Chapter 26

THE CASE FOR INTELLIGENT DESIGN

The Evidence keeps getting stronger

***Intelligent design*—**Intelligent design is clearly seen in everything in nature. Something that is intelligently designed *points to an intelligent designer who made it.* In sharp contrast, evolutionary theory declares that everything had to be produced by purposeless, meaningless, random changes. Evolutionists recognize that purpose and design prove the death of evolutionary theory. Evolutionary biologist *Ayala said it this way:

> "The functional design of organisms and their features would . . argue for the existence of a designer. It was Darwin's greatest accomplishment [however] to show that the directive organization of living beings can be explained as the result of a natural process, natural selection, without any need to resort to a Creator or other external agent."—**Francisco Ayala, quoted in Signs of Intelligence, p. 103 (2001).*

Unfortunately, for the evolutionists, they are unable to provide explanations for the complex marvels found in nature all around us. Microbiologist *James Shapiro of the University of Chicago wrote:

> "There are no detailed Darwinian accounts for the evolution of any fundamental biochemical or cellular system, only a variety of wishful speculations."—**James Shipiro, in National Review, September 16, 1996.*

There are so many remarkable examples of intelligent design in nature—obviously preplanned, examples which could not possibly be put together by chance, a little here and there, from pre-existing materials. The phrase used to describe them is *"irreducible complexity."* What is that?

If something is irregular, erratic, and unpredictable, it is merely the result of a random event. But if something that is irregular and unpredictable—fits a specific, preselected pattern,—it bears the marks of a design. Such an example would be the four presidents on Mount Rushmore. An example of something intelligently designed occurs when a number of separate, interacting components are arranged in such a way as to accomplish a certain function, beyond that which the separate components could ever produce.

*Charles Darwin described the problem very well:

> "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, Origin of the Species, 6th ed. (1988), p. 154.*

> "Natural selection can act only by the preservation and accumulation of infinitesimally small inherited modifications."—**Charles Darwin, quoted in Phillip Johnson, Darwin on Trial, p. 33 (1991).*

Irreducible complexity—An organ would have "irreducible complexity" if all of its parts had to be in place all at once for it to function, and it could not "have been formed by numerous, successive, slight modifications."

*Richard Dawkins, a confirmed evolutionist, pleads that complicated objects *must* have been formed gradually.

> "Evolution is very possibly not, in actual fact, always gradual. *But it must be gradual* when it is being used to explain the coming into existence of complicated, apparently designed objects, like eyes. For if it is not gradual in these cases, it ceases to have any [evolution-caused] explanatory power at all. Without gradualness in these cases, we are back to miracle."—**Richard Dawkins, River Out of Eden, p. 83 (1995) [emphasis ours].*

> "Richard Dawkins begins *The Blind Watchmaker* with [this statement:] 'Biology is the study of complicated things that give the appearance of having been designed for a purpose'; whereupon he requires an additional three hundred and fifty pages to show why it is only an appearance of design."—**Richard Dawkins, The Blind Watchmaker, p. 1; quoted in W.A. Demski, Signs of Intelligence, p. 23.*

As the complexity of an interacting system increases, the likelihood of its having been formed randomly becomes increasing difficult. Yet, *in every part of our bodies*, we find immense complexity—*and all of it interrelated!*

It is only evolutionists who are afraid to look for causes. Forensic police detectives, archaeologists, and cryptographers do it all the time. That is how they figure things out.

But evolutionists stand by their position that total chance, randomness is the source of all the amazing wonders in nature and in the human body.

> "Man is the result of a purposeless and natural process that did not have him in mind."—**George Gaylord Simpson, The Meaning of Evolution, quoted in Phillip Johnson, Darwin on Trial (1991), p. 116.*

Michael Behe nicely describes how to determine if something has irreducible complexity:

> "The first step in determining irreducible complexity is to specify both the function of the system and all system components . . The second step . . [is] to ask if all the components are required for the function."—*Michael Behe, Darwin's Black Box (1996), p. 42.*

In other words, we must identify what the organ is supposed to do and determine all of its necessary parts.

The bacterial flagellum—As an example of something that is irreducibly complex, which had to be produced by an Intelligent Designer, we will consider the bacterial flagellum, found in a number of extremely tiny creatures, such as the aquatic *Englena*.

