INTRODUCTION to ICONS of EVOLUTION: Science or Myth? Why much of what we teach about evolution is wrong

Note from Pastor Kevin Lea: The following is the introduction to the book, Icons of Evolution, by Jonathan Wells (copyright 2000). His book is very highly recommended for those who want to understand and know about the lies of Darwinian evolution.

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by Jonathan Wells

"Science is the search for the truth," wrote chemist Linus Pauling, winner of two Nobel prizes. Bruce Alberts, current President of the U. S. National Academy of Sciences, agrees. "Science and lies cannot coexist," said Alberts in May, 2000, quoting Israeli statesman Shimon Peres. "You don't have a scientific lie, and you cannot lie scientifically. Science is basically the search of truth." For most people, the opposite of science is myth. A myth is a story that may fulfill a subjective need, or reveal something profound about the human psyche, but as commonly used it is not an account of objective reality. "Most scientists wince," writes former Science editor Roger Lewin, "when the word 'myth' is attached to what they see as a pursuit of the truth."

Of course, science has mythical elements, because all human enterprises do. But scientists are right to wince when their pronouncements are called myths, because their goal as scientists is to minimize subjective story-telling and maximize objective truth. Truth-seeking is not only noble, but also enormously useful. By providing us with the closest thing we have to a true understanding of the natural world, science enables us to live safer, healthier and more productive lives. If science weren't the search for truth, our bridges wouldn't support the weight we put on them, our lives wouldn't be as long as they are, and modern technological civilization wouldn't exist. Story-telling is a valuable enterprise, too. Without stories, we would have no culture. But we do not call on story-tellers to build bridges or perform surgery. For such tasks, we prefer people who have disciplined themselves to understand the realities of steel or flesh.

The Discipline of Science

How do scientists discipline themselves to understand the natural world? Philosophers of science have answered this question in a variety of ways, but one thing is clear: Any theory that purports to be scientific must somehow, at some point, be compared with observations or experiments. According to a 1998 booklet on science teaching issued by the National Academy of Sciences, "it is the nature of science to test and

retest explanations against the natural world." Theories that survive repeated testing may be tentatively regarded as true statements about the world. But if there is persistent conflict between theory and evidence, the former must yield to the latter. As seventeenth-century philosopher of science Francis Bacon put it, we must obey Nature in order to command her. When science fails to obey nature, bridges collapse and patients die on the operating table. Testing theories against the evidence never ends.

The National Academy's booklet correctly states that "all scientific knowledge is, in principle, subject to change as new evidence becomes available." It doesn't matter how long a theory has been held, or how many scientists currently believe it. If contradictory evidence turns up, the theory must be reevaluated or even abandoned. Otherwise it is not science, but myth. To insure that theories are tested objectively and do not become subjective myths, the testing must be public rather than private. "This process of public scrutiny," according to the National Academy's booklet, "is an essential part of science. It works to eliminate individual bias and subjectivity, because others must also be able to determine whether a proposed explanation is consistent with the available evidence." Within the scientific community, this process is called "peer review." Some scientific claims are so narrowly technical that they can be properly evaluated only by specialists. In such cases, the "peers" are a handful of experts. In a surprising number of instances, however, the average person is probably as competent to make a judgment as the most highly trained scientist. If a theory of gravity predicts that heavy objects will fall upwards, it doesn't take an astrophysicist to see that the theory is wrong. And if a picture of an embryo doesn't look like the real thing, it doesn't take an embryologist to see that the picture is false.

So an average person with access to the evidence should be able to understand and evaluate many scientific claims. The National Academy's booklet acknowledged this by opening with Thomas Jefferson's call for "the diffusion of knowledge among the people. No other sure foundation can be devised for the preservation of freedom and happiness." The booklet continued: "Jefferson saw clearly what has become increasingly evident since then: the fortunes of a nation rest on the ability of its citizens to understand and use information about the world around them." U. S. District Judge James Graham affirmed this Jeffersonian wisdom in an Ohio newspaper column in May, 2000. Graham wrote: "Science is not an inscrutable priesthood. Any person of reasonable intelligence should, with some diligence, be able to understand and critically evaluate a scientific theory."

Both the National Academy's booklet and Judge Graham's newspaper column were written in the context of the present controversy over evolution. But the former was written to defend Darwin's theory, while the latter was written to defend some of its critics. In other words, defenders as well as critics of Darwinian evolution are appealing to the intelligence and wisdom of the American people to resolve the controversy. This book was written in the conviction that scientific

theories in general, and Darwinian evolution in particular, can be evaluated by any intelligent person with access to the evidence. But before looking at the evidence for evolution, we must know what evolution is.

What is Evolution?

