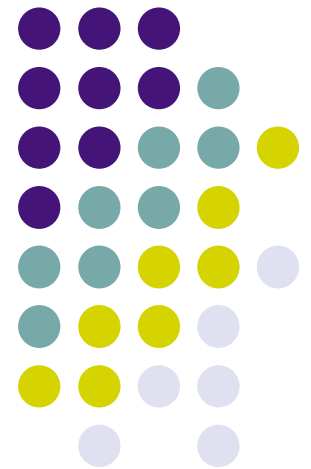
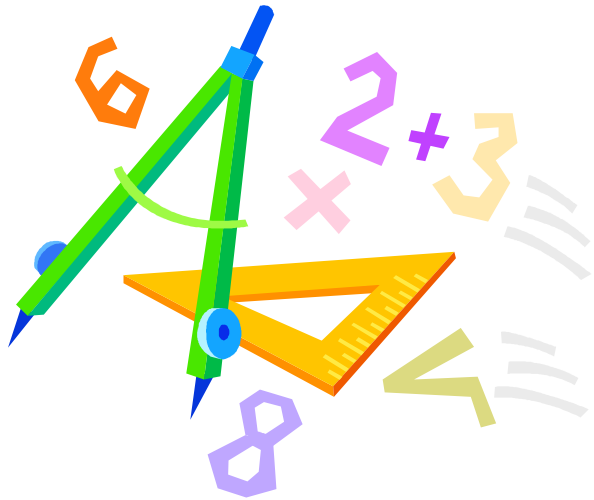
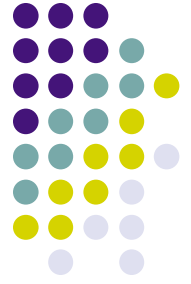


# Intelligent Design

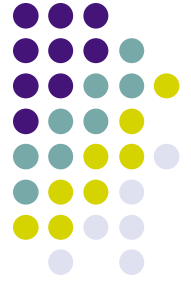
Robert C. Newman



# What is 'Intelligent Design'?

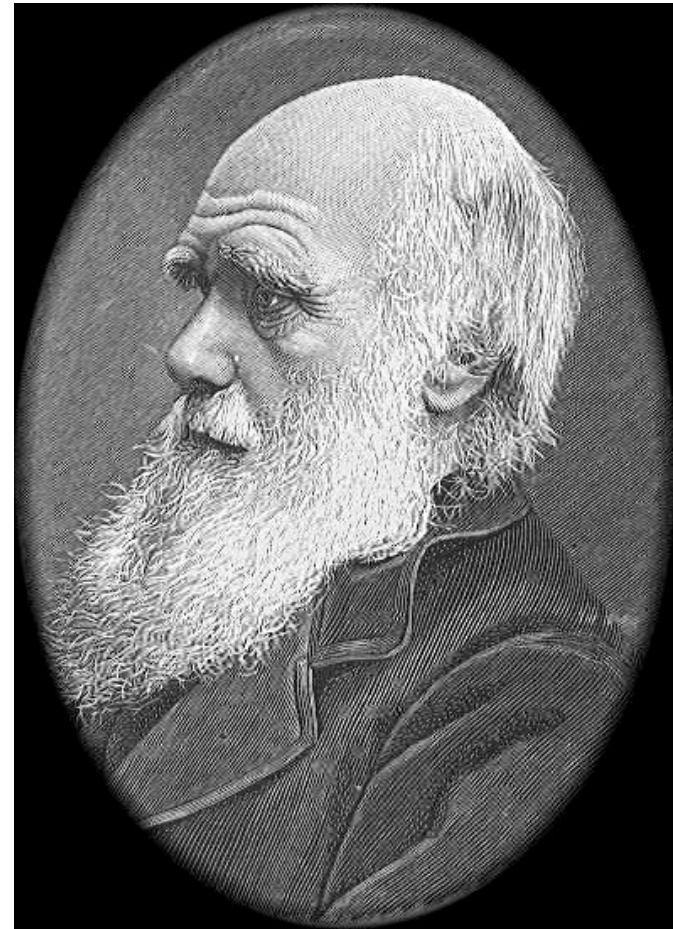


- Design – “an underlying scheme that governs functioning, developing, or unfolding”
- Intelligent – not here intended to contrast with “stupid” but with “apparent” or “accidental”
- The combination – “intelligent design” – is used as a term to describe a movement in the evolution controversy which maintains that design in nature implies a mind that produced this result rather than being a mere appearance of design produced by selection effects in a mindless universe.

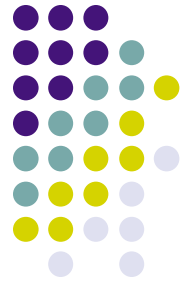


# Some Historical Background

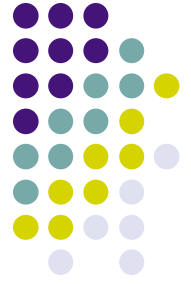
- Evolution came to be seen as a replacement for a Designer in biology after 1859.
  - “Darwin made it possible to be an intellectually fulfilled atheist.” (Richard Dawkins)
  - Mutation and natural selection are seen to be the cause of all apparent ‘design.’
- But what about apparent design in inanimate nature?



# Design in Inanimate Nature



- Design in inanimate nature had been noticed and discussed a number of times before Darwin: in William Paley's *Natural Theology* (1802), and especially in a series of books *The Bridgewater Treatises* (1833-40).
- After Darwin, the problem surfaced again in the 1913 book by Lawrence J. Henderson, *The Fitness of the Environment*, which noticed many strange features of chemistry that are quite necessary for life to exist.

