

Déjà vu All Over Again: Comparing Opposition to Evolution and Global Warming



April 23, 2013

CLN Webinar

**Eugenie C. Scott,
Ph.D.**

Executive Director

National Center for Science
Education, Inc.

WWW.NCSE.com

NHT 3/4/10 PA1, A4

Darwin Foes Add Global Warming to the Target List

From Page A1

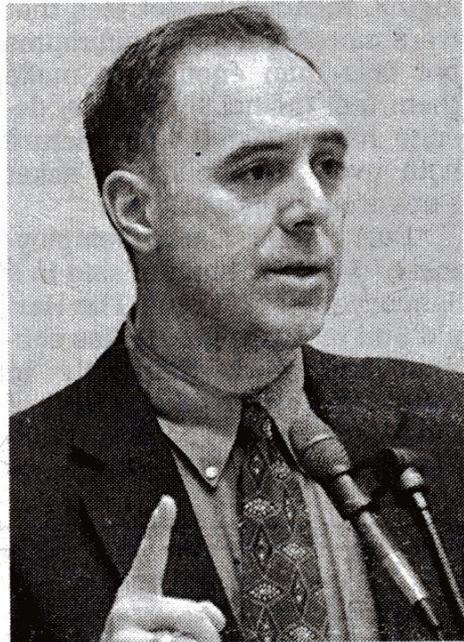
and global warming.

Oklahoma introduced a bill with similar goals in 2009, although it was not enacted.

The linkage of evolution and global warming is partly a legal strategy: courts have found that singling out evolution for criticism in public schools is a violation of the separation of church and state. By insisting that global warming also be debated, deniers of evolution can argue that they are simply championing academic freedom in general.

Yet they are also capitalizing on rising public resistance in some quarters to accepting the science of global warming, particularly among political conservatives who oppose efforts to rein in emissions of greenhouse gases.

In South Dakota, a resolution calling for the "balanced teaching



BUD CRAFT/LEGISLATIVE RESEARCH COMMISSION, VIA ASSOCIATED PRESS

"Our kids are being presented theories as though they are facts," said State Representative Tim Moore of Kentucky.

Yet there is little doubt that the skepticism about global warming resonates more strongly among conservatives, and Christian conservatives in particular. A survey published in October by the Pew Research Center for the People and the Press found that white evangelical Protestants were among those least likely to believe that there was "solid evidence" that the Earth was warming because of human activity.

Only 23 percent of those surveyed accepted that idea, compared with 36 percent of the American population as a whole.

The Rev. Jim Ball, senior director for climate programs at the Evangelical Environmental Network, a group with members who accept the science of global warming, said that many of the deniers feel that "it is hubris to think that human beings could disrupt something that God created."

"This group already feels like

change a standard part of school curriculum is growing. Under President Obama, for example, the Climate Education Interagency Working Group, which represents more than a dozen federal agencies, is making a strong push toward "climate literacy" for teachers and students.

State Representative Don Kopp, a Republican who was the main sponsor of the South Dakota resolution, said he acted in part because Al Gore's documentary film on global warming, "An Inconvenient Truth," was being shown in some public schools without a counterweight.

The legal incentive to pair global warming with evolution in curriculum battles stems in part from a 2005 ruling by a United States District Court judge in Atlanta that the Cobb County Board of Education, which had placed stickers on certain textbooks encouraging students to view evolution as only a theory, had vio-

Anti-Evolutionism

Creation Science

Anti-Evolutionism

Creation Science

Intelligent Design

Common Perspectives

- It's not getting warmer

Common Perspectives

- It's not getting warmer
- It's getting warmer, but humans aren't responsible

Common Perspectives

- It's not getting warmer
- It's getting warmer, but humans aren't responsible
- It's getting warmer, we're responsible, but we can only accommodate rather than prevent disaster

