular biology, Darwin’s challenge can at last be put to the test.

Scientists have identified and researched many “subcellular machines” which are complex in the extreme. Scientists have no idea how these systems could have evolved step-by-step. Therefore, based on Darwin’s own words, evolutionary theory has absolutely broken down.

In explaining an “irreducibly complex machine,” Behe first describes

the five parts in a regular mousetrap. As mentioned earlier, all the parts must be in place at once, or it cannot function. It could not possibly evolve, little by little,—and therefore is irreducibly complex.

Later in the book, Behe proceeds to his prize exhibit: the flagellum of certain bacteria and other creatures so small, they can only be seen through a microscope.

This flagellum is shaped like a narrow tail, attached to the back end; and, by moving it, the tiny creature is propelled through fluid. While some flagella move by whipping the tail back and forth (sperm is an example), *others operate as an outboard engine!* The tiny tail rotates rapidly in a circle and thereby pushes the little creature forward. This is a machine that has 40 different structural parts! Evolutionists counter that 10 of them are found in another molecular machine; however, the other 30 are unique. So where could they be borrowed from? Every single part had to somehow evolve—and do it all at once. Even more complex are the assembly instructions. That factor is never mentioned by opponents of the irreducible complexity argument.

In his book, Behe also mentioned several other complex mechanisms, including the eye and the sequential blood-clotting procedure. Some of these systems have dozens or even hundreds of parts, all of which must be present in order for the entire mechanism to function.

Later in the book, Behe, who like his associates avoids a religious motive, made this intriguing comment:

“This triumph of science [these discovered wonders of microbiology] should evoke cries of ‘Eureka!’ from ten thousand throats . . . But instead, a curious, embarrassed silence surrounds the stark complexity of the cell. When the subject comes up in public, feet start to shuffle and breathing gets a bit labored. In private, people are a bit more relaxed; many explicitly admit the obvious but then stare at the ground, shake their heads, and let it go at that.

“Why does the scientific community not greedily embrace its [the tiny cell’s] startling discovery? Why is the observation of design handled with intellectual gloves? The dilemma is that while one side of the elephant is labeled intelligent design, the other side might be labeled God.”—*Michael Behe, Darwin’s Black Box*, p. 233.

Evolutionists declare that they refuse to accept anything unless they can apply the “scientific method” to it: Test it in a laboratory and then duplicate the experiment in a different laboratory. Therefore they refuse to consider irreducible complexity—or the Creator it leads to.

But nature is filled with things which cannot be tested and repli-

cated in a laboratory. About “the scientific method,” which evolutionists hide behind, Behe makes the following comment.

“Another concern . . . is for the ‘scientific method.’ Hypothesis, careful testing, replicability—all these have served science well. But how can an intelligent designer be tested? Can a designer be put in a test tube? No, of course not, but neither can extinct common ancestors be put in test tubes. The problem is that whenever science tries to explain a unique historical event, careful testing and replicability are by definition impossible . . . [Just as with observing the effects of a comet on earth’s surface], science can see the effects that a designer has had on life . . . Science is not a game, and scientists should follow the physical evidence wherever it leads, with no artificial restrictions.”—*Ibid.*, pp. 242-243.

Responses to Behe’s book by evolutionists varied from expressions of general disgust to pleas to give Darwinists more time to come up with the answers. One Design critic wrote that we should not attempt to solve all the problems, but should leave a few for our children to figure out. One researcher examined the torrent of published reviews, and found that it amounted to several hundred pages. Instead of refuting Behe’s points with opposing scientific evidence, vicious attacks on his character or objectives were employed.

**1996**—Several other important events happened this year: First, Intelligent Design became known as “ID.” Second, David Berlinski published an article, “*The Deniable Darwin*,” in *Commentary* magazine. In it, he declared that Darwinism had not yet risen to the level of a true scientific theory. This provoked a strong outcry and many vehement responses. Then, in August, James Shreeve’s complimentary review of Behe’s book appeared in the *New York Times Book Review*. (“On a scale of one to ten, it’s an eight.”) By late October, the *Times* had even printed on its editorial pages Behe’s own summary of the biochemical argument for design, “*Darwin Under the Microscope*,” in connection with Pope John Paul II’s favorable statement on evolution. Behe’s article, along with the Pope’s message, produced an immense publicity boost for the Design movement.

