



ENTER FOR THE RENEWAL OF SCIENCE & CULTURE

The Evolution of Intelligent Design



The Design Argument

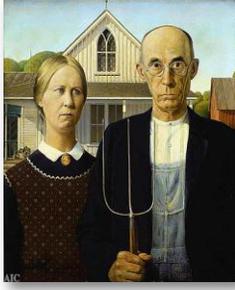


What is Intelligent Design?

- ▶ “A scientific research program that investigates the effects of intelligent causes;
- ▶ An intellectual movement that challenges Darwinism and its naturalistic legacy;
- ▶ And a way of understanding **divine** action”
 - i.e., relating to a god,
 - i.e. a being believed to have **supernatural** attributes and powers.

William Dembski, *Intelligent Design: The Bridge Between Science and Theology*, 1999, p. 3.

3 Prongs of Intelligent Design



- ▣ Life is complex and cannot be explained by naturalistic mechanisms. A scientific theory of design can explain the complexity
- ▣ Evolution as taught in public schools is fraudulent and leaves out evidence against evolution. This evidence should be taught
- ▣ Naturalistic thinking has bad consequences

1981

- ▶ *McLean v. Arkansas*
- ▶ There are **two models**:
 - (1) a supernatural, **intelligent creator** designed and created the world, or
 - (2) the world is not the result of intelligent intervention, but came about through random, mechanistic processes



Norman L. Geisler

1987

Norman Geisler & J.K. Anderson:
Origin Science: A Proposal for the Creation-Evolution Controversy

Mount Rushmore as designed.

Appendix: “Paley’s Updated Argument” talks of “specified complexity” (from 1984)



NOTICE: This opinion is subject to potential revision before publication in the official report of the United States Reports. Parties are invited to file comments on any corrections or other proposed amendments to this opinion within 10 days after the opinion goes down.

SUPREME COURT OF THE UNITED STATES

No. 85-1513

EDWIN W. EDWARDS, ET AL. APPELLANTS v. DON AQUILLARD ET AL.

ON APPEAL FROM THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

[Date 15, 1987]

JUSTICE BRENNAN delivered the opinion of the Court.

The question for decision is whether Louisiana's "Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction" Act (Creationism Act), La. Rev. Stat. Ann. §§17296.1-17296.7 (West 1982), is facially invalid as violative of the Establishment Clause of the First Amendment.

I

The Creationism Act forbids the teaching of the theory of evolution in public schools unless accompanied by instruction in "creation science." § 17296.4A. No school is required to teach evolution or creation science. If either is taught, however, the other must also be taught. *Id.* The theories of evolution and creation science are statutorily defined as "the scientific evidences for (evolution or evolution) and inferences from those scientific evidences." §§ 17296.3(C) and (D).

Appellants, who include parents of children attending Louisiana public schools, Louisiana teachers, and religious leaders, challenged the constitutionality of the Act in District Court, seeking an injunction and declaratory relief. Appellants, the Louisiana Governor, the Attorney General, the State Superintendent, the State Department of Education and the St. Tammany Parish School Board, agreed not to implement the Creationism Act pending the final outcome of this litigation. The Louisiana Board of Elementary and Secondary Education, and the Orleans Parish School Board were




1987 - '88



Phillip H. Johnson



Stephen Meyer

Michael Denton



"Although accepting as all biologists must that the overall pattern of nature is expressed by an **evolutionary tree of life**, I am **skeptical** that major evolutionary changes or macroevolution can be adequately accounted for in terms of the **Darwinian model**: that is by the **gradual accumulation of small selectively advantageous mutations**." (1989)

Michael Denton



1. Disproving **Darwinism** is not the same as disproving the theory of **common descent**.
2. An irreducible gap in **phenotypic** space cannot be taken to imply that there is a similar gap in **genotypic** space.

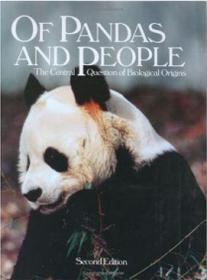
Darwinism Deftatall (1999), pp. 141 - 154.

Ad Hoc Origins Committee



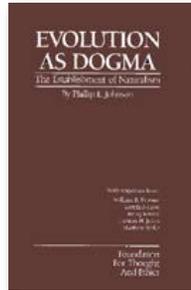
- ▶ Formed in 1987 as "a group whose advice on scientific and educational matters was sought by members of the **Christian Legal Society** being drawn into **public policy disputes in the courts**."
- ▶ "Sources of Information Content of DNA" Tacoma, 1988.
 - Charles Thaxton, Paul Nelson, William Dembski, Steven Meyer ...
- ▶ Meyer invites Johnson to meeting in 1990

1989: First Modern Definition



"**Intelligent design** means that various forms of life began abruptly through an intelligent agency with their distinctive features already intact - fish with fins and scales, birds with feathers, beaks and wings, etc."

1990: Foundation for Thought & Ethics



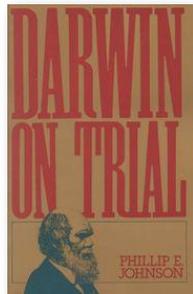
MAKING A PACIFIC NORTHWEST DISCOVERY
DISCOVERY INSTITUTE



Founded in 1991 by George Gilder and Bruce Chapman to "promote ideas in the common sense tradition of representative government, the free market and individual liberty" in the Pacific NW.

1991

Darwinism functions as the central cosmological myth of modern culture – as the centerpiece of a quasi-religious system that is known to be true *a priori*, rather than as a scientific hypothesis that must submit to rigorous testing.



1991: Michael Behe's letter to *Science*



"In his book Johnson appears to be an interested, open-minded, and very intelligent layman ..."

1992: SJ Gould's Review in *Scientific American*



"The book, in short, is full of errors, badly argued, based on false criteria, and abysmally written. ... the density of simple error is so high that I must question wider competence when attempts at extension yield such poor results. ... he performs abysmally in the lawyer's domain of the art of argument. To begin, he simply does not grasp (or chooses not to understand) the purpose and logic of evolutionary argument."

1993: *Ad Hoc* Origins Committee defends Johnson and calls for a "critical re-evaluation of Darwinism."

- ▶ Molecular & Cellular Biology (MCB) or Biochemistry – 7
- ▶ Engineering – 5
- ▶ Chemistry – 5
- ▶ Philosophy – 4
- ▶ Physics and Astronomy – 4
- ▶ Medicine – 4
- ▶ Psychology / Cognitive Science – 2
- ▶ Forestry – 1
- ▶ Entomology – 1
- ▶ Physiologist – 1
- ▶ Nutrition – 1
- ▶ Management Science – 1
- ▶ Law – 1
- ▶ Speech and Communication – 1
- ▶ Unknown "Biology" – 1

39 signatories

Darwinism: Scientific Inference or Philosophical Preference?

