

Where Does the Evidence Lead?

1. Life: The Big Questions

Darwin proposed a theory of biological change by means of natural selection

Natural Selection: variations that aid survival are passed on to succeeding generations

Functional Advantage: a feature that helps an organism to survive

Is natural selection an adequate explanation for the origin and diversity of life?

2. What Darwin Didn't Know

Scientists in Darwin's day believed that cells were simple globs of protoplasm

In fact, they are complex systems composed of numerous molecular machines

3. Molecules and Mousetraps

Irreducible Complexity: the minimum number of parts needed to build a working system

Michael Behe claims that molecular machines could never be built by natural selection

An irreducibly complex system only aids survival when it is complete, fully functional

Natural selection would tend to eliminate a complex system with missing parts

Co-option: the use of existing parts to build new molecular machines

Co-option does not explain the origin of new parts, new assembly instructions

4. How Did Life Begin?

Darwin tried to explain the origin of the branches on the tree of life, not the origin of life

Chemical evolution: the use of Darwinian principles to explain the origin of life

Scientists believed that chemicals combined by chance into molecules, proteins and primitive cells

Amino Acids: chemical compounds common in living organisms, building blocks of proteins

Proteins: the primary components of every living cell, built from 20 different amino acids

Scientists now agree that random chance cannot explain the origin of simple proteins, life

5. The Language of Life

Kenyon believed that proteins could assemble themselves by means of chemical attraction

But, proteins are built using the assembly instructions found inside DNA, cannot self-assemble

DNA: a complex molecule composed of Adenine, Cytosine, Thymine, and Guanine

Kenyon could not explain the existence of proteins without DNA or the origin of DNA

Natural selection only works on self-replicating systems, cannot explain the origin of DNA, life

Transcription: the process of copying molecular assembly instructions found in DNA

Messenger RNA: the molecular assembly instructions for building a new protein

Nuclear Pore Complex: the gate-keeper for molecules entering and leaving the cell nucleus

Ribosome: a molecular factory for building new proteins

Translation: the assembly of amino acids into a useful protein

These complex systems bear all the features of intelligent design

6. The Design Inference

Intelligent Design: improbable object + recognizable pattern = information, intelligence

Information is not created by random chance, self-ordering properties, natural selection

Key Individuals

Michael J. Behe: Biochemist, Lehigh University; author of *Darwin's Black Box*

William Dembski: Mathematician, Baylor University, author of *The Design Inference*

Phillip Johnson: Professor of Law, University of California, Berkeley; author of *Darwin on Trial*

Dean Kenyon: Professor of Biology, San Francisco State University, author of *Biochemical Predestination*

Jed Macosko: Molecular biologist

Stephen C. Meyer: Philosopher of Science, Discovery Institute

Scott Minnich: Molecular biologist, University of Idaho

Paul Nelson: Philosopher of Biology

Jonathan Wells: author of *Icons of Evolution*