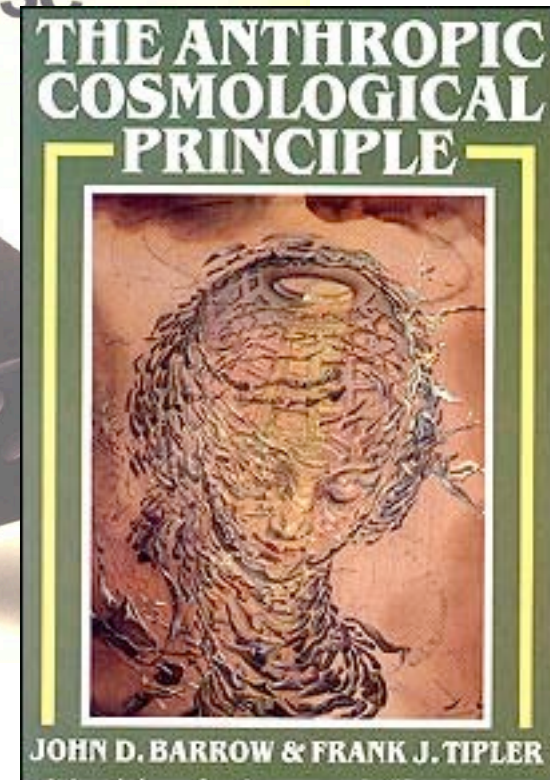


# Design in Inanimate Nature

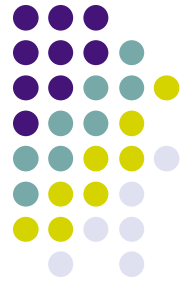
‘Fine-tuning’ in  
the laws of  
physics:

- Paul Davies, *Accidental Universe* (1982)
- Barrow & Tipler, *The Anthropic Comological Principle* (1986)

PCW DAVIES  
**The Accidental  
Universe**

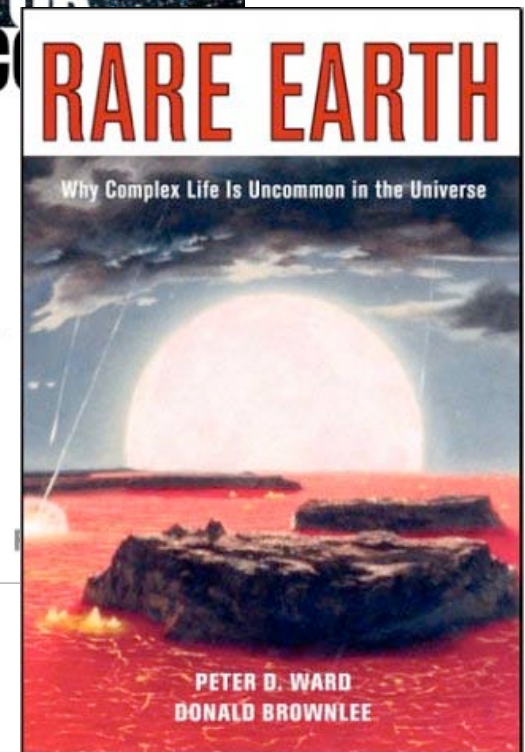
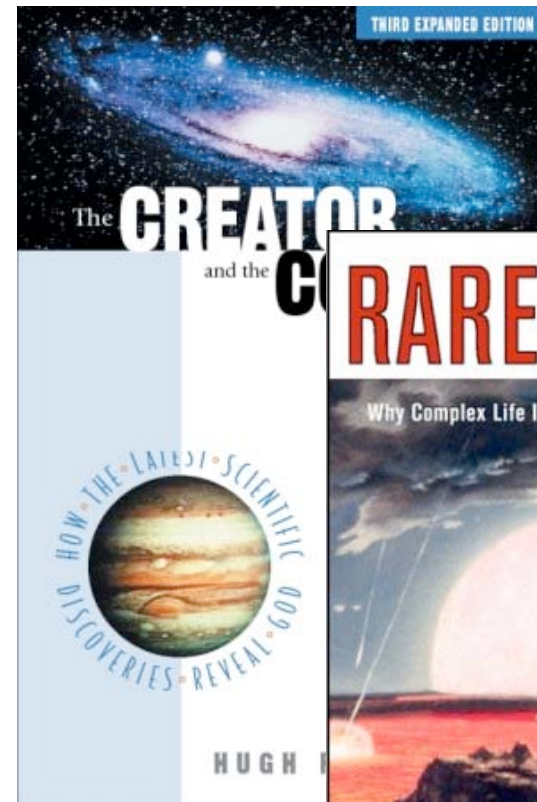


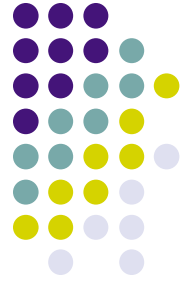
# Design in Inanimate Nature



## 'Fine-tuning' in Earth's environment:

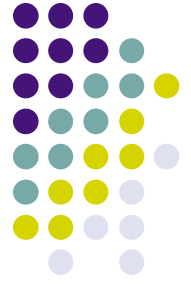
- Hugh Ross, *The Creator and the Cosmos* (1995)
- Ward & Brownlee, *Rare Earth* (2000)





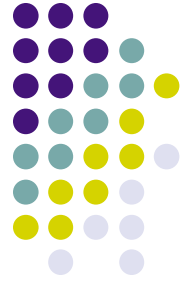
## Historical Background, cont.

- Meanwhile, in the US, a pair of court decisions (1982, 1985) had struck down state laws which required teaching of creation alongside evolution. The US Supreme Court upheld these decisions in 1987.
- But a number of observers felt these decisions were flawed because they used:
  - A very narrow definition of creation
  - A narrow definition of science