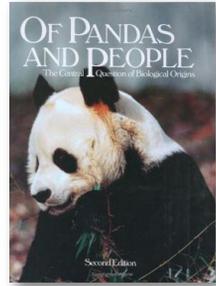
Southern Methodist University, 1992

“Darwinism and Neo-Darwinism, as generally held in our society, carry with them an *a priori* commitment to **metaphysical naturalism**, which is essential to make a convincing case on their behalf.

Organized by the Foundation for Thought and Ethics

1993

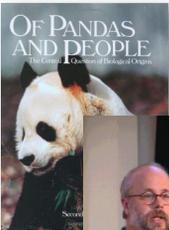
Authors, Reviewers and Editors for 2nd Edition



Percival Davis
Dean Kenyon
Charles Thaxton

John Baumgardner
Ray Bohlin
Walter Bradley
Harold Coffin
Norm Geisler
Stephen Meyer
Gordon Mills
Paul A. Nelson
Alvin Plantinga
John C. Wiester
Nancy Pearcey

Behe and Pandas

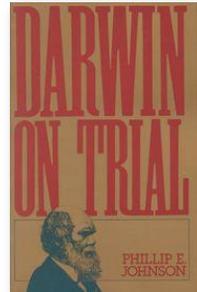


- ▶ “critical reviewer” and uncredited author (pp 141 - 146)
- ▶ Presents blood clotting as system which would fail if one part was removed and thus could not have evolved through a step-wise pathway.

1993: Second edition

Uses the term “intelligent design” (pp. 17, 119, 146, & 204).

Acknowledges prior use of the term in *Of Pandas and People*.



Pajaro Dunes Meeting (1993)

Phillip E. Johnson
Michael Behe
Paul Nelson
William Dembski
Jonathan Wells
Stephen Meyer
Dean Kenyon
Kurt Wise
Siegfried Scherer
John Angus Campbell
Walter Bradley
(+ two others)

“[The meeting] became a model for what has come to be known as the ‘intelligent design movement.’ ... What united the participants ... was a deep dissatisfaction with neo-Darwinism and its naturalistic philosophical foundation and an interest in scientifically exploring the possibility of design.”

(Nelson)

Creation Science Research Quarterly
VOLUME 31, JUNE 1994

NOT SO BLIND A WATCHMAKER

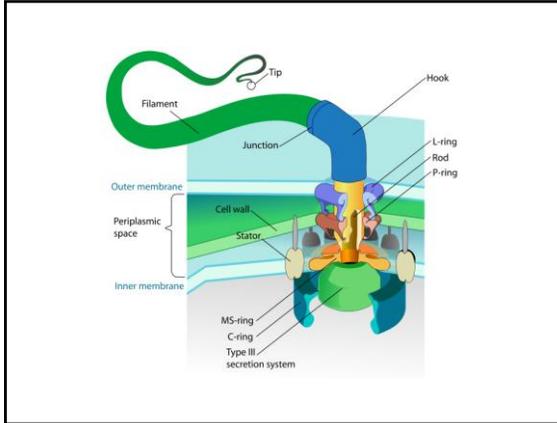
RICHARD D. LIMSDEY*
Received 11 May 1993; Revised 15 September 1993



Abstract
Structural and operational principles underlying the organization of the vertebrate retina and bacterial flagellar apparatus are revealed in the context of William Paley's classic intelligent designer vs. Richard Dawkins' contemporary “blind watchmaker” interpretations of biological origins and diversity. The significance of inverted retinal microanatomy and retinotectophysiology is diagnosed. In the process, Darwinism is exposed as a temporary, “blind watchmaker” interpretation of biological origins and diversity. The significance of inverted retinal microanatomy and retinotectophysiology is diagnosed. In the process, Darwinism is exposed as a temporary, “blind watchmaker” interpretation of biological origins and diversity. The second example is more contemporary. In terms of biological complexity, the bacterial *torax-flagellum* is without precedent in the living world. To the micromechanicians of industrial revolution, the *torax-flagellum* is without precedent in the living world. To the micromechanicians of industrial revolution, the *torax-flagellum* is without precedent in the living world. It has become an inspirational, albeit formidable challenge to the best efforts of current technology, but one ripe with potential for profitable application. The evolutionary Darwinian presents an enigma to creationists, if offers clear and compelling evidence of purposeful intelligent design.

Introduction
Among the most prized pieces of evidence for the historical presence of human beings that can be found in an anthropological dig are tools. A skilled investigator can readily distinguish such artifacts (man-made objects) from natural objects, e.g., curiously weathered rocks, by indications of manufacture (chipping, beveling, etc.) and of purposeful design (i.e., preconceived utility). The indicated parameter is *intelligence*—in this case, the capacity to conceive in the abstract the need for the implement, thus its application, to engineer a design appropriate to the task, to identify the suitable materials, and to devise the techniques for its construction; in a word, *invention*. In the earth's biosphere, intelligence of that sort is

Thus, tools, fashioned by design to one degree or another of intricacy, are diagnostic of creative intelligence, therefore of an *intelligent cause*. It follows that the more sophisticated the tools are, the greater the intelligence behind them. Thereby do Archimedes, Leonardo, and Edison warrant our accolades. From the engineering standpoint at least, the wheel, considering all its formats, might be regarded as the paramount product of innovative endeavor. Imagine the excitement if a wheel—of any kind—were one day found beneath the sands of Mars. Assuming it would not be litter traced back to an earth-based exploratory mission, SETI Search for Extraterrestrial Intelligence, budgeted for the present decade at \$100 million) would be vindicated. Irrespective of its elemental material composition or size, or how it might have been used, not one

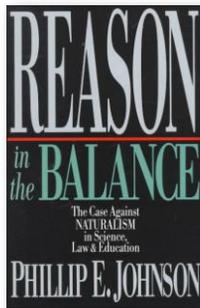


Richard Lumsden 1995



“Systems that are of **high complexity**, that is functionally integrated multicomponent systems, systems that are of **high specificity** where only one or very few of many possible arrangements of these components works, and systems which are of **low probability**, at least of spontaneous occurrence . . . these are the hallmarks of **purposefully designed** engineered systems”

1995



Center for Renewal of Science and Culture, 1996

DISCOVERY INSTITUTE

Welcome to
Discovery Institute's

Center for the Renewal of Science & Culture

About the Fellowship of
Center for the Center of Interest

Life After Materialism

For more than a century, science attempted to explain all human behavior as the subrational product of unending chemical, genetic, or environmental forces. The spiritual side of human nature was ignored, if not denied outright.



Life After Materialism

- ▶ For more than a century, science attempted to explain all human behavior as the subrational product of unbending chemical, genetic, or environmental forces. The spiritual side of human nature was ignored, if not denied outright.
- ▶ This rigid **scientific materialism** infected all other areas of human knowledge, laying the foundations for much of modern **psychology, sociology, economics, and political science**. Yet today new developments in biology, physics, and artificial intelligence are raising serious doubts about scientific materialism and re-opening the case for the supernatural.
- ▶ What do these exciting developments mean for the **social sciences** that were built upon the **foundation of materialism**? This project brings together leading scholars from the natural sciences and those from the humanities and social sciences in order to explore what the demise of **materialism** means for **reviving the various disciplines**.