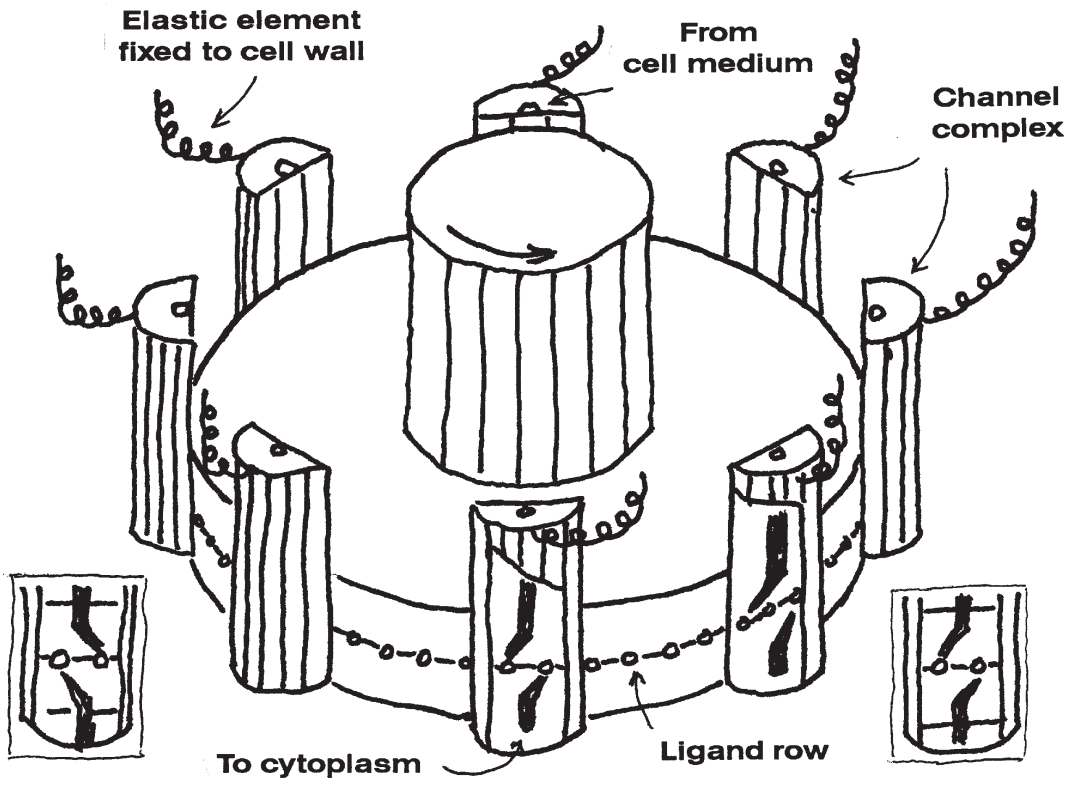
Both the cilia and flagella are used for movement. A cilium waves back and forth, like a tiny hair waving. These cilia are found in the bronchials, continually waving to bring mucus up to the throat where it can be eliminated. They are also found in the small intestine, waving food onward through that cavity. Sperm travel by means of ciliac action, as their tails wave back and forth.

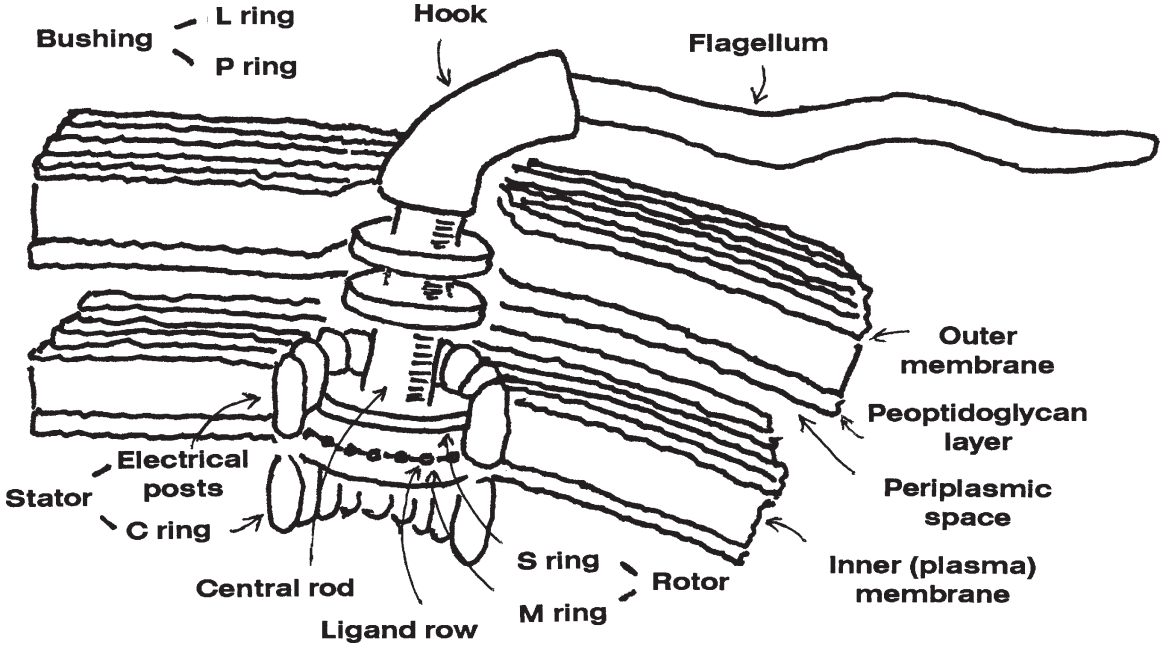
But flagella are different. —*Their tales rotate!* Because it would require a continually rotating structure on a central axis, it has been said that nature never discovered the wheel. But that is exactly what flagella do!