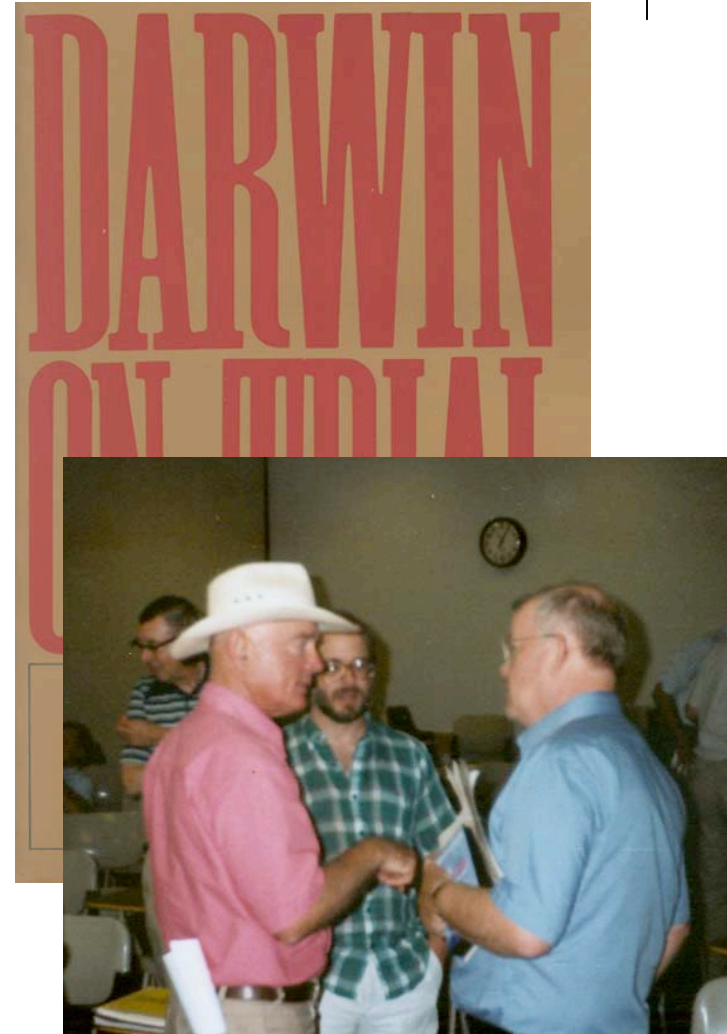
## Historical Background, cont.

- Narrow definition of creation:
  - Creation is religious, but evolution is not.
- Narrow definition of science:
  - Only naturalistic explanations are allowed.
- The really crucial problem is this second one, as it rules out all versions of creation without considering the evidence.
- This led rather quickly to the intelligent design movement.

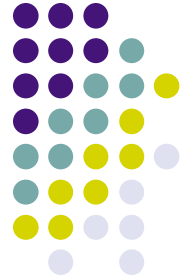


# The Rise of the ID Movement

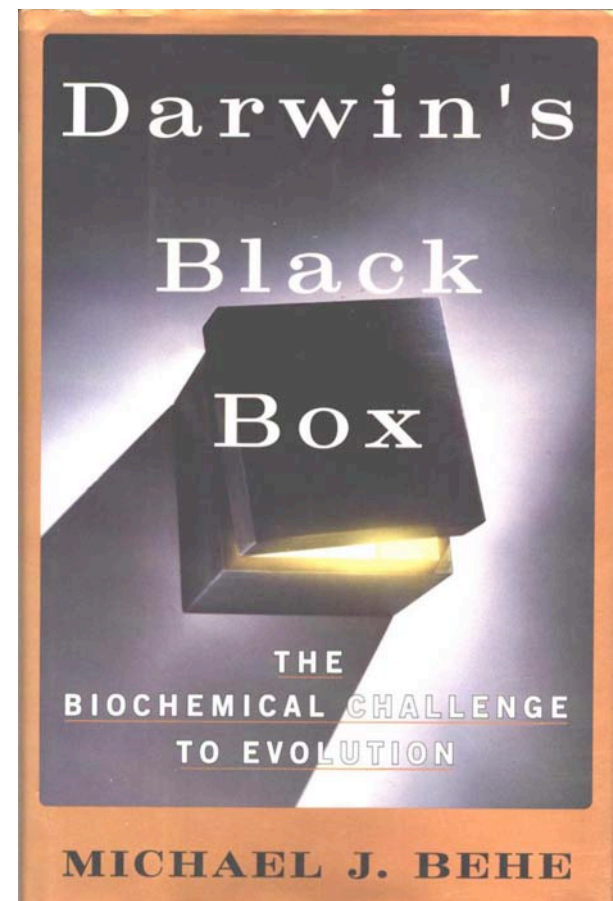
Usually marked as beginning with the publication of *Darwin on Trial* (1991) by Phillip Johnson, Professor of Law at the University of California at Berkeley, who was aroused by the problematic nature of the legal argumentation.

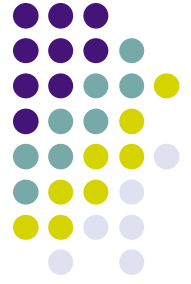


# The Rise of the ID Movement



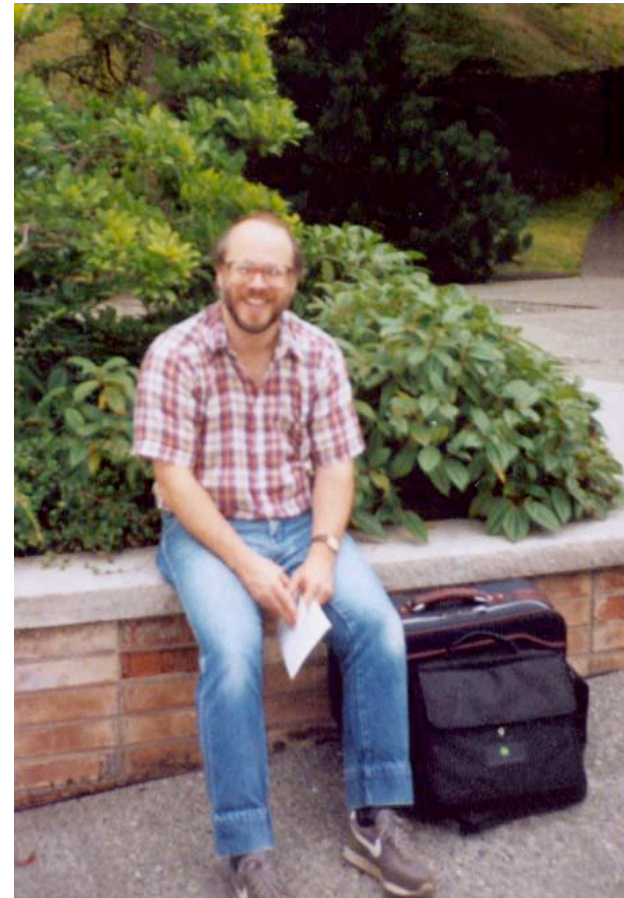
This was followed in 1996 by the publication of *Darwin's Black Box*, authored by Michael J. Behe, Associate Professor in the Department of Biological Sciences at Lehigh University, who raised the problem of irreducible complexity.