George Gilder

"Darwinians ... believe in an anti-religion of materialism that liberates them to pursue pleasure any way they wish. It's the highest purpose of their existence. They thus believe in a random, futilitarian universe where - if they're existentialists - they might imagine that occasionally a heroic human being could assert some purpose above the froth of randomness, but in general, we're all doomed to decay and destruction. That's pretty much the philosophy, and it's debauched a whole century of intellect. I think we're going to transcend it in the 21st century"

Jerusalem Post, June 20th 2007

Fellows of the CRSC (1996 - '97)



Playing the Game of Science Center for Renewal of Science and Culture Fellows

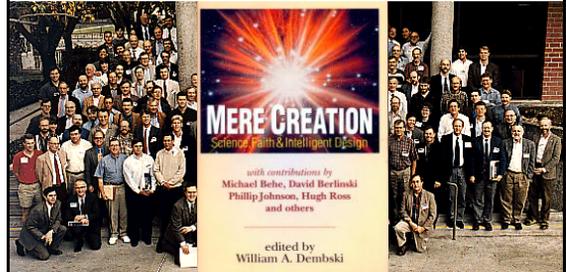
▶ Political Science	7	▶ Molecular & Cell Biol.	9
▶ Theology	5	▶ Physics	3
▶ History	5	▶ Mathematics	3
▶ Philosophy	4	▶ Chemistry	3
▶ Law	4	▶ Physiology	1
▶ Illustrator	2	▶ Engineering	1
▶ Writer	2	▶ Geology	1
▶ Rhetoric	1	▶ Psychology	1
▶ Linguistics	1		

Non-scientists (58.49%)

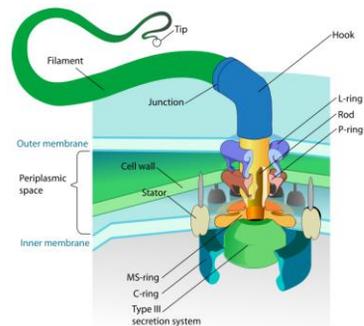
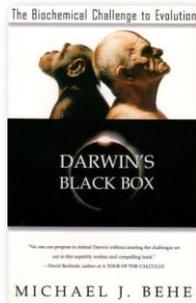
Scientists (41.51%)

Total of 53 (since 1996)

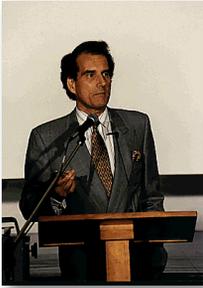
Mere Creation BIOLA, November 1996



1996

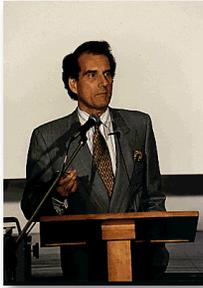


David Berlinski



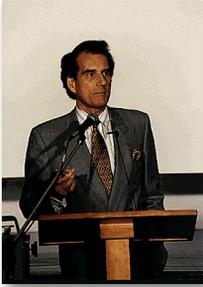
"The Deniable Darwin"
Commentary Magazine

David Berlinski



"[W]hy are women, but not cats, born without the sleek tails that would make them even more alluring than they already are?"

David Berlinski



Q: You talk very often of, and I quote, "the serious sciences." I take it you mean to exclude biology altogether. Is that your view?

A: To a certain extent. My real view is that there is only one science, and that is mathematics, and that the physical sciences are really forms of experimental mathematics."

2006

1996

Proposed by Norris Anderson who worked closely with Phillip Johnson and the Discovery Institute

A MESSAGE FROM THE ALABAMA STATE BOARD OF EDUCATION

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.

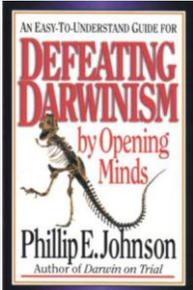
There are many unanswered questions about the origin of life which are not mentioned in your textbook, including:

- 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 so possess such a complete and complex set of "instructions" for building a living body?

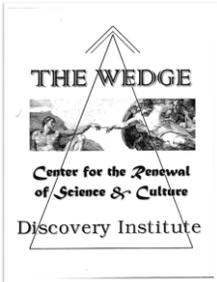
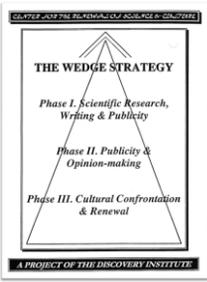
Study hard and keep an open mind. Someday, you may contribute to the theories of how living things appeared on earth.

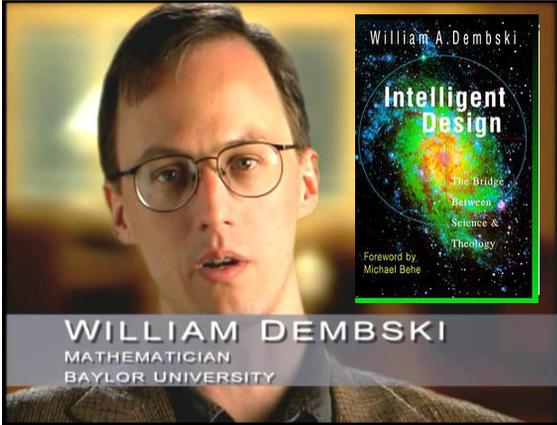
1997

"With the assistance of many friends I have developed a strategy for [affirming the reality of God by challenging the domination of materialism and naturalism] ... We call our strategy the "wedge"



The Wedge Document



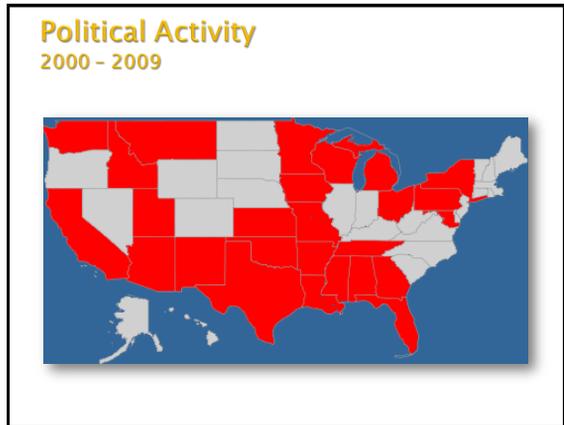
1997: The Firing Line Debate

- ▶ PBS, December '97
- ▶ "Resolved: The Evolutionists should acknowledge Creation"
- ▶ Buckley, Johnson, Behe & Berlinski *versus* Richard Lynn, Eugenie Scott, Michael Ruse & Kenneth Miller

1999

WE'RE NOT PANICKING EVOLUTION...
WE'RE JUST ELIMINATING...
ANY MENTION OF IT...
AND PRETENDING...
IT DOESN'T EXIST!