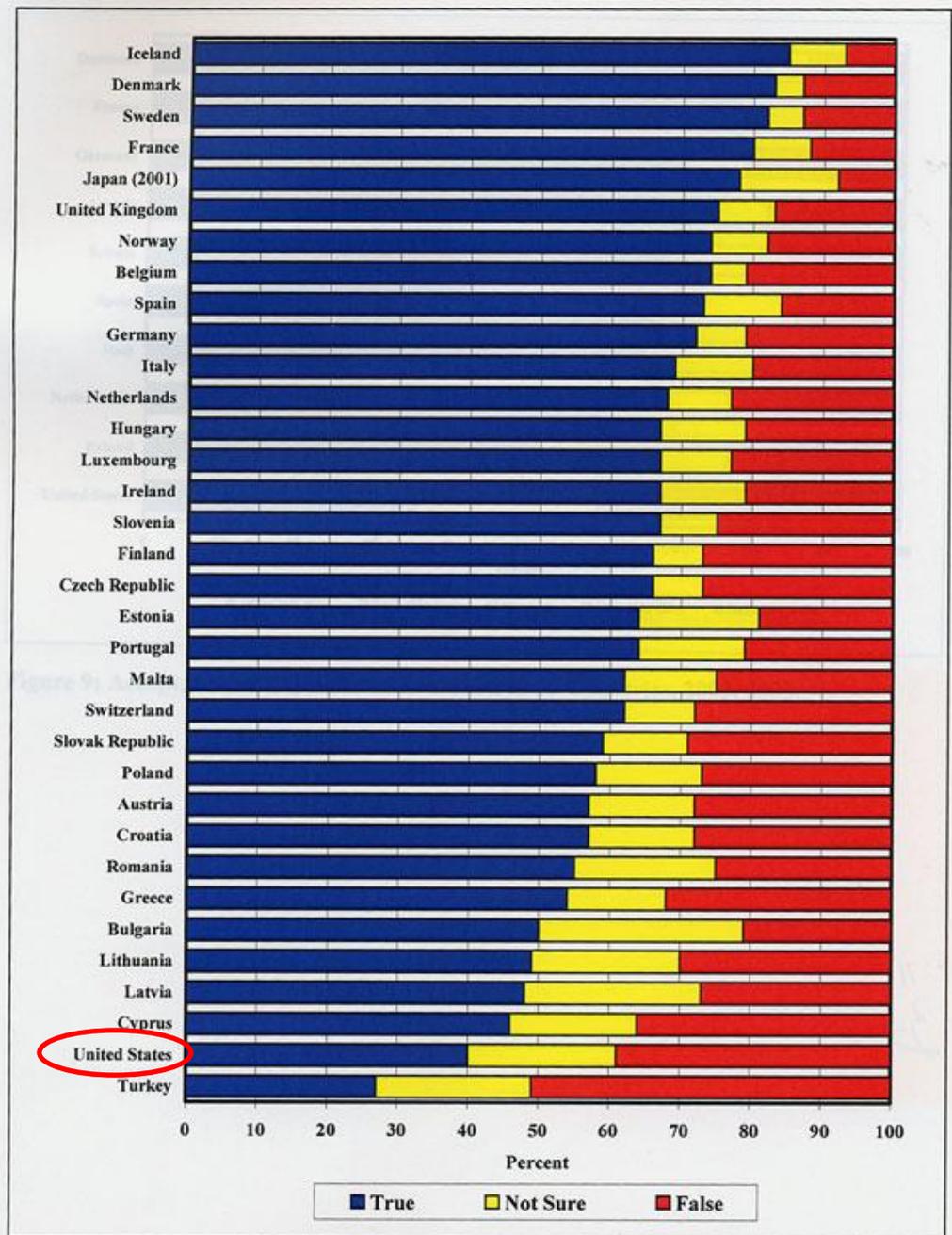


Figure 8: Acceptance or Rejection of Evolution in 34 Countries, 2005.