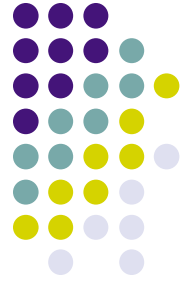




# Darwin's Black Box

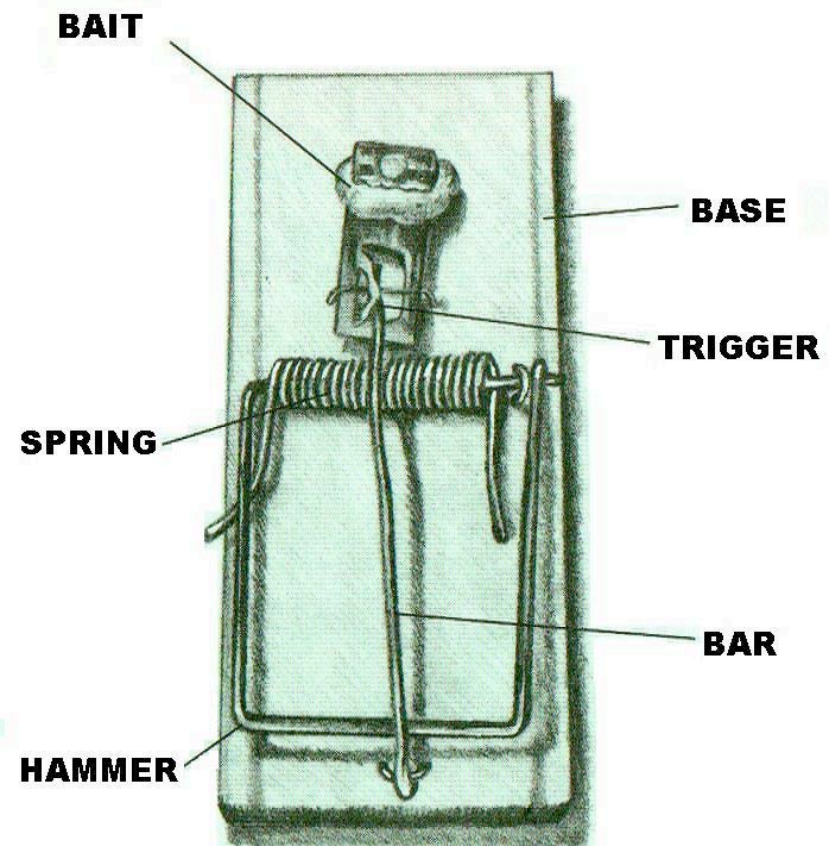
- Behe gave a number of examples of a common feature in living things, one that does not look like it can be produced by mutation & natural selection.
- He called this feature “irreducible complexity.”

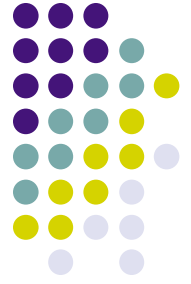




# Irreducible Complexity

- A feature is “irreducibly complex” when:
- It consists of a number of parts...
- ...none of which can be removed without destroying the function of the feature.
- A common example is the mousetrap.



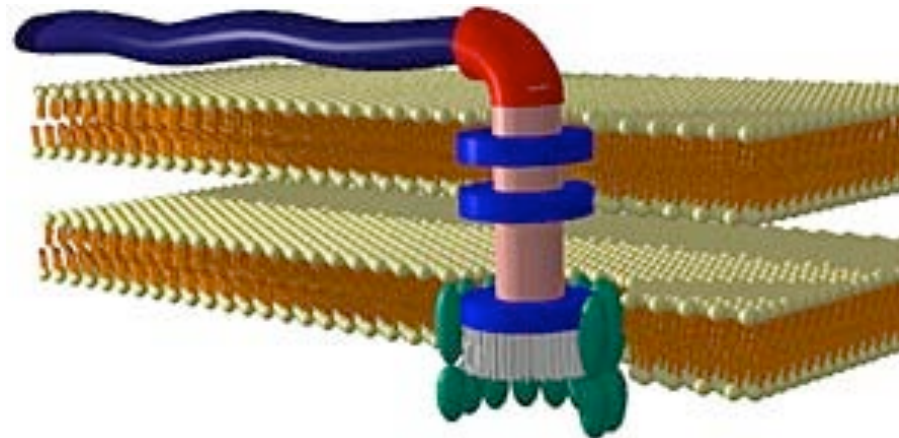


# Irreducible Complexity

Behe finds many such  
in living things.

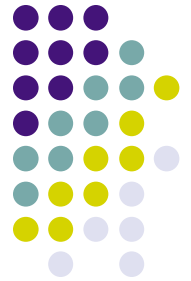
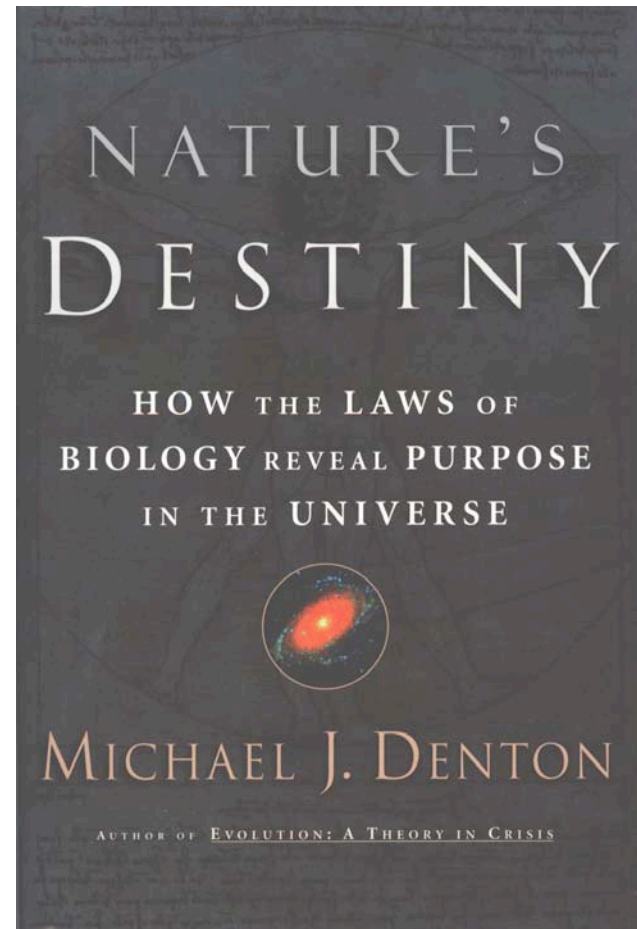
His examples are:

- The rotary flagellium of the *E coli bacterium*
- Blood clotting
- Intra-cell transport
- The immune system
- Vision



# Nature's Destiny

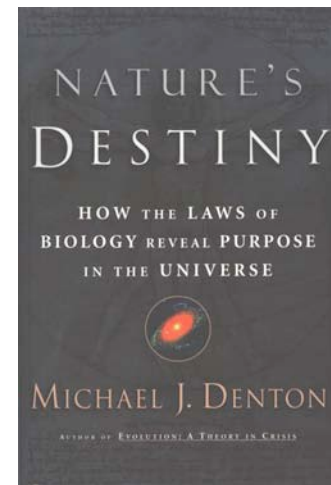
A striking example of “irreducible complexity” that spans the universe from large to small is described in the book by microbiologist Michael Denton, *Nature's Destiny* (1998).

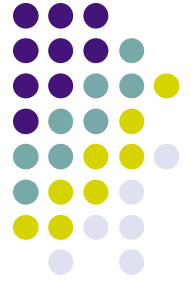


# Nature's Destiny

Denton discusses the fitness (relative to life) of:

- Water
- Light
- Elements & Earth
- Carbon
- Nitrogen
- Oxygen
- DNA
- Nanomolecules
- Metals
- The Cell
- He gives even more examples in the appendix of his book.

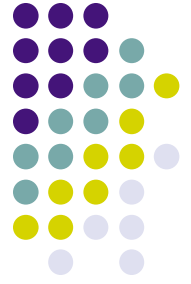




# Denton's Summary

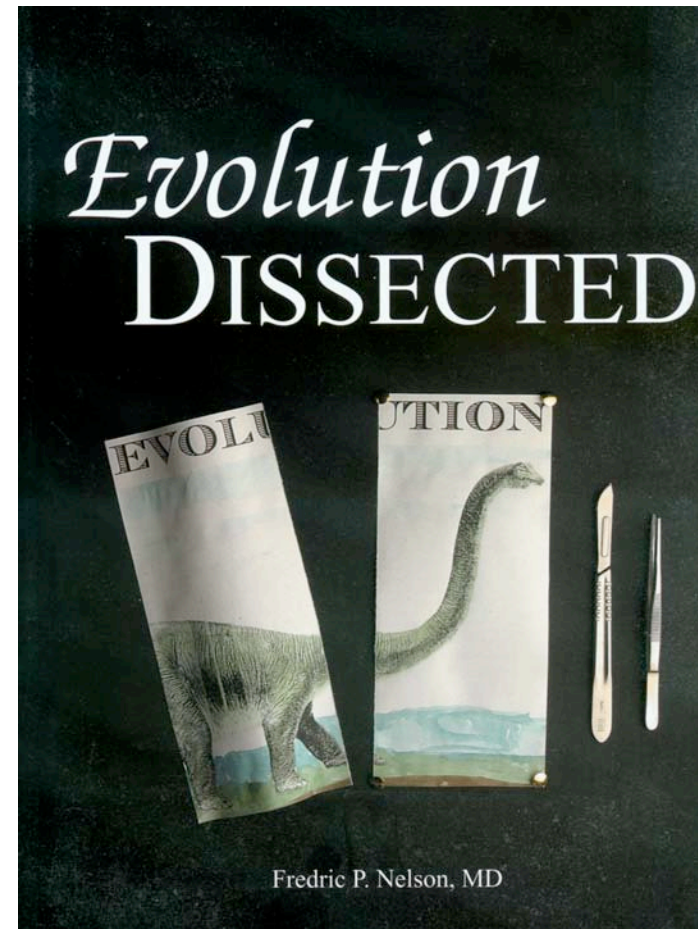
We may not have final proof that the cosmos is *uniquely* fit for life as it exists on earth – because the possibility of alternative life forms cannot yet be entirely excluded – but there is no doubt that science has clearly shown that the cosmos is *supremely* fit for life as it exists on earth. For as we have seen, the existence of life on earth depends on a large number of astonishingly precise natural and chemical properties of matter. In nearly every case these constituents are the **only** available candidates for the biological roles, and each appears superbly tailored to that particular end.

bilayer as the ... NA and protein ... and the perfect biological fit ... the alpha ... of the protein with the large groove of the ... NA. In nearly every case these constituents are the only available candidates for the biological roles, and each appears superbly tailored to that particular end. (381)

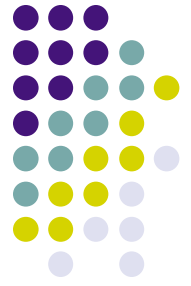


# Evolution Dissected

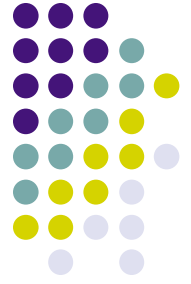
Physician Frederic Nelson has written an excellent book (2003) which seeks to provide numbers to test the claim that life and its diversity can have arisen by purely natural processes.