KANSAS SCHOOL BOARD



2000

DISCOVERY INSTITUTE
Center for the Renewal of Science & Culture

[E-Mail CRSC](#) / [CRSC FAQ](#)

CRSC Web Site Highlights:

- **Discovery Fellows at the Center** - A list and bio of all Center fellows. Read articles they've written too.
- **CRSC Books** - A list and description of all Center books. Pictures and ordering info as well.
- **Getting involved** - Information about what you can do to get involved with CRSC.
- **About the Center** - More

Recent Articles

[Intelligent Design is not Optimal Design](#)
By: William Dembski
MetaViews
Feb 2, 2000

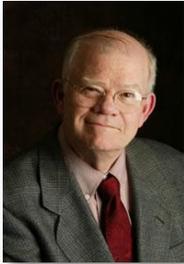
Other Articles
For a complete list of articles

2000

ICONS OF EVOLUTION
SCIENCE OR MYTH?
Why much of what we teach about evolution is wrong
JONATHAN WELLS

PHILLIP E. JOHNSON
Author of *Darwin on Trial*
THE WEDGE OF TRUTH
Splitting the Foundations of Naturalism
Foreword by Phillip H. Johnson

2001: Ohio K12 Standards



"Describe how scientists continue to investigate and critically analyze aspects of evolutionary theory."



Santorum "Amendment" to the No Child Left Behind Act (2001)



"The conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that **may generate controversy** (such as biological evolution), the curriculum should help students to understand the full range of **scientific** views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society."

2002: 100 Scientists That Doubt Darwinism

"We are skeptical of claims for the ability of **random mutation** and **natural selection** to account for the complexity of life. Careful examination of the evidence for Darwinian theory should be encouraged."



International Society For Complexity, Information, and Design

"The International Society for Complexity, Information, and Design (ISCID) is a cross-disciplinary professional society that investigates complex systems apart from external programmatic constraints like materialism, naturalism, or reductionism. The society provides a forum for formulating, testing, and disseminating research on complex systems through critique, peer review, and publication. Its aim is to pursue the theoretical development, empirical application, and philosophical implications of information- and design-theoretic concepts for complex systems."

66 Witherspoon Street, Suite 1800, Princeton, NJ

International Society For Complexity, Information, and Design

- ▶ Philosophy - 12
- ▶ Physics - 11
- ▶ MCB or Biochemistry - 8
- ▶ Engineering - 6
- ▶ Chemistry - 5
- ▶ Mathematics - 3
- ▶ Neurosciences - 3
- ▶ Computer Science - 2
- ▶ Medicine - 2
- ▶ Organismal Biology - 1
- ▶ Atmospheric Sciences - 1
- ▶ Economics - 1
- ▶ Theology - 1
- ▶ History - 1
- ▶ Communications - 1
- ▶ Linguistics - 1
- ▶ "Reality Theory" - 1

Fellows: 30% have been, or are, CSC Fellows

2002

This textbook contains material on evolution. Evolution is a theory, not a fact, regarding the origin of living things. This material should be approached with an open mind, studied carefully, and critically considered.

Approved by
Cobb County Board of Education
Thursday, March 28, 2002

A New Strategy

“Teaching the controversy about Darwinism as it exists in the scientific community will engage student interest. It will motivate students to learn more about the biological evidence as they see why it matters to a big question.”



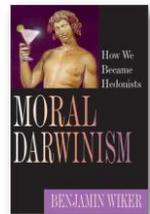
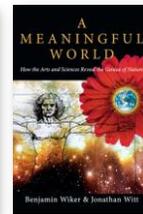
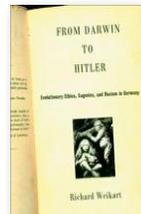
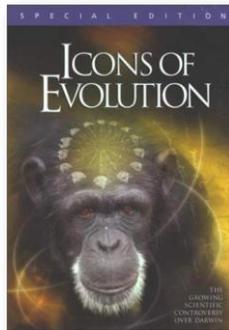
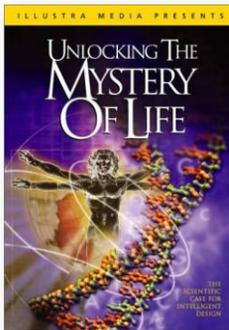
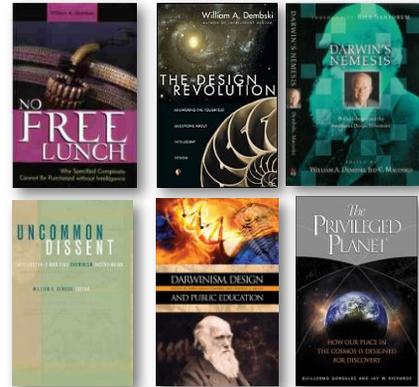
Cincinnati Enquirer, 3/30/02

Center for Science and Culture,

DISCOVERY INSTITUTE
Center for Science & Culture

The Center:
[The Center's Name Change](#)
[Discovery Fellows at the Center](#) - A list and bios of all Center fellows
[Center Books](#) - A list and description of all Center books, including pictures and ordering information
[Getting involved](#) - Information about what you can do to get involved with Center
[About the Center](#) - More information about our mission and what we do

Recent Articles
[Man and Beast: Matthew Stoll's Study Alerts for Kingdom to Animals](#) By: Wesley J. Smith
 October 28, 2002
[Becoming a Disciplined Science: Progress, Pitfalls, and Reality Check for ID](#)
 By: William A. Dembski
 International Society for Complexity, Information & Design
 October 28, 2002



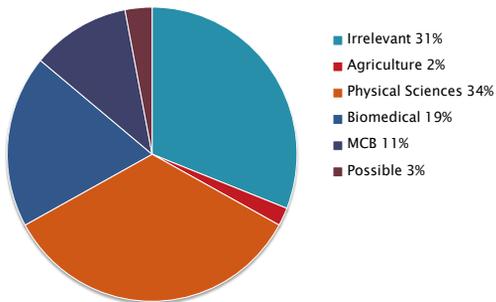
2004: Composition of 300 Signatories

Physical Sciences	97
Engineering	43
Molecular & Cellular Sci.	39
Medicine & Health Prof	20
Math & Statistics	17
Physiology	14
Environmental Science	10
Microbiology	9
Computer Science	8
Geology	6
Pharmacology	5
Psychology	5
Neurosciences	4
Exercise Science	4
Anthropology	4
Dairy or Animal Science	4
Philosophy	3
Veterinary Medicine	2
Agronomy	1
Unknown	7

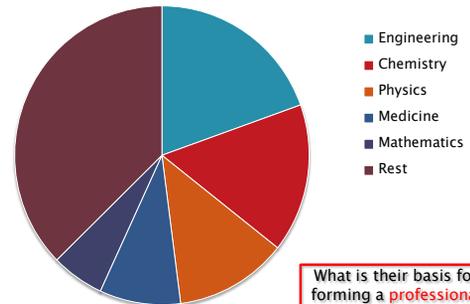
Organismal biology – 5

Entomology – 4
Biogeography – 1

2008: 703 Signatories



Five Largest Groups



What is their basis for forming a professional opinion on evolution?