Biological evolution is the theory that all living things are modified descendants of a common ancestor that lived in the distant past. It claims that you and I are descendants of ape-like ancestors, and that they in turn came from still more primitive animals. This is the primary meaning of "evolution" among biologists. "Biological evolution," according to the National Academy' booklet, "explains that living things share common ancestors. Over time, evolutionary change gives rise to new species. Darwin called this process 'descent with modification,' and it remains a good definition of biological evolution today." For Charles Darwin, descent with modification was the origin of all living things after the first organisms. He wrote in *The Origin of Species*: "I view all beings not as special creations, but as the lineal descendants of some few beings" that lived in the distant past. The reason living things are now so different from each other, Darwin believed, is that they have been modified by natural selection, or survival of the fittest: "I am convinced that Natural Selection has been the most important, but not the exclusive, means of modification."

When proponents of Darwin's theory are responding to critics, they sometimes claim that "evolution" means simply change over time. But this is clearly an evasion. No rational person denies the reality of change, and we did not need Charles Darwin to convince us of it. If "evolution" meant only this, it would be utterly uncontroversial. Nobody believes that biological evolution is simply change over time. Only slightly less evasive is the statement that descent with modification occurs. Of course it does, because all organisms within a single species are related through descent with modification. We see this in our own families, and plant and animal breeders see it in their work. But this still misses the point. No one doubts that descent with modification occurs in the course of ordinary biological reproduction. The question is whether descent with modification accounts for the origin of new species--in fact, of every species. Like change over time, descent with modification within a species is utterly uncontroversial. But Darwinian evolution claims much more. In particular, it claims that descent with modification explains the origin and diversification of all living things. The only way anyone can determine whether this claim is true is by comparing it with observations or experiments. Like all other scientific theories, Darwinian evolution must be continually compared with the evidence. If it does not fit the evidence, it must be reevaluated or abandoned--otherwise it is not science, but myth.

Evidence for Evolution

When asked to list the evidence for Darwinian evolution, most people--including most biologists--give the same set of examples, because all of

them learned biology from the same few textbooks. The most common examples are:

- a laboratory flask containing a simulation of the earth's primitive atmosphere, in which electric sparks produce the chemical building-blocks of living cells;
- the evolutionary tree of life, reconstructed from a large and growing body of fossil and molecular evidence;
- similar bone structures in a bat's wing, a porpoise's flipper, a horse's leg, and a human hand that indicate their evolutionary origin in a common ancestor;
- pictures of similarities in early embryos showing that amphibians, reptiles, birds and human beings are all descended from a fish-like animal;
- Archaeopteryx, a fossil bird with teeth in its jaws and claws on its wings, the missing link between ancient reptiles and modern birds;
- peppered moths on tree trunks, showing how camouflage and predatory birds produced the most famous example of evolution by natural selection;
- Darwin's finches on the Galapagos Islands, thirteen separate species that diverged from one when natural selection produced differences in their beaks, and that inspired Darwin to formulate his theory of evolution;
- fruit flies with an extra pair of wings, showing that genetic mutations can provide the raw materials for evolution;
- a branching-tree pattern of horse fossils that refutes the old-fashioned idea that evolution was directed; and
- drawings of ape-like creatures evolving into humans, showing that we are just animals and that our existence is merely a by-product of purposeless natural causes.

These examples are so frequently used as evidence for Darwin's theory that most of them have been called "icons" of evolution. Yet all of them, in one way or another, misrepresent the truth.

Science or Myth?

Some of these icons of evolution present assumptions or hypotheses as though they were observed facts; in Stephen Jay Gould's words, they are "incarnations of concepts masquerading as neutral descriptions of nature." Others conceal raging controversies among biologists that have far-reaching implications for evolutionary theory. Worst of all, some are

directly contrary to well-established scientific evidence. Most biologists are unaware of these problems. Indeed, most biologists work in fields far removed from evolutionary biology. Most of what they know about evolution, they learned from biology textbooks and the same magazine articles and television documentaries that are seen by the general public. But the textbooks and popular presentations rely primarily on the icons of evolution, so as far as many biologists are concerned the icons are the evidence for evolution.

Some biologists are aware of difficulties with a particular icon because it distorts the evidence in their own field. When they read the scientific literature in their specialty, they can see that the icon is misleading or downright false. But they may feel that this is just an isolated problem, especially when they are assured that Darwin's theory is supported by overwhelming evidence from other fields. If they believe in the fundamental correctness of Darwinian evolution, they may set aside their misgivings about the particular icon they know something about. On the other hand, if they voice their misgivings they may find it difficult to gain a hearing among their colleagues, because (as we shall see) criticizing Darwinian evolution is extremely unpopular among English-speaking biologists. This may be why the problems with the icons of evolution are not more widely known. And this is why many biologists will be just as surprised as the general public to learn how serious and widespread those problems are.

The following chapters compare the icons of evolution with published scientific evidence, and reveal that much of what we teach about evolution is wrong. This fact raises troubling questions about the status of Darwinian evolution. If the icons of evolution are supposed to be our best evidence for Darwin's theory, and all of them are false or misleading, what does that tell us about the theory? Is it science, or myth?