# Stubborn Physical Limits

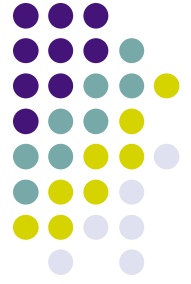


- Time – no more than 14 billion years are available,  $4.42 \times 10^{17}$  seconds.
- Matter – no more than  $10^{80}$  baryons, i.e.  $10^{80}$  nuclei or atoms, in our universe.
- Proteins – thus, no more than  $3.1 \times 10^{91}$  proteins can have contributed to the naturalistic formation of life, less than  $10^{81}$  in any one galaxy, less than  $10^{50}$  on Earth.
- Chances – no more than  $10^{50}$  tries to bring about **every step** of naturalistic evolution on Earth.



# Calculating Probabilities

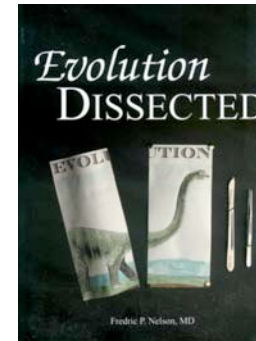
- To assemble a functional 100-amino-acid protein with complex enzymatic activity, about 1 chance in  $10^{65}$  per try.
- So, with  $10^{50}$  tries, the chance of success is one in  $10^{15}$ , one in a million billion.
- To assemble a protein of 80-amino-acid residues with even minimal enzymatic activity, there is only about one chance in  $10^{11}$  per try.



# More Probabilities

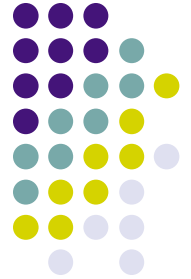
- For multiple-enzyme systems, the probability would be far less than 1 in  $10^{11}$  per try for each enzyme.
- Glycolysis (10 enzymes):  $< 1$  in  $10^{110}$
- ADP assembly (9):  $< 1$  in  $10^{99}$
- Histidine assembly (9):  $< 1$  in  $10^{99}$
- DNA polymerase (6):  $< 1$  in  $10^{66}$
- RNase (13):  $< 1$  in  $10^{143}$
- Transcription factors (10):  $< 1$  in  $10^{110}$

# Summary

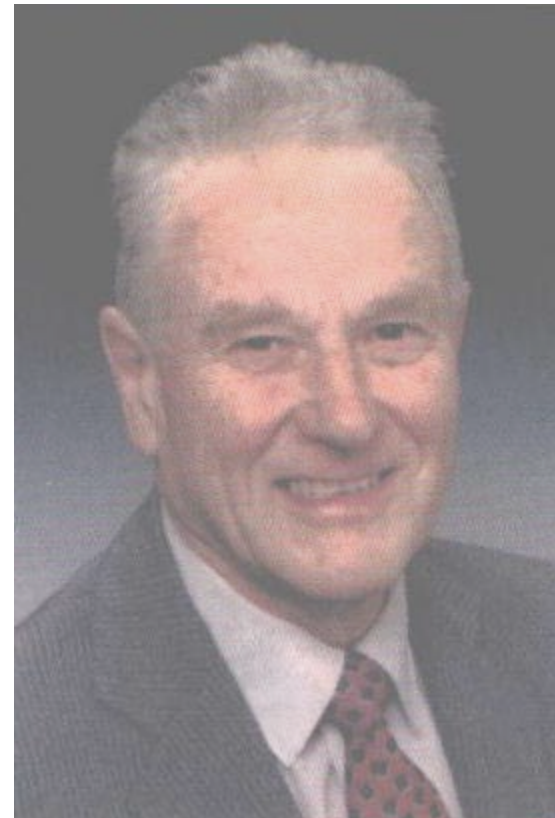


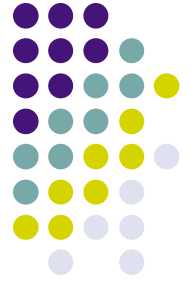
- We are not taking into account the problem of left- and right-handed amino acids...
- ...nor the problem of the needed enzymes finding each other...
- ...nor of competing reactions destroying the needed components.
- The naturalistic biochemical evolution of the first cell and naturalistic macroevolution are both highly irrational scientific hypotheses.

# The Cambrian Explosion



Walter L. Starkey, retired professor of mechanical engineering at Ohio State University and a frequent expert witness in lawsuits related to causes of mechanical failure, analyzes the origin of animals from a mechanical engineering perspective (1999).





# Evidences of a Designer

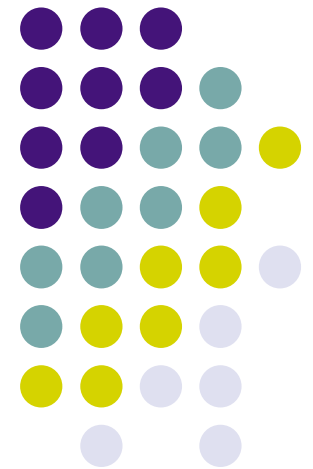
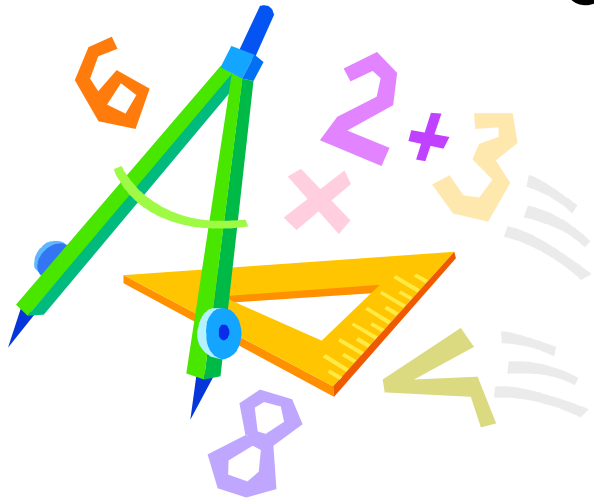
Starkey sees the following as evidence:

- Ordered arrays of materials
- Shapes of materials
- Refined materials
- Manufacturing processes
- Multipart systems
- Complex mechanical systems
- Complex chemical systems
- Artistic patterns, colors & shapes
- Clever, novel, patentable devices