> "In 1973 it was discovered that some bacteria swim by rotating their flagella. So the bacterial flagellum acts as a rotary propeller—in contrast to the cilium, which acts more like an oar."—*Michael J. Behe, Darwin's Black Box, p. 70.*

The next page portrays the flagellum of one of many very small bacteria. Study the sketch carefully, along with the accompanying illustration.

THE FLAGELLUM OF A MICROBE—Electrical and structural engineers will appreciate learning how to make a rotary engine. Why is it that scientists are not able to make such things as small as God can?





Flagella whirl their little tails, propelling them through fluid. When it is moving, the flagellum looks like a rotating corkscrew. How could such a complex structure possibly have formed? All the accessory equipment is present; yet it all is so tiny!

> "The flagellum is a long, hair-like filament embedded in the cell membrane. The external filament consists of a single type of protein, called *'flagellin'* The flagellin filament is the paddle surface that contacts the liquid during swimming. At the end of the flagellin filament near the surface of the cell, there is a bulge in the thickness of the flagellum. It is here that the filament attaches to the rotor drive. The attachment material is comprised of something called 'hook protein.'
>
> "The filament of a bacterial flagellum, unlike a cilium, contains no motor protein; if it is broken off, the filament just floats stiffly in the water. Therefore the motor that rotates the filament must be located somewhere else. Experiments have demonstrated that it is located at the base of the flagellum, where electron microscopy shows several ring structures."—*Ibid., p. 70.*

Careful examination reveals that the entire motor and tail assembly has 40 different parts, with 30 of them totally unique—found nowhere else in nature. *The whole thing is a motorized propeller assembly, something like that which propels ships through the oceans!* A major college textbook says this:

> "[The bacterial rotary motor] must have the same mechanical elements as other rotary devices: a rotor (the rotating element) and a stator (the stationary element)."—**D. Voet and *J.G. Voet, Biochemistry, 2nd ed. (1995), p. 1260.*

This specialized equipment obviously was not borrowed; yet it all had to be in place for the entire contraption to work! We have here an extremely obvious example of creation, not evolution. Microbiologists have found that the assembly instructions—the way it all fits together—are even more astonishing.

> "A typical bacterial flagellum, we now know, is a long, tubular filament of protein. It is indeed loosely coiled, like a pulled-out, left-handed spring, or perhaps a corkscrew, and it terminates close to the cell wall, as thickened, flexible zone, called a hook because it is usually bent . . The remarkable feature is the way in which the flagellum and its hook are anchored. In a bacterium called *Bacillus subtilis*, which has a fairly simple structure, the hook extends, as a rod, through the outer wall, and at the end of the rod, separated by its last few nonometers, are two discs . . In effect, the long flagellum seems to be held in place by its hook, with two discs acting as a double bolt, or perhaps a bolt and washer."—**John Postgate,*

The Outer Reaches of Life, p. 160.

The central rod, attached to some bacterial flagella, terminates in a rod with four rather than two discs.