Changing Opinions on Global Warming



Great Britain, 2012

Planet not warming

7%

Planet warming

87%

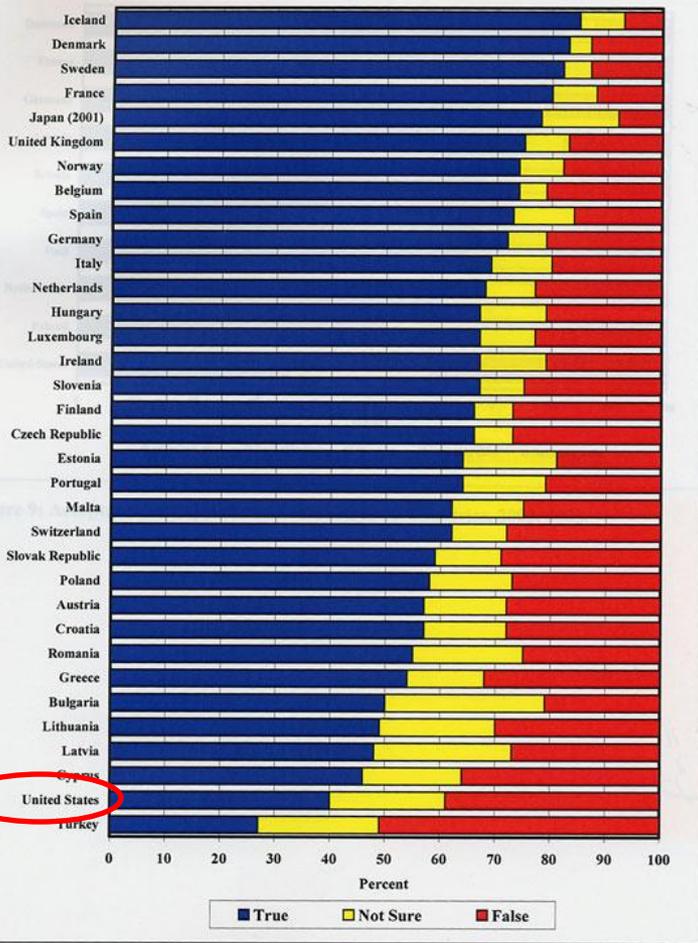


Figure 8: Acceptance or Rejection of Evolution in 34 Countries, 2005.