**1996**—The *Mere Creation Conference* was held in early November at Biola University in Los Angeles. This was the first major international conference on the design theory. The 18 presenters of papers who spoke included Johnson, Behe, Berlinski (substituting for Thaxton who was ill), Meyer, Nelson, Wells, and Dembski.

**1997**—A new book, *Mere Creation*, containing a collection of

articles by design theorists was published. It included William Dembski's "explanatory filter." This invaluable tool for identifying specified complexity was later presented by him in a highly technical form in *The Design Inference* (1998), in a simpler format in *Intelligent Design* (1999), and in *No Free Lunch* (2002).

**1997**—A two-hour PBS "*Firing Line Debate*" was aired in December. Held on the campus of Seton Hall University in New Jersey, Kenneth Miller, a skilled Darwinian orator and biologist, enthusiastically defended evolutionary theory, using a new tactic: He ridiculed the God of the Design theorists as a mere "mechanic."

**1998**—William Dembski was hired by Baylor University in Texas, to assemble the first U.S. academic center for the study of design theory. Dembski, a very capable mathematician, has made steady progress, continuing down to the present time, at this research center.

**1999**—On August 11, the Kansas Board of Education voted to de-emphasize the teaching of biological macroevolution (change from one species into another)—in all the public schools of the state. The board's decision mandated the continued teaching of microevolution (change within species), but avoided any hint of a ban on the teaching of Darwin's view of origins. Instead, the decision was left to local school boards to decide how to arrange their biology curriculum and how much macroevolution each district would teach.

**1999**—Design authors mentioned the dramatic fossil discoveries made at Chengjiang, in southern China. Since the late 1980s, remarkable new fossils of very unusual creatures have been found there. Frequently found in the lowest strata layers, they are part of the "Cambrian explosion" of creatures which "suddenly appear" in the fossil record. During a tour of the United States, the head paleontologist at Chengjiang, Jun-Yuan Chen, wove some criticism of Darwinianism into his lectures—and was surprised by the cool response he received. When he asked why, he was told that criticizing the Darwinian theory is unpopular in the United States. At this, he laughed, and replied, "In China we can criticize Darwin, but not the government; in America, you can criticize the government, but not Darwin." This remark received wide publicity.

**2000**—Unfortunately, a new Kansas State Board of Education was voted in, which threw out the previous anti-evolution ruling. When Michael Behe appeared on ABC's *Nightline*, in a July 27 interview, he vigor-

ously defended the right of each State to decide whether to permit the teaching of an unproven, unscientific theory in science classes. He said, “A public movement is beginning to question the dominant religious philosophy of our time, [which has become] the established religion of our culture,—which is scientific naturalism.”

**2000**—A major design vs. evolution conference was held at Baylor University in April. This three-day conference, organized by William Dembski, placed Design scholars in a vigorous exchange with twelve leading Darwinists, including two Nobel Laureates. The theme question, which provided the basis for the discussions, was whether current scientific evidence indicated whether nature was pointing, beyond itself, to something that transcended (above and beyond) nature. Valuable discussions took place in several important fields. The opening, a very provocative statement, was this: “Is the universe self-contained or does it require something beyond itself to explain its existence and internal function?” Many important contacts were made by the Design scholars at this gathering.

**2000**—Jonathan Wells’ stunning book, *The Icons of Evolution*, came off the press. It revealed how the major high school and college introductory biology textbooks include fraudulent information favoring evolution,—which he alleges the publishers knew about when they printed that information. Wells charged them with printing distortion, misinformation, and known and tolerated fraud,—and that such fraudulent “proof” of evolution was sometimes knowingly printed as a device to convert unsuspecting schoolchildren. A detailed list of fraudulent statements in ten major U.S. school textbooks is included on pp. 249-258 of Well’s book.

**2001**—Articles in the *Los Angeles Times* and *New York Times*, in the spring of this year, analyzed the growing Design movement, and noted that a significant number of credentialed scientists recognized that Darwinism was entering a serious crisis, from which it might not recover.

**2002**—Phillip Johnson’s sixth book, *The Right Questions*, came off the press, along with William Dembski’s fourth book, *No Free Lunch*.