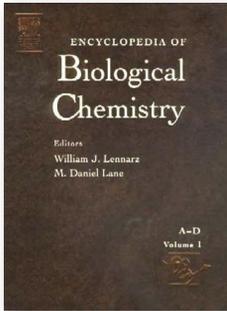
Why Engineers?

- ▶ The "Salem Hypothesis"
 - "Education in the engineering disciplines forms a predisposition to scientific creationist viewpoints."
- ▶ Creationists with advanced degrees are often engineers and these are by far the most religious group among academics
- ▶ "A disproportionate share of engineers seems to have a mindset that inclines them to entertain the quintessential right-wing features of monism", i.e. that there is one best – and simple – solution (Gambetta & Hertog, 2007).
- ▶ Engineering is an applied science (a technological field) that assumes design.

Why MCB / Biomedical?

"I believe that unless biologists have dissected real animals or experienced natural diversity for themselves, they are not worthy of the name. It was this same exposure that sowed the seeds of evolution in the mind of the young Darwin, turning him away from the theoretical, typological views of German *Naturphilosophie* that resonate still in those who argue for the presence of a designing hand. The artificial environment of the lab rat is as rarefied as the thoughts of Plato and Aristotle, the philosophy from which this idea derives. It no coincidence that it is in these very environments that Intelligent Design finds its most willing converts." (Henry Gee)

Biological Chemistry



- ▶ Academic Press, 2004
- ▶ Four volumes
- ▶ 518 entries covering "all aspects of biochemistry, as well as the extensions of this subject into the related fields of molecular biology, cell biology, genetics and biophysics."
- ▶ No entries on evolution, Darwinism, natural selection, phylogeny, etc.

Coverage in Textbooks (Data from Behe, 1996)

▶ Lehninger, 1993	22 of 8,000
▶ Devlin, 1992	0 of 5,000
▶ Stryer, 1995	9 of 4,000
▶ Voet & Voet, 1995	13 of 10,000
▶ Mathews & VanHolde, 1990	9 of 6,000
▶ Horton, 1993	11 of 4,500
▶ Moran, 1994	12 of 9,000
▶ Zubay, 1995	2 of 7,000
▶ Armstrong, 1989	0 of 4,000
▶ Ables, 1992	0 of 4,500
▶ Garrett & Grisham, 1995	5 of 6,000
▶ Gilbert, 1992	0 of 1,000

"Many textbooks ignore evolution completely ... [Students] do not learn how Darwinian evolution might have produced any of the remarkable intricate biochemical systems that those texts describe."

ASU ARIZONA STATE UNIVERSITY			COLLEGE OF LIBERAL ARTS AND SCIENCES		
Department of Chemistry and Biochemistry			Search: <input type="text"/> Go		
2006-2007					
BIOCHEMISTRY MAJOR – BACHELOR OF SCIENCE DEGREE					
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY					
MAJOR REQUIREMENTS			ALTERNATIVE SEQUENCE		
Course	Title	Hrs	Course	Title	Hrs
CHM 117	Gen Chem Majors	4	CHM 113	General Chem	5
CHM 118	Gen Chem Majors	4	CHM 116	Gen Chemistry	4
CHM 333	Org Chem Majors	3	CHM 333	Gen Organic Chem	3
CHM 337	Org Chem Lab Majors	1	CHM 337	Gen Org Chem Lab	1
CHM 334	Org Chem Majors II	3	CHM 334	Gen Organic Chem	3
CHM 338	Org Chem Lab Maj II	1	CHM 338	Gen Org Chem Lab	1
CHM 341	Elem Physical Chem	3	If the 333-338 Organic Chemistry sequence is used students will need to take additional electives upper division in order to meet the university minimum of 45 hours upper division hours.		
BCH 461	Gen Biochemistry	3	Elective choices: BCH 392, 465		
BCH 462	Gen Biochemistry	3	CHM 325, 327, 424, 431, 453, 471, 481, 485		
BCH 463	Biophysical Chem	3			
BCH 464	Biophys Chem Lab	2			
BCH 467	Analy Biochem Lab	3			
CHM/BCH elective		3			
Related Courses					
BIO 187	General Biology I	4			
BIO 188	General Biology II	4			
BIO 340	General Genetics	4			
BIO 353	Cell Biology	3			
MAT 270	Calculus w/Geom I	4			
MAT 271	Calculus w/Geom II	4			
PHY 111	General Physics	3			
PHY 113	Gen. Physics Lab	1			
PHY 117	General Physics	3			
PHY 114	Gen. Physics Lab	1			

Graduate Courses in Biochemistry

BCH 561: Advanced Topics in Biochemistry (spring) (3 hr)

Topics selected from emerging areas of biochemistry based primarily on current literature. Subject areas may include: genomics, proteomics, bioinformatics, protein-DNA interactions, molecular basis of diseases and aging, in vivo protein folding and misfolding, cellular trafficking and protein transport, structure and function of membrane proteins. Part of the graduate Biochemistry core curriculum.

Prerequisite: BCH 462

BCH 563: Biophysical Chemistry (fall) (3 hr)

Structure, thermodynamics and folding of proteins and nucleic acids. Principles of biophysical methods used to study biological macromolecules. Selected topics may include: Structural classification of proteins, non-covalent interactions, thermodynamic parameters, protein stability, dominant forces in protein folding, structural principles of DNA, RNA folds and ribozymes, macromolecular crowding. Selected methods may include macromolecular x-ray crystallography, hydrogen exchange experiments, calorimetry, single molecule fluorescence, atomic force microscopy, and cryo-electron microscopy. Part of the graduate Biochemistry core curriculum.

Prerequisite: BCH 462, CHM 346

BCH 566: Molecular Mechanisms of Photosynthesis (alternate years) (3 hr)

Introduction to the underlying principles and current understanding of the process of photosynthesis. Structure and function of photosynthetic complexes. Mechanism of energy conversion in plants, bacteria, and model systems. Specific topics may include: photosynthetic organisms, gene regulation, evolution, membrane organization, biosynthesis and assembly, pigment and antenna complexes, electron transfer reactions, proton pumps, cytochromes, photosystem I and II, ATP synthase, carbon dioxide metabolism, and model systems of photosynthesis. Cross-listed as PLB 556. Credit is allowed for only BCH 566 or PLB 556.

Prerequisite: instructor approval.

CHM 596: Biological Photochemistry (selected semesters) (3 hr)

Photochemistry and photophysics of pigment molecules. Emphasis is placed on photobiological processes. Topics may include: dipole transition moment, electronic structure and relaxation of excited states, time-resolved spectroscopy, excimers, charge-transfer complexes and exciplexes, photoinduced energy and electron transfer, photoisomerization in vision, photochemistry of DNA.

Prerequisite: instructor approval.

National Center for Science Education Project Steve

▶ Just "Steve" / "Stephanie" etc ...

▶ 1% of PhD scientists

▶ 1036 signatories in Feb 2009

▶ Implies ~100,000 in agreement (versus 700!)