In addition, there has to be a motor which runs the propeller. This motor needs to be mounted and stabilized. In addition, it must be capable of bidirectional rotation. It has to be able to suddenly "reverse engines" in order to avoid problems. Add to that the fact that the motor/propeller structure has to be self-assembled by the bacterium itself! Dembski explains that the probability of the bacterium's getting all the right proteins together, by chance, to make this structure is 10^{-66}, based on the fact that a sample bacteria (in this case, *E. coli*) only has 4,639,221 base pairs and codes for 4,289 proteins in its DNA *(Demski, No Free Lunch, p. 292).*

It is now known that we have here an acid-powered rotary motor with a rotor, a stator, o-rings, bushings, and a drive shaft. In addition to all the other amazing things about this assembly, it is powered by a method different than all other muscle systems.

> "Unlike other systems that generate mechanical motion (muscles, for example), the bacterial motor does not directly use energy that is stored in a 'carrier' molecule such as ATP. Rather, to move the flagellum it uses the energy generated by a flow of acid through the bacterial membrane. The requirements for a motor based on such a principle are quite complex and are the focus of active research. A number of models for the motor have been suggested; none of them are simple."—*Behe, ibid., p. 72.*

All this requires the coordinated interaction of about thirty different proteins and another twenty or so proteins to assist in their assembly.

An evolutionist, *Lucy Shapiro of the Department of Developmental Biology at Stanford University, describes the "challenge" the bacteria has in putting all this together:

> "A rotating propeller at the cell surface, driven by a transmembrane protein gradient, provides many bacteria with the ability to move and thus respond to environmental signals. To acquire this powerful capability, the bacterial cell is faced with the challenge of building a tiny rotary engine at the base of the propeller. Although the motor is anchored in the cytoplasmic membrane, a significant portion of the entire mechanism extends into the cytoplasm and, at the other end, out into the environment. At least 20 individual proteins are used as parts for this complex structure, and another 30 are used for its construction, function, and maintenance."—**Lucy*

Shapiro, "The Bacterial Flagellum," Cell 80 (1995), pp. 525-527.

Yet the absence of any one of these proteins would stop the operation of this motor/flagellum assembly.

> "The flagellum is a whiplike rotary motor . . The intricate machinery of this molecular motor requires approximately fifty proteins. Yet the absence of any one of these proteins results in the complete loss of motor function."—*William Demski, Intelligent Design (1999), p. 148.*

An evolutionist would say that all this evolved by means of Darwinian "natural selection." The explanation would be given that a bacteria collected a bunch of different parts, and then, fortunately, assembled them in the right order. Chance modifications, which were totally random, happened to put them all together in the right order—and *presto fantisimo,* a rotary motor suddenly started working! Then, all of these traits were inherited by that bacterium's descendants.

By the way, somehow all this happened without the DNA master code knowing about it in advance—or knowing how to transfer this new data into its data bank. That is how the Darwinian tall tale goes. But the bacteria's tail—attached to its motor—needs no help from Uncle Charlie. It works fine, with onboard repair and maintenance, for the lifetime of the bacteria.

> "Because the bacterial flagellum is necessarily composed of at least three parts—a paddle, a rotor, and a motor—it is irreducibly complex. Gradual evolution of the flagellum, like the cilium, therefore faces mammoth hurdles."—*Behe, ibid., p. 72*

That little outboard motor is just another headache for evolutionists. One they would wish did not exist.

> "The flagellum is a complex protein machine requiring over forty proteins each necessary for function. For the Darwinian mechanism to produce the flagellum, chance modifications have to generate those various proteins and then selection must preserve them.
>
> "But how is [natural] selection to accomplish this? Selection is nonteleological [non-thinking and predictive], so it cannot cumulate proteins, holding them in reserve until with the passing of many generations they're finally available to form a complete flagellum. The environment contains no blueprint of the flagellum which selection can extract and then transmit to an organism to form a flagellum."—*Demski, Intelligent Design, pp. 177-178.*

Regarding this amazing little tail, an evolutionist, *DeRosier, made this comment:

"More so than other motors, the flagellum resembles a machine designed by a human."—**David J. DeRosier, "The Turn of the Screw: The Bacterial Flegallar Motor, Cell 93 (1998), pp. 17-20.*

William Demski, an intelligent design proponent, provides additional information about why the bacterium needed this propeller:

"In propelling a bacterium through its watery environment, the flagellum must overcome Brownian motion. The main reason flagella need to rotate bidirectionally is because Brownian motion sets bacteria off their course as they try to wend their way up a nutrition gradient. Reversing direction of the rotating filament causes the bacterium to tumble, reset itself, and try again to get to the food it needs. The minimal functional requirements of a flagellum, if it is going to do a bacterium any good at all in propelling it through its watery environment, is that the filament rotate bidirectionally and extremely fast. Flagella of known bacteria spin at rates well above 10,000 rpm (actually, closer to 20,000 rpm). Anything substantially less than this is not going to overcome the disorienting effects of Brownian motion."—*William Demski, No Free Lunch (2002), p. 288.*

Although intense research has been done on this rotary engine, producing large numbers of research reports since its discovery in 1973, no evolutionist dares to discuss how it could possibly have evolved.