**2002**—The videotape, *The Mystery of Life*, released by the Discovery Channel, was a 65-minute overview of the rise of the Design movement. It presented a collection of evidence favoring intelligent design.



**2002**—The American Museum of Natural History featured articles from Design theorists in its April *Natural History* magazine. In connection with this, a public debate, organized by Richard Milner, was held at the museum. Behe and Dembski debated with two Darwinists.

**2004**—The Discovery Institute sent representatives to Ohio State Board of Education meetings to push for science standards that would support teaching critiques of evolution. Recognizing the truth of the situation, the board modified its standards to say that evolution should be critically analyzed.

**2005**—By the fall of this year, Alaska had recently strengthened science standards for teaching evolution, so as to show intelligent design.

**2005**—A poll indicated that 45 percent of Americans have no doubts that God created the world and all the creatures in it, and that Darwinism runs counter to religious faith.

**2005**—Fully one-third of the 1,050 teachers who responded to a National Science Teachers Association online survey in March, said they were being pressured by parents to include lessons on intelligent design or creationism in their science classes. Thirty percent said they were being pressured to omit evolution or evolution-related topics from their curriculum.

**2005**—President George W. Bush entered the battle in August, declaring that “both sides ought to be properly taught so people can understand what the debate is about . . . I think that part of education is to expose people to different schools of thought.” In reply, Gerry Wheeler, executive director of the 55,000-member National Science Teachers Association in Arlington, VA, said, “If I were in China, I’d be happy.” (*Time*, August 15, 2005, p. 28). A remarkable statement, since it is well-known that atheists are in charge of the government there, and they persecute Christians.

**2005**—Feeling more and more threatened, arrangements were made for major museums all across America to present fabulous exhibits of dinosaurs and similar things, in an attempt to show that evolution must be true. The exhibits included “Evolving Planet” at Chicago’s Field Museum, “Darwin” at the American Museum of Natural History in New York, and “Explore Evolution” being shown simultaneously at major university museums in six midwest and southern states: Michigan,

Minnesota, Nebraska, Kansas, Oklahoma, and Texas.

**2006**—A summary of the battle, to *not mention evolutionary topics in the public schools*, as of early 2006: In 2000, 10 states did not require any mention of evolutionary concepts in their curricular standards. By the end of 2005, only four states were standing firm: Florida, Kentucky, Mississippi, and Oklahoma. Heavy pressure was being placed on every state to conform. For example, after Kansas was given a grade of F- (by the Fordham Foundation) for deleting evolution, the age of the earth, and the age of the universe from its teaching requirements, it crumpled and put evolution back into its curriculum. But a new, more conservative Kansas State Board is now trying to install a “teach the controversy requirement.” (Show the students both sides of the Creation-evolution debate.)

**2006**—A summary of the battle, to *include anti-evolution materials in the public schools*, as of early 2006: Since 2001, anti-evolution materials for public schools have been proposed *in state boards of education* in Alaska, Arizona, New Mexico, Nebraska, and North Carolina. Since 2001, the *state legislatures* of Oklahoma, Arkansas, Missouri, Michigan, Indiana, New York, and Florida have introduced legislation requiring anti-evolution materials in public schools. Lastly, since that year, *both state board and state legislation* against evolution has been introduced into Montana, Texas, Louisiana, Ohio, Alabama, Georgia, South Carolina, West Virginia, Pennsylvania, and Minnesota (*Source: National Center for Science Education*). That totals 22 states, almost half the total number in America. The methods for “teaching the controversy” vary from calling it “critical inquiry” (in New Mexico), to “strengths and weaknesses” of theories (in Texas), to “critical analysis” (in Ohio).

**2006**—On February 20, the American Association for the Advancement of Science (AAAS), at its annual meeting in St. Louis, Missouri, issued an official proclamation, calling on the mainstream churches in America to unite with it “in fighting policies that undermine the teaching of evolution.” The evolutionists recognize that the schools—both public and private—is where the battle will be fought. They are determined to capture the minds of the nation’s youth, and make atheists of them all. Eugenie Scott, director of the National Center for Science Education, which campaigns to keep evolution in the public schools, said the churches must help oppose creationism. “The intelligent design movement belittles evolution. It makes God a de-

signer,” said George Coyne, director of the Vatican Observatory.