Over 700 Scientists named Steve agree

Evolution is a vital, well-supported, unifying principle of the biological sciences, and the scientific evidence is overwhelmingly in favor of the idea that all living things share a common ancestry. Although there are legitimate scientific debates about the patterns and processes of evolution, there is no serious scientific dispute that evolution occurred or that natural selection is a major mechanism of evolution. It is scientifically inappropriate and pedagogically irresponsible for creationist pseudoscience, including but not limited to "intelligent design," to be introduced into the science curricula of the public schools.

Teach Evolution!

Kansas 2005

Allow supernatural explanations

"Science is the human activity of seeking **natural explanations** for what we observe in the world around us."

"Science is a systematic method of continuing investigation that uses observation, hypothesis testing, measurement, experimentation, logical argument and theory-building to lead to **more adequate explanations** of natural phenomena."

Majority Draft

Board Change



Connie Morris

Charles Thaxton

Jonathan Wells

Giuseppe Sermonti



Warren A. Nord

Q: Is it also your opinion, sir, that it is important to have religion taught in economics?

A: Oh, for sure.

Q: Mathematics?

A: That's a harder case, but you can actually make a case for that. I'll be happy to do it if you like.

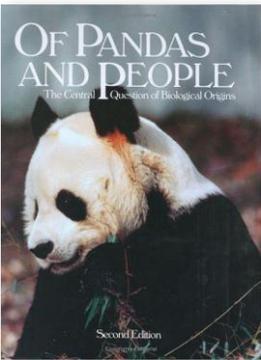
Jan 2005: Dover PA

The Pennsylvania Academic Standards require students to learn about Darwin's Theory of Evolution and eventually to take a standardized test of which evolution is a part.

Because Darwin's Theory is a **theory**, it continues to be tested as new evidence is discovered. **The Theory is not a fact.** Gaps in the Theory exist for which there is no evidence. A theory is defined as a well-tested explanation that unifies a broad range of observations.

Intelligent Design is an explanation of **the origin of life** that differs from **Darwin's view**. The reference book, *Of Pandas and People*, is available for students who might be interested in gaining an understanding of what **Intelligent Design** actually involves.

With respect to any theory, students are encouraged to keep an open mind. The school leaves the discussion of the Origins of Life to individual students and their families. As a Standards-driven district, class instruction focuses upon preparing students to achieve proficiency on Standards-based assessments.



"**Intelligent Design** is an explanation of **the origin of life** that differs from **Darwin's view**. The reference book, *Of Pandas and People*, is available for students who might be interested in gaining an understanding of what **Intelligent Design** actually involves."

2005: Kitzmiller v. Dover



Expert Witnesses for Plaintiffs



Ken Miller
Biology, Brown.



Barbara Forrest
History, SELU



Kevin Padian
Paleontology, Berkeley



Robert Pennock
Philosophy of Science,
Michigan



Brian Alters
Education, McGill



Jack Hought
Theology, Georgetown

Expert Witnesses for Defendants



Michael Behe
(biochemistry,
Lehigh)



Scott Minnich
(microbiology, Idaho)



Steve Fuller
(sociology of science,
Warwick, UK)

Dropped out:
John Angus Campbell
William Dembski
Stephen Meyer
Dick Carpenter
Warren Nord



Unbiased biology textbook planned



A high school biology textbook is in the planning stages that will be sensitively written to "present both evolution and creation while limiting discussion to scientific data." Dr. Charles B. Thaxton is science advisor to the project and hopes to draw together an editorial board made up of both creationists and evolutionists.

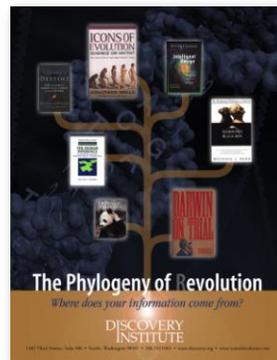
The author selected is a teaching biologist with two McGraw-Hill books in print. A program of market research for this possible three year project is underway. For more information or input contact Dr. Thaxton at the Foundation for Thought and Ethics, P.O. Box 721, Richardson, TX 75080.

Origins Research 4(2): 1 [1981]



Design or Coincidence?

1. Life is complex and cannot be explained by naturalistic mechanisms. A scientific theory of design can explain the complexity (pace Brennan)
 - ❑ Exemplified by "irreducible complexity" (Michael Behe) and "complex specified information" (William Dembski)
2. Evolution as taught in public schools is fraudulent and leaves out evidence against evolution. This evidence should be taught (pace Scalia)
 - ❑ Exemplified by Jonathan Wells' *Icons of Evolution*



Shifting Audiences post-Dover

"The Darwinists have had their young people long enough to shape, subvert, and corrupt. Send them to www.overwhelmingevidence.com and mobilize this sleeping giant! The old guard is not going to change. The hope of the future lies with our youth. The new ... site is modeled on Xanga and Myspace and aimed at concentrating the power of youth to throw off the indoctrination that is being shoved down their throats by groups like the NCSE and enforced by inept judicial rulings like those of Judge Jones (note the image of Jones on the splash page). The NCSE, the ACLU, Jones, etc. have effectively disenfranchised our young people when it comes to the teaching of biological origins. Today's high school and college students are going to need to reclaim their own freedom."

William Dembski, Sept 2006: <http://www.uncommondescent.com/archives/1668>

"Why student activism is the key to winning this war"

"This war will not be decided by courts, legislators, or school boards, but by young people as they wake up to the fact that dogmatic Darwinists have been systematically indoctrinating and disenfranchising them. Just as the counterculture of the 60s overturned the status quo, so a new counterculture, with high school, college, and university students taking the lead, will overturn the Darwinian status quo."

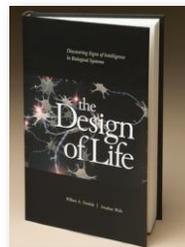
[Dembski, Uncommon Descent, August 2, 2006]

The screenshot shows the Biola University website for the 'id 2006 conference'. The header includes navigation links: Home, About Biola, Admissions, Academics, Athletics, Student Life, Bookstore, Site Directory, and Contact Us. The main content area features the title 'id 2006 conference' and 'INTELLIGENT DESIGN UNDER FIRE'. Below this, it states 'Experts Cross-Examine the Top Proponents of Intelligent Design Theory' and 'May 12' at the 'Sutherland Auditorium, Biola University'. A row of five speaker portraits is shown with their names: Mike Behe, Bill Dembski, Paul Nelson, Guillermo Gonzalez, and Jonathan Wells. A sidebar on the left contains links for 'ID Home', 'about biola and id', 'intelligent design under fire', 'conference speakers', 'id & the future of science 2004 conference', and 'contact info'. The footer reads 'strengthening mind and character | BIOLA'.