All of these are present in animals from the beginning, the Cambrian Explosion

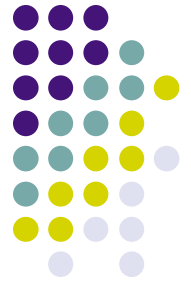
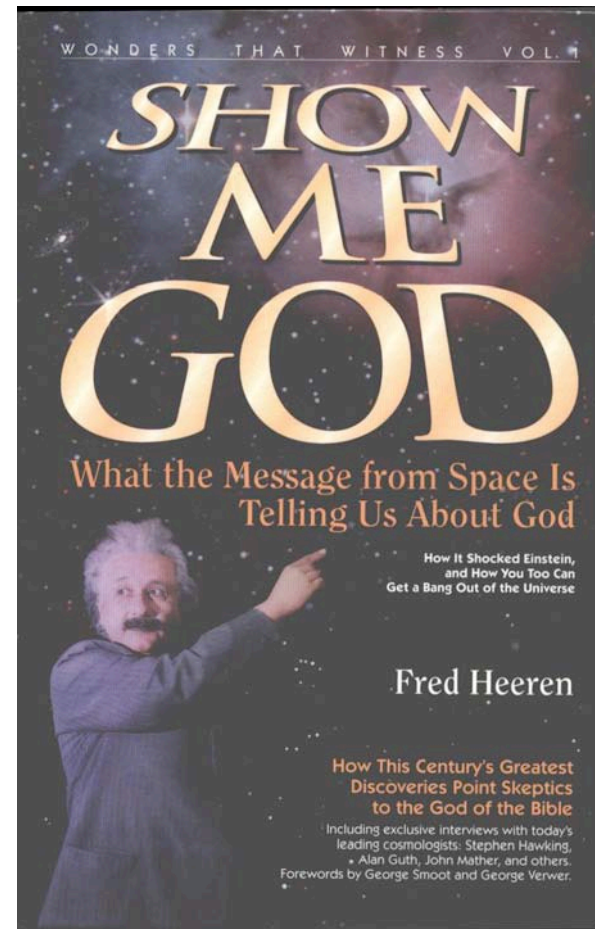
# Some Other Books

on Intelligent Design

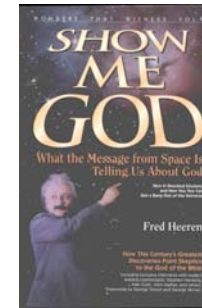


# Show Me God

Science writer Fred Heeren has put together a fascinating popular-level book subtitled “What the Message from Space is Telling Us About God” (1995).

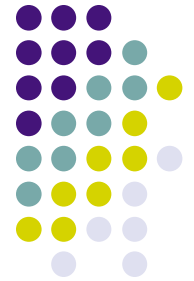
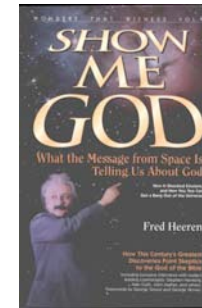


# Contents



- Part III – God & the Origin of Everything
  - Chap 4 – Is the Bible’s God the Best Explanation?
  - Chap 5 – The Non-God Explanations
  - Chap 6 – Scientific Pointers to Creation
  - Chap 7 – the Big Bang Theory
  - Chap 8 – The Bible & the Big Bang
- Part IV – Evidence of Divine Design
  - Chap 9 – Evidence of Design
  - Chap 10 – Alternative Explanations to Design
  - Chap 11 – Implications of Design

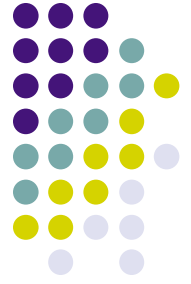
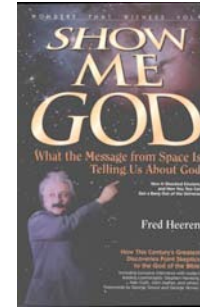
# Contents



Includes interviews with:

- Alan Guth (father of inflationary theory)
- Stephen Hawking
- Robert Jastrow
- John Mather (chief scientist for COBE)
- Jeremiah Ostriker (co-discoverer of dark matter)
- Arno Penzias (co-discoverer of cosmic black body radiation)
- George Smoot (leader of COBE team)
- James Truran (early galaxy formation)
- Robert Wilson (co-discoverer of cosmic black body radiation)

# Introduction



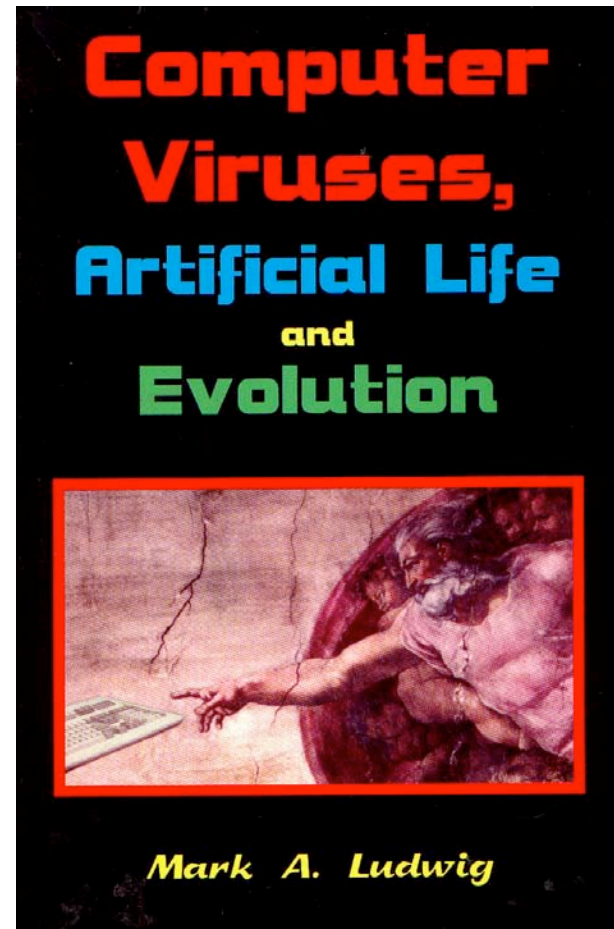
This cutting-edge book explores creation where science and religion ask the same questions and think the same thoughts .... an engaging and stimulating book that probes the frontier of science and faith, showing how they reconcile. This ground-breaking book shows that Bible believers and scientists can have a healthy and – for both – uplifting dialogue, a thing I have long felt crucial for humanity.