"The general professional literature on the bacterial flagellum is about as rich as the literature on the cilium, with thousands of papers published on the subject over the years. That isn't surprising; the flagellum is a fascinating biophysical system, and flagellated bacteria are medically important. Yet here again, the evolutionary literature is totally missing. Even though we are told that all biology must be seen through the lens of evolution, no scientist has *ever* published a model to account for the gradual evolution of this extraordinary molecular machine."—*Behe, Darwin's Black Box, p. 72 [emphasis his].*

Evolutionary theory would suggest that, somehow, the necessary protein just drifted in and provided what was needed to get the paddles going. But it isn't as simple as that. —*Even when the needed proteins are injected, a cilium will not be formed!*

"The cilium contains tubulin, dynain, nexin, and several other connector proteins. If you take these and inject them into a cell that lacks a cilium, however, they do not assemble to give a functioning cilium . . A cilium contains over *two hundred different kinds of proteins;* the actual complexity of the cilium is enormously greater

than what we have considered. All of the reasons for such complexity are not yet clear."—*Ibid., p. 72.*

Surely, something as small as a cilium or a flagellum ought to be relatively easy to figure out. Yet the utter complexity of both types of paddles are so massive, that no one can unravel their mystery! Darwin's little theory falls flat on its face before these microscopic creatures.

"The bacterial flagellum, in addition to the proteins already discussed, requires about forty other proteins for function. Again, the exact roles of most of the proteins are not known, but they include signals to turn the motor on and off; 'bushing' proteins to allow the flagellum to penetrate through the cell membrane and cell wall; proteins to assist in the assembly of the structure; and proteins to regulate the production of the proteins that make up the flagellum."—*Ibid., pp. 72-73.*

The paddle problem is just one of thousands which defy explanation by Darwin's magic phrase, "natural selection." The reality of what is in the natural world about us, and in the sky, laughs at all their simplistic labels.

"As biochemists have begun to examine apparently simple structures like cilia and flagella, they have discovered staggering complexity, with dozens or even hundreds of precisely tailored parts. It is very likely that many of the parts we have not considered here are required for any cilium to function in a cell.

"As the number of required parts increases, the difficulty of gradually putting the system together skyrockets, and the likelihood of indirect scenarios plummets. Darwin looks more and more forlorn. New research on the roles of the auxiliary proteins cannot simplify the irreducibly complex system. The intransigence of the problem cannot be alleviated; it will only get worse [as additional research reveals still more complexity]. Darwinian theory has given no explanation for the cilium or flagellum. The overwhelming complexity of the swimming systems push us to think it may never give an explanation."—*Behe, ibid., p. 73.*

It sure takes a lot of work for people to try to get this, the tiniest little outboard motor in the world, started! Yet the microbe does it all the time; and it hasn't been to school—where it would be told that, according to the theory, it could not possibly exist.

It is just a little paddle that makes circular wave out the back end of a microbe! Yet it is too much for evolutionists to deal with.

BLOOD COAGULATION—When you cut your skin, if some procedure did not immediately stop the blood flow, you would bleed to death. As indicated on the chart, below, the procedure by which this is done is extremely complicated!

Prothrombin, a complex enzyme, is stored in the body. When triggered by the Stuart factor, it changes into thrombin which begins coagulating blood. Accelerin, another protein, is also needed to speed up the coagulation process. The problem is that, as soon as this happens, all the blood in your body would coagulate and you would die within 15 seconds. So a complex series of functions must occur in order for all three protein enzymes, normally stored in inactive forms, to begin working—and do it at the right place for only a certain length of time.

An extremely complicated collection of proteins is involved in the clotting process,—so that (1) only at the place where blood is flowing improperly is the blood stanched; (2) and nowhere else does coagulation occur. (3) As soon as the bleeding stops, the various anti-clotting proteins stop functioning and return to their former inactive forms.

As you can see in the diagram, below, at least 41 functions by 29 different original or modified proteins are required to safely begin and complete the task. Who are you going to thank for this? —Darwin's 1859 theory or your wise Creator?