The flyer is for the 'Loving God With All Your Mind Conference'. It lists several speakers: N.T. Wright, D.Phil., D.D.; Gary Habermas, Ph.D.; William Lane Craig, Ph.D., D.Theol.; Craig J. Hazen, Ph.D.; Greg Kouss, M.A.; Steve Meyer, Ph.D.; Craig Blomberg, Ph.D.; Doug Geivett, Ph.D.; Guillermo Gonzalez, Ph.D.; Garry Delreese, Ph.D.; David A. Horner, D. Phil.; Michael Behe, Ph.D.; and 'and many more!'. It provides registration information: 'Register Online' with times '7:30-9:30pm, November 16 & 17' and '11:00am-5:00pm, November 18'. The location is 'McLean Bible Church, 2929 Leesburg Pike, Vienna, VA 22182'. A quote at the bottom reads: 'Washington, D.C. Center of American politics and worldwide focus. Historical and timeless, modern and fast-paced, yet home to thousands in desperate need of the truth. Here in the seat of power we ask, "What does it mean to love God with all your heart, mind, soul and strength?" Biola is set to have a major impact in Washington this November. In conjunction with the Evangelical Outreach Center at McLean Bible Church, the event will be a major step in the battle for the soul of America.'

The flyer is for 'The Case for a Creator' seminar. It lists speakers: Lee Strobel, Craig Hazen, JP Moreland, Jay Richards, John Bloom, Steve Meyer, William Lane Craig, Michael Behe, and Jonathan Wells. It features an image of the book 'The Case for a Creator' by Lee Strobel. Registration information: 'Register Online' on 'Thursday, December 7, 7:30-9:30pm' at 'Chase Gymnasium, Biola University'. A quote states: 'Witness the launch of a much anticipated new DVD product based on Lee Strobel's best selling book. Hear from scholars who are helping to win the debate over Darwinism in our time.' Another quote says: 'Join us at this exclusive free event and receive a free copy of the DVD The Case for a Creator provided by Illustra Media (one DVD per family, please).' Contact information: 'For information on this exclusive seminar, please contact: The Christian Apologetics Program, Phone: 888.332.4492 (toll free), apologetics@biola.edu'.

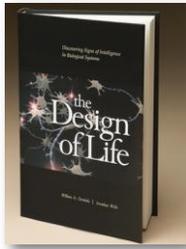
2007: Pendas, Take 3



"When future intellectual historians list the books that toppled Darwin's theory, *The Design of Life* will be at the top"

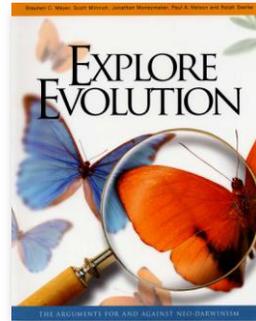
Michael Behe

2007: Pendas, Take 3



- ▶ Human Origins
- ▶ Genetics and Macroevolution
- ▶ The Fossil Record
- ▶ The Origin of Species
- ▶ Similar Features
- ▶ Irreducible Complexity
- ▶ Specified Complexity
- ▶ Origin of Life

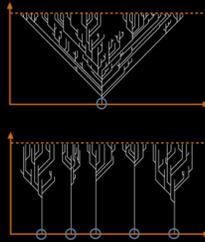
2007



- ▶ Fossil succession
- ▶ Homology
- ▶ Embryology
- ▶ Biogeography
- ▶ Natural Selection
- ▶ Mutation
- ▶ Molecular Machines

Two Views of Life

- One branching tree ("monophyletic" view)
- Orchard of trees ("polyphyletic" view)



THE ARGUMENTS FOR AND AGAINST NEO-DARWINISM

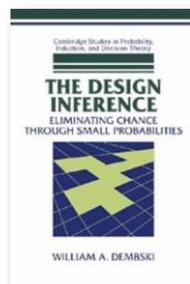
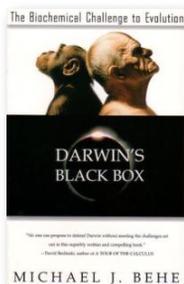
EXPLORE EVOLUTION

Some Questions about ID



1. How do you reliably **detect** organized complexity due to a designer (*versus* natural causation)?
2. What about the **mechanism** used by the designer?
3. What can you clearly infer about the **identity** of the designer(s) from an artifact?

Q1: Detection?



Shift from discussion of design of **organs** and **organisms** to design of **information** (DNA).

Biology becomes a part of **information theory**.

William Dembski (2007)



"If I ever became the president of a university ... I would dissolve the biology department and divide the faculty with tenure that I couldn't get rid of into two new departments: those who know engineering and how it applies to biological systems would be assigned to the new 'Department of Biological Engineering'; the rest, and that includes the evolutionists, would be consigned to the new 'Department of Nature Appreciation' (didn't Darwin think of himself as a naturalist?)."

<http://www.uncommondescent.com/archives/1945>

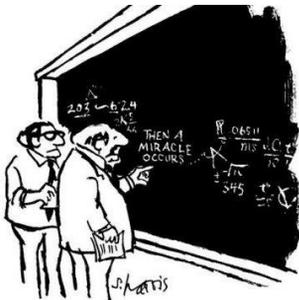
Q2: Mechanism?



"I'm not going to take the bait. You're asking me to play a game: 'Provide as much detail in terms of possible causal mechanisms for your ID position as I do for my Darwinian position.' ID is not a mechanistic theory, and it's not ID's task to match your pathetic level of detail in telling mechanistic stories. If ID is correct and an intelligence is responsible and indispensable for certain structures, then it makes no sense to try to ape your method of connecting the dots."

http://www.iscid.org/ubbcgi/ultimatebb.cgi?ubb=get_topic;f=6;t=000152;p=3

2001



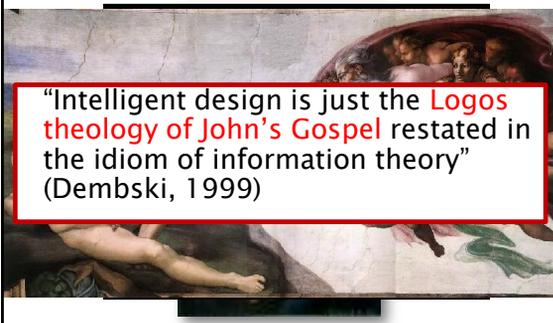
"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

Q3: The Designer?

"If theistic science or intelligent design theory is to become a progressive research program, it must do more than poke holes in the evidence for Darwinism: **it must acquire auxiliary hypotheses about the intentions and preferences of the designer** from which we can generate specific, testable predictions and informative explanations."

Rob Koons, *Naturalism, Theism and the Scientific Enterprise (Final Conference Report)*, 1997
www.leaderu.com/offices/koons/docs/ntsereport.html

The Designer?



"Intelligent design is just the **Logos theology of John's Gospel** restated in the idiom of information theory" (Dembski, 1999)

William Dembski

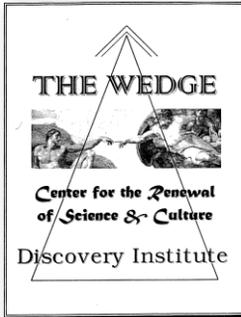


Q: Does your research conclude that God is the Intelligent Designer?

A: ... The Designer of intelligent design is, ultimately, the Christian God.