George F. Smoot, Lawrence Berkeley Laboratory

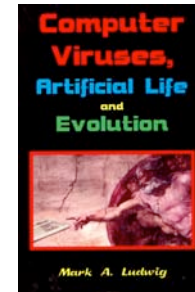
# Computer Viruses, Artificial Life and Evolution



Computer scientist Mark Ludwig, author of *The Little Black Book of Computer Viruses*, suggests that computer viruses are more like life than anything else humans have ever made (1993).



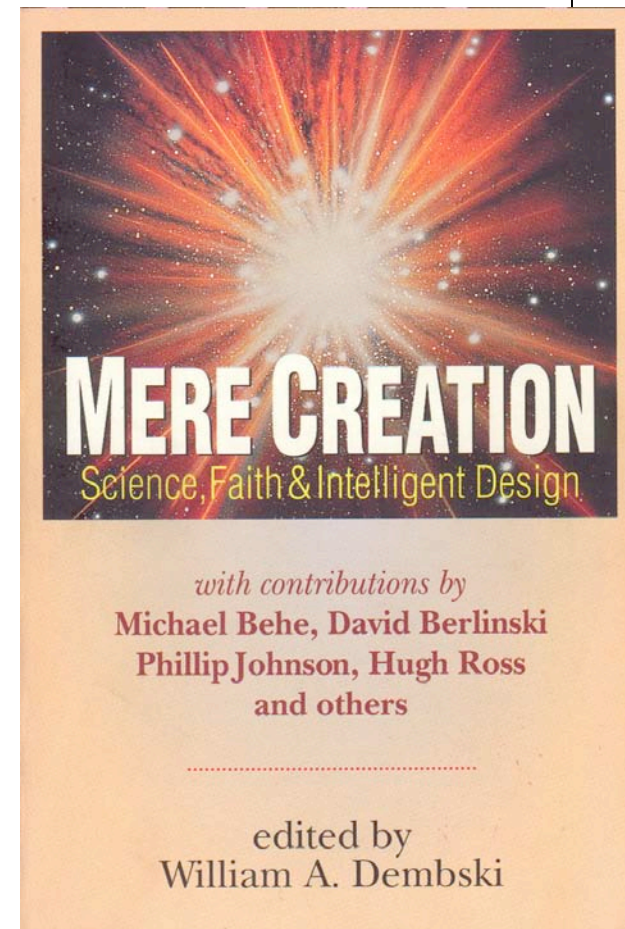
# Formation of Computer Viruses



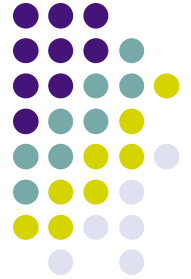
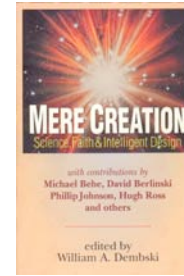
- Ludwig sponsored the 1<sup>st</sup> International Virus Writing Contest in 1993.
- The purpose was to design the smallest possible virus having a certain minimal functionality.
- The winning entry was 101 bytes in length.
- If every elementary particle in the universe were a PC generating a 101-byte file every  $10^{-26}$  sec from the big bang until now, the chance they would have produced this one is less than one chance in  $10^{109}$ .

# Mere Creation

These collected papers, edited by philosopher-mathematician William Dembski, were presented at a conference held at Biola University in 1996. Authors are scholars and scientists who reject naturalism as an adequate framework for doing science and identify with an intelligent design paradigm.



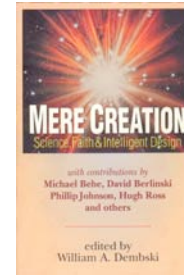
# Contents



Sections on:

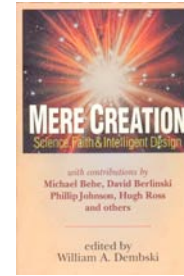
- Unseating Naturalism
- Design Theory
- Biological Design
- Philosophy and Design
- Design in the Universe

# Chapter Titles



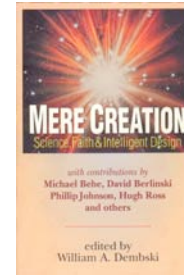
- Mere Creation – William Dembski
- Nature: Designed or Designoid – Walter Bradley
- Unseating Naturalism – Jonathan Wells
- “You Guys Lost” – Nancy Pearcey
- Redesigning Science – William Dembski
- The Explanatory Power of Design – Stephen Meyer
- Applying Design Within Biology – Paul Nelson

# Chapter Titles



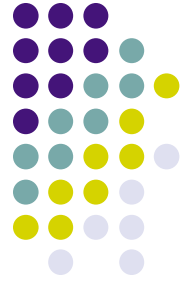
- ID Theory as a Tool for Analyzing Biochemical Systems – Michael Behe
- Basic Types of Life – Siegfried Scherer
- Apes or Ancestors? – Sigrid Hartwig-Scherer
- Evolutionary Accounts of Altruism & the Problem of Goodness by Design – Jeffrey Schloss
- The Explanatory Relevance of Libertarian Agency as a Model of Theistic Design – JP Moreland
- Design, Chance & Theistic Evolution – Del Ratzsch
- God of the Gaps – John Mark Reynolds

# Chapter Titles



- Design & the Cosmological Argument – William Lane Craig
- Big Bang Model Refined by Fire – Hugh Ross
- Design in Physics & Biology – Robert Kaita
- Gödel's Question – David Berlinski
- Artificial Life & Cellular Automata – Robert Newman
- How to Sink a Battleship – Phillip Johnson

# Obtaining These Books



All of the books mentioned in this talk are currently available on [Amazon.com](https://www.amazon.com)



# Intelligent Design

Something Worth Thinking About