Pillars of Rejection

Science

Ideology

Culture

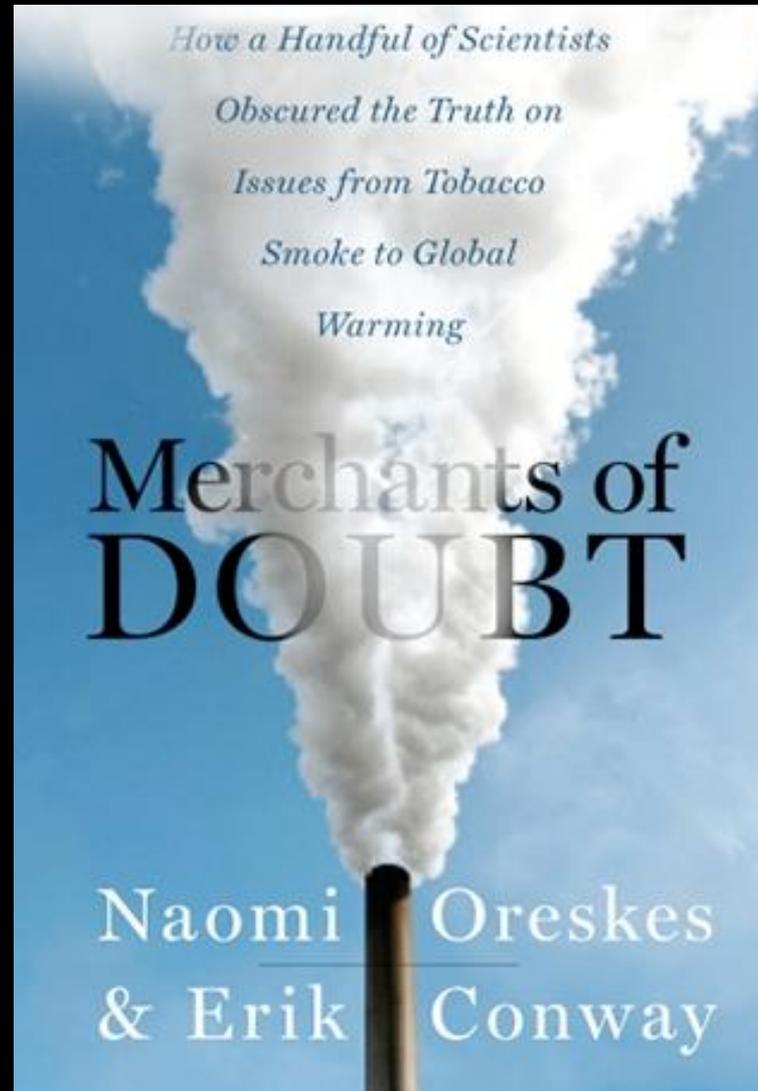
Pillars of Rejection

Science

Ideology

Culture

Questioning the Science



A SCIENTIFIC DISSENT FROM DARWINISM

Public TV programs, educational policy statements, and science textbooks have asserted that Darwin's theory of evolution fully explains the complexity of living things. The public has been assured, most recently by spokespersons for PBS's *Evolution* series, that "all known scientific evidence supports [Darwinian] evolution" as does "virtually every reputable scientist in the world."

The following scientists dispute the first claim and stand as living testimony in contradiction to the second. There is scientific dissent to Darwinism. It deserves to be heard.

Henry F. Schaefer, Nobel Nominee, Direct School • Philip S. Skell, Emeritus, Prof. Of C. Behav. Prof. of Biological Science, Lehigh U. • of Biology, San Francisco State • Marko H. Keller, Assoc. Prof. of Chemistry U. of New Mexico • U. of Chicago • George Leiberman, PhD. Adjunct of Bioengineering Laboratories • Sagbraud Scherer, Prof. of M. D. Organic Chemistry, MIT, American Society member • Lawrence H. Johnston, Prof. of Physics, U. of Idaho • Scott Minnick, I. of Microbiology, Molecular Biology & Biochem. • David A. DeWitt, PhD. Neurosci. Western U. • Theodor Liss, PhD. Chemist, Brandon Alfred, Emeritus, Prof. of Anthropology, British Columbia • Walter Bradley, Prof. of Mechanical Engineering, Texas A. & M. • Paul Aust, Prof. of Environmental Studies, Trinity (Canada) • Marvin Fritaker, Prof. of Biochem. Molecular Biology U. of Calgary, Medical Theodore Saito, Project Manager, I. Livermore Laboratories • Muzaffar Iqbal, Chemistry U. of Saskatchewan, Center for and the Natural Sciences • S. Wilkins, Emeritus, Distinguished Prof. of Chemistry, Georgia • Keith Delaplane, Prof. of Entomology, Michigan U. • Clarence Foshee, Prof. of Virginia Wesleyan College • Thomas Hines, of Biomedical Engineering, U. of Texas, A&M • J. Miller, PhD. Physics, Duke U. • Paul Nie, Assoc. Prof. of Psychology, Simpson College • F. Galbreath, Prof. of Chemistry, Whitworth St. Luke's Hospital, Kansas City • M. Conrad W. Francis, Assoc. Prof. of Biology, Caldwell Superior • James G. Harman, Assoc. Chair, Raymond G. Bohlin, PhD. Molecular & Cell William S. Harris, Prof. of Basic Medical Sci. U. • Robert F. DeHaan, PhD. Human Dev. of Biology, Huntington College • Jim Gibco, Lab (NASA) • Edward T. Peltzer, Senior Res. & Chair, Dept. of Biological Sciences, Biola, Researcher, Molecular Biology, U.C. Berkeley Clinical Assoc. Prof. U. of Kansas Medical C. Dept. of Life Sciences, Indiana State U. • V. of Chemistry, Rice U. • Todd Watson, Asst. Biology, Southwestern U. • James Tumlison, Science-Cambridge • Paul Nelson, PhD. Ph.D. scientists listed by doctoral degree or current position

Petition

We urge the United States government to reject the global warming agreement that was written in Kyoto, Japan in December, 1997, and any other similar proposals. The proposed limits on greenhouse gases would harm the environment, hinder the advance of science and technology, and damage the health and welfare of mankind.