CitizenLink interview (12/14/2007)
<http://www.citizenlink.org/content/A000006139.cfm>

Phillip Johnson, 2000



“The **Wedge of Truth** ... enables people to recognize that **‘In the beginning was the Word’** is as true scientifically as it is in every other respect”

Five Year Goals



- To see intelligent design theory as an accepted alternative in the sciences and scientific research being done from the perspective of design theory.
- To see the beginning of the influence of design theory in spheres other than natural science.
- To see major new debates in **education, life issues, legal and personal responsibility** pushed to the front of the national agenda
- A major public debate between design theorists and Darwinists
- Thirty published books on design and its cultural implications (**sex, gender issues, medicine, law, and religion**)
- One hundred scientific, academic and technical articles by our fellows
- Significant coverage in national media

The Wedge Document (1998)

Twenty Year Goals



- To see intelligent design theory as the dominant perspective in science.
- To see design theory application in specific fields, including **molecular biology, biochemistry, paleontology, physics and cosmology** in the natural sciences, **psychology, ethics, politics, theology and philosophy** in the humanities; to see its influence in the **fine arts**.
- To see design theory permeate our **religious, cultural, moral and political life**.

The Wedge Document (1998)

New York Times 21st August 2005

“Since its founding in 1996, the [Center for Science and Culture] has spent 39% of its \$9.3 million [i.e. ~ **\$3.6 million**] on research, Dr. Meyer said, underwriting books or papers, or often just paying universities to release professors from some teaching responsibilities so that they can ponder intelligent design.”

Bruce Chapman



“If I were to carry around Discovery fellows' **peer-reviewed science journal articles** on Darwinian theory and intelligent design I would need a suitcase, not a coat pocket.”

http://www.spectator.org/dsp_article.asp?art_id=11929 (2007)

Playing the Game of Science

ID-relevant publications (1991 to 2009)

- Truth
- American Spectator
- Metaviews
- First Things
- Cosmic Pursuit
- Crisis
- Boston Review
- Forbes
- Commentary
- The Real Issue
- Origins & Design
- Intercollegiate Review
- Commercial Appeal
- Faith & Philosophy
- World
- Human Events
- Jubilee
- Touchstone
- New York Times
- Washington Times

- Philosophy of Science
- British Journal for the Philosophy of Science
- Princeton Theological Review
- Perspectives on Science & Christian Faith
- Biology & Philosophy
- Utah Law Review
- San Diego Law Review

The “peer-reviewed science journal articles.”

- Proceedings of the Biological Society of Washington (Meyer)
- Protein Science (Behe)
- Rivista di Biologia (Wells)

Five Year Goals



- To see intelligent design theory as an accepted alternative in the sciences and scientific research being done from the perspective of design theory.
- To see the beginning of the influence of design theory in spheres other than natural science.
- To see major new debates in education, life issues, legal and personal responsibility pushed to the front of the national agenda.
- A major public debate between design theorists and Darwinists.
- Thirty published books on design and its cultural implications (sex, gender issues, medicine, law, and religion).
- One hundred scientific, academic and technical articles by our fellows.
- Significant coverage in national media.

Governing Goals



- To defeat scientific materialism and its **destructive moral, cultural and political legacies.**
- To replace materialistic explanations with the **theistic** understanding that nature and human beings are created by **God.**

The Wedge Document (1998)

Recapturing America



"[We're the ones that stand for good science, objective reasoning, assumptions on the table, a high level of education, and freedom of conscience to think as we are capable of thinking. That's what America stands for, and that's something we stand for, and that's something the Christian Church and the Christian Gospel stand for – the truth that makes you free. Let's recapture that, while we're recapturing America."

William Dembski



"This is really an opportunity to mobilize a new generation of scholars and pastors not just to equip the saints but also to **engage the culture and reclaim it for Christ.** That's really what is driving me."

Initial Funding for CRSC

- ▶ Stewardship Foundation
 - Created "to contribute to the propagation of the Christian Gospel by evangelical and missionary work and to teach the Christian faith as laid down in the Old and New Testaments of the Holy Scriptures."
- ▶ The Maclellan Foundation
 - Goal of "funding strategic evangelical, Christian organizations" and "furthering the Kingdom of Christ"
- ▶ Fieldstead & Company
 - Howard Ahmanson – "My purpose is total integration of Biblical law into our lives."
 - Involved with R.J. Rushdoony's Chalcedon Foundation

Chalcedon Foundation

"We believe that the whole Word of God must be applied to all of life. It is not only our duty as individuals, families and churches to be Christian, but it is also the duty of the state, the school, the arts and sciences, law, economics, and every other sphere to be under Christ the King. Nothing is exempt from His dominion. We must live by His Word, not our own."

Gary North



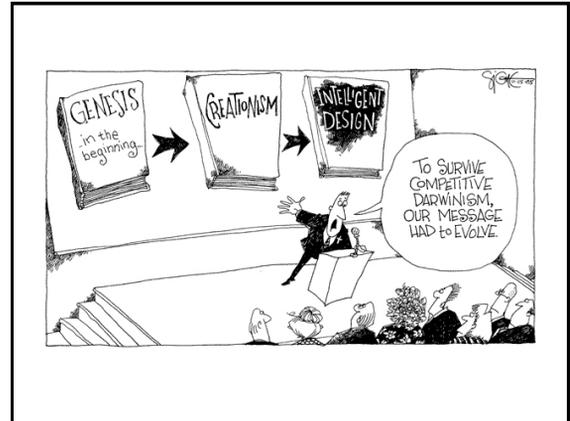
"We must use the doctrine of religious liberty to gain independence for Christian schools until we train up a generation of people who know that there is no religious neutrality, no neutral law, no neutral education, and no neutral civil government. Then they will get busy in constructing a Bible-based social, political and religious order which finally denies the religious liberty of the enemies of God."

George Grant (1987)

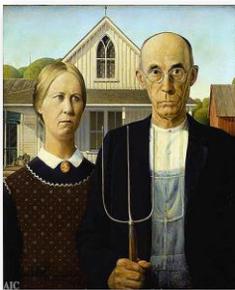
"Christians have an obligation, a mandate, a commission, a holy responsibility to reclaim the land for Jesus Christ – to have dominion in civil structures, just as in every other aspect of life and godliness. But it is dominion we are after. Not just a voice. It is dominion we are after. Not just influence. It is dominion we are after. Not just equal time. It is dominion we are after. World conquest. That's what Christ has commissioned us to accomplish. And we must settle for nothing less."

How are Young Earth Creationism and Intelligent Design related?

- ▶ Same arguments (design, gaps in fossil record, etc)
 - Avoid the issue of the age of the Earth ("big tent")
- ▶ Shared support base
- ▶ Same interest in cultural renewal



3 Prongs of Intelligent Design



- Life is complex and cannot be explained by naturalistic mechanisms. A scientific theory of design can explain the complexity (**Behe & Dembski**)
- Evolution as taught in public schools is fraudulent and leaves out evidence against evolution. This evidence should be taught (**Wells**)
- Naturalistic thinking has bad consequences