**2006**—“Evolution Sunday” was celebrated on February 12 in almost 450 Christian churches across America. Pastors and congregations rejoiced that they were freed from believing in “creationism,” including a recent six-day creation of the world (*Denver Post, February 13, 2006*).

**2006**—Henry Morris, founder of the Institute for Creation Research, died on February 25 at the age of 87.

**Conclusion**—Gradually, the movement to eliminate evolutionary theory in America is gaining strength. But doing so requires men and women willing to unflinchingly defend the right.

*It should be noted that the Creationist movement and the Design movement are different in several ways. Both are doing a good work in refuting evolution, but they have different creationist objectives.*

On one hand, there are the various Creationist organizations, including the *Institute for Creation Research* (El Cajon, CA) and *Answers in Genesis* (Florence, KY)—as well as the book you now have in hand—which deal with a remarkably broad range of basic areas of science (astronomy, origin of the earth, primitive environment, age of the earth, biology, speciation, cellular contents, DNA and protein, fossils, sedimentary strata, ancient man, effects of the Flood, similarities, vestiges, recapitulation, the laws of nature, and the immoral effect of evolutionary theory on civilization).

This great mass of evidence is shown to consistently point to the Creator, to a recent creation of our world about six thousand years ago, and to a worldwide Flood about 4,300 years ago.

In contrast, the Design researchers focus primarily on present biological data as evidence for a Designer. The reason for this is that Design theorists avoid discussion of what has happened in the past. A number of them had earlier been taught to believe that our world came into existence millions of years ago. Some believe in the Big Bang theory. However, they are doing a good work in calling attention to the flaws in evolutionary theory, and pointing both scientists and the general public to an Originator of everything about us.

Yet it would be well for the Design researchers to study, not only the evidences in microbiology—which they are doing very well,—but also the full meaning of the fossil and strata evidence. All the scientific evidence, taken together, points to a recent creation of our world. To say it another way, their study of the evidences revealed by micro-

biology has led them directly to the Creator. If they would also investigate the broad evidences in the strata and fossils,—they would be led to a recent creation of our world and a worldwide Flood. This would vindicate the truthfulness of Genesis, which describes both events.

(It is true that the designers write about fossil evidence, but only as it relates to complexity of life forms. It would be well if they would also mention the fossil and strata evidence, which clearly denies the possibility of long ages of time—and points directly to the Genesis account of Creation and the Flood.)

All the scientific evidence points to the Bible as a fully reliable guide for mankind. Upon opening it, we discover that which no science textbook can provide—the pathway to forgiveness of sin, a new life in Jesus Christ as our Lord and Saviour, and enabling strength to obey all that He commands in Scripture.

A national poll, which was released in October 2005, was worded in accordance with the publicized concept of Design theorists that, although an Intelligence made everything,—it occurred millions of years ago.

“[In this Gallup poll] 53% of American adults agreed with the statement that God created humans in their present form exactly the way the Bible describes it [in Genesis]. Another 31% stood by the Intelligent Design position that humans evolved over millions of years from other forms of life and God guided the process, while 12% said humans have evolved from other forms of life and ‘God had no part.’” —*George Gallup Organization, November 10, 2005.*

It is quite clear, from this most recent poll, that *over half* of Americans in 2005 believe what the Bible teaches about Creation; *only a third* believe the position of design theorists, that the Creator made everything millions of years ago (a view which totally disagrees with Genesis); while *only one-eighth* of Americans believe in the obviously ridiculous evolutionary theory, that everything made itself.

When you defend Creation and the Creator, you have a majority on your side. So do not be afraid to speak up.

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#### **EVOLUTION COULD NOT DO THIS**

The 2-inch clown fish spends its life, protected from predators, within the stinging tentacles of the sea anemone. Any other small fish which gets near the anemone’s grasp is instantly paralyzed and drawn in as a meal. But the helpless little clown fish is always protected.

The small fish, Nemo, lives within the dangerous tentacles of the Portuguese man-of-war jelly fish and eats some of the food it catches.

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**EVOLUTION COULD NOT DO THIS**

The Mexican fly, *Ululodes*, lays a batch of eggs in clumps on the underside of a twig, then moves farther down the twig and lays another clump. But the second batch has no eggs in it. It is a brown fluid with smaller club-shaped kernels. This fluid neither hardens nor evaporates; but it remains liquid for the three or four weeks till the eggs, farther up the twig, hatch. Along comes an ant, searching for food, and runs into the brown liquid. Touching it, the ant jumps back, cleans itself frantically, and quickly leaves. The eggs are safe.