There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate. Moreover, there is substantial scientific evidence that increases in atmospheric carbon dioxide produce many beneficial effects upon the natural plant and animal environments of the Earth.

Please send more petition cards for me to distribute.

Please Sign Here

My academic degree is B.S. M.S. Ph.D. in the field of _____

Name

Street

City, State, and Zip

I have specialized scientific experience in:

A SCIENTIFIC DISSENT FROM DARWINISM

Public TV programs, educational policy statements, and science textbooks have asserted that Darwin's theory of evolution fully explains the complexity of living things. The public has been assured, most recently by spokespersons for PBS's *Evolution* series, that "all known scientific evidence supports [Darwinian] evolution" as does "virtually every reputable scientist in the world."

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Please send more petition cards for me to distribute.

Please Sign Here

My academic degree is B.S. M.S. Ph.D. in the field of _____

Name

Street

City, State, and Zip

I have specialized scientific experience in:

Distraction





WELLS

ICONS OF EVOLUTION

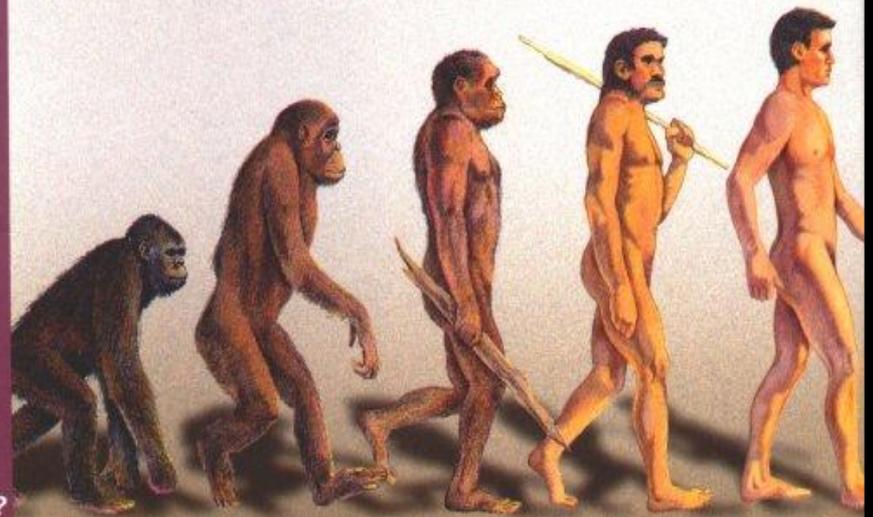
SCIENCE
OR MYTH?



ICONS OF EVOLUTION

SCIENCE OR MYTH?

Why much of what we teach about evolution is wrong



JONATHAN WELLS

Fish

Salamander

Tortoise

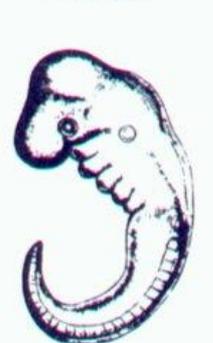
Chicken

Pig

Cow

Rabbit

Human



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I

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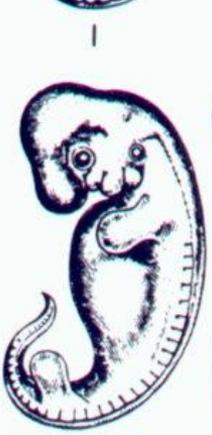
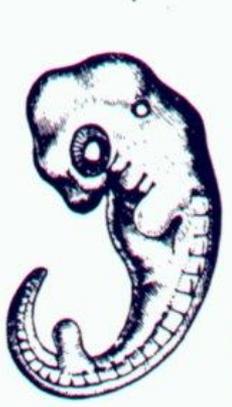
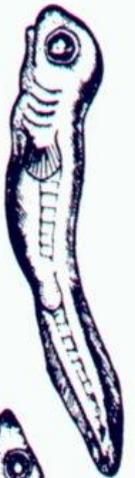
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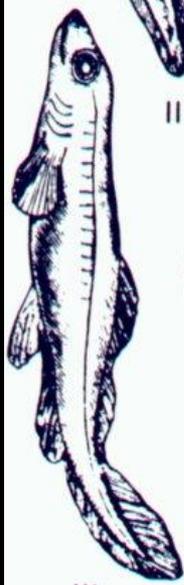
II

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II

II



III

III

III

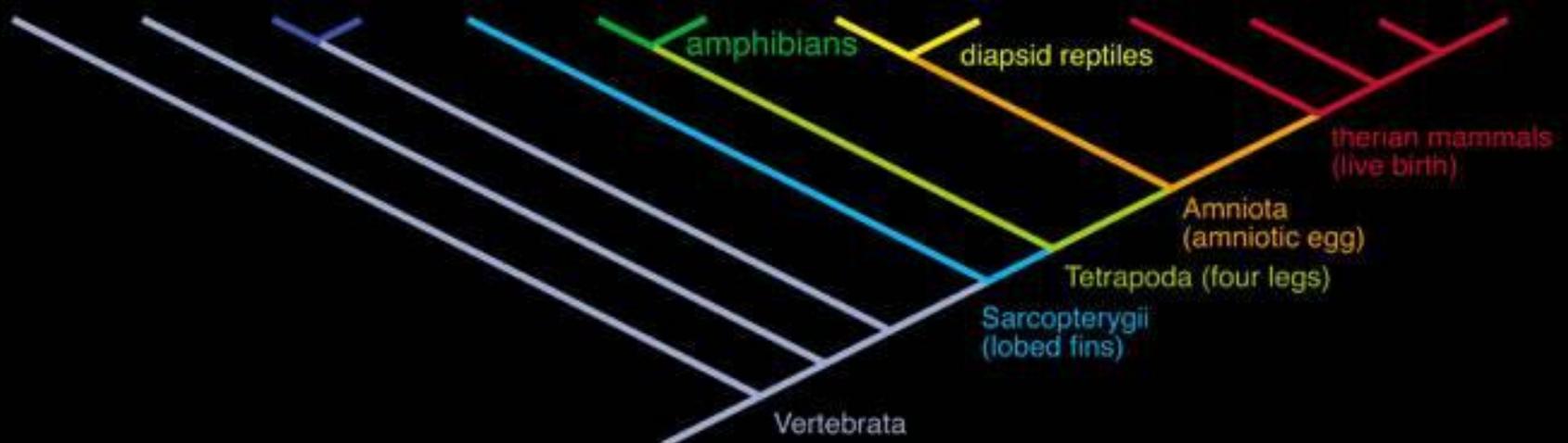
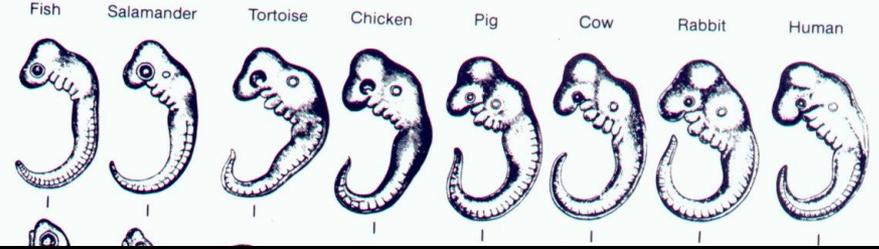
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III

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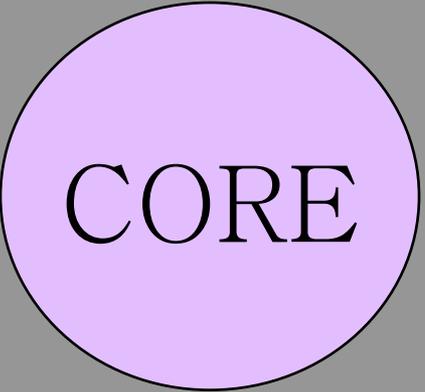
III