Fireflies flash their lights to one another in precise and split-second codes. The male black firefly of North America flashes every 5.7 seconds when flying. When he gets within 10 to 15 feet of a female on the ground, she flashes back exactly 2.1 seconds after he does. He replies 1 second later. Some males flash orange when in flight and green on the ground.

The male cricket constructs homemade sound speakers to help him get his message out. He burrows out an underground nest with a twin-tunnel entrance—enabling him to produce hi-fi (binaural) sound! Then he sits underground at the junction of the tunnels and, by running his forewings together, emits a trilling song that is amplified by the tunnel shape. Hi-fi experts, take notice. Who taught him how to do this?

The New Zealand kiwi bird has actual nostrils at the tip of its beak, so it can smell the food it is searching for on the ground.

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**EVOLUTION COULD NOT DO THIS**

Some birds, including the buzzard, have 1 million light-sensitive cells per square inch in their fovea, the most sensitive part of the eye's retina, enabling them to see five times as clearly as humans.

Cats have a crystalline layer in the retina; so that, in the dark, they can absorb 50 percent more light than we can.

Many birds can see two things at once. With eyes set on the side of their heads, they can look in two different directions at the same time. Some switch back and forth between one eye and the other, while it is believed that some others see both views side by side in their brains.

The compound eyes of dragonflies contain 28,000 separate eyes. Bees and wasps use the angle of ultraviolet light from the sun to give them directional guidance, even on cloudy days.

The *Copilia quadrata*, a Mediterranean shrimp, has one lens in front of its head, but no retina. Instead, behind the lens is a single light-sensitive spot which darts back and forth, then downward and back and forth again—just like a cathode ray on a television set! The receiving equipment is in the creature's waist.

Some insects can apparently see light through their

skins. Experiments with the caterpillars of moths and butterflies show that even with the eyes covered, they are still sensitive to light.

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**EVOLUTION COULD NOT DO THIS**

Tropical termites use a natural quick-setting glue to defend their nests from marauding ants. Termite soldiers belonging to the genus, *Nasutitermes*, can fire jets of the glue from an aperture on their heads across a distance of an inch or more. The glue rapidly becomes very sticky, and the ant quickly leaves.

When frightened, the sea cucumber of the Pacific can disembowel itself to escape capture. It contracts its sausage-like body violently and expels a tangled mass of its own internal organs. While the attacker eats that, the sea cucumber leaves and with remarkable speed—grows a new set of internal organs!

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**EVOLUTION COULD NOT DO THIS**

The Arctic tern spends the summer breeding far up in the Arctic. Then, in August, the parents head south—and travel 22,000 miles to the Antarctic to enjoy summer there. One tagged bird flew almost 100 miles a day. The young terns follow shortly afterward—without having been told by their parents where to go.

Another species of bird travels from Alaska to a tiny island in the Pacific—yet always finds it.

Many species of butterflies can travel up to 600 miles without a refueling stop. Millions of monarch butterflies migrate yearly between a small northern Mexican forest and their summer homes in America. When the young are strong enough for the journey, they go to the same forest; yet their parents left no road map behind to guide them.

Every autumn the tiny, ruby-throated hummingbird seems to defy the laws of physics and body metabolism as it propels its tiny body—a mere 0.1 ounce in weight—on a nonstop 500-mile flight from North America across the Gulf of Mexico to South America. Metabolic tests indicate that the bird is simply too small to store enough energy for the task. But it does it anyway, and makes the return trip in the spring.

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**EVOLUTION COULD NOT DO THIS**

Several Central American species of ants have set up light housekeeping in the sharp, fleshy spines of swollen, thorny acacia trees. They burrow into the base of the trees' thorns, eating the pulp and hollowing out a nest at the same time. Once established, the ants (species of the genus *Pseudomyrmex*) feed on special protein-rich nodules that grow on the tips of the acacia's leaves. The trees thrive because the ants protect them from all other predators, such as other insects, birds, and small animals. When predators arrive, the ants sting them until they leave.