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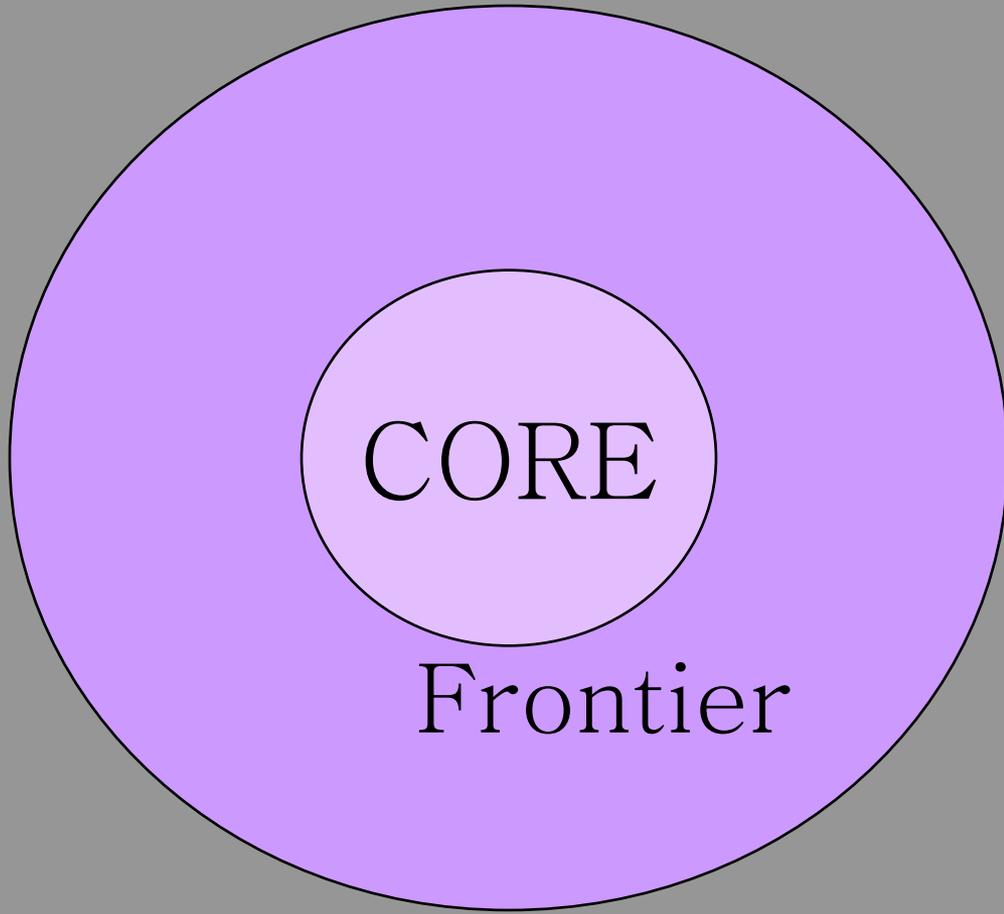


Skeptical Science's 160+ list of questions and responses

1. Climate's changed before
2. It's the sun
3. It's not bad
4. There is no consensus
5. It's cooling
6. Models are unreliable
7. Temp record is unreliable
8. Animals and plants can adapt
9. It hasn't warmed since 1998
10. Antarctica is gaining ice
11. Ice age predicted in the 70s
12. CO2 lags temperature
13. We're heading into an ice age
14. Ocean acidification isn't serious
15. Hockey stick is broken
16. Hurricanes aren't linked to global warming
17. Glaciers are growing
18. Climate sensitivity is low
19. Al Gore got it wrong
20. 1934 - hottest year on record
21. It's cosmic rays
22. It's freaking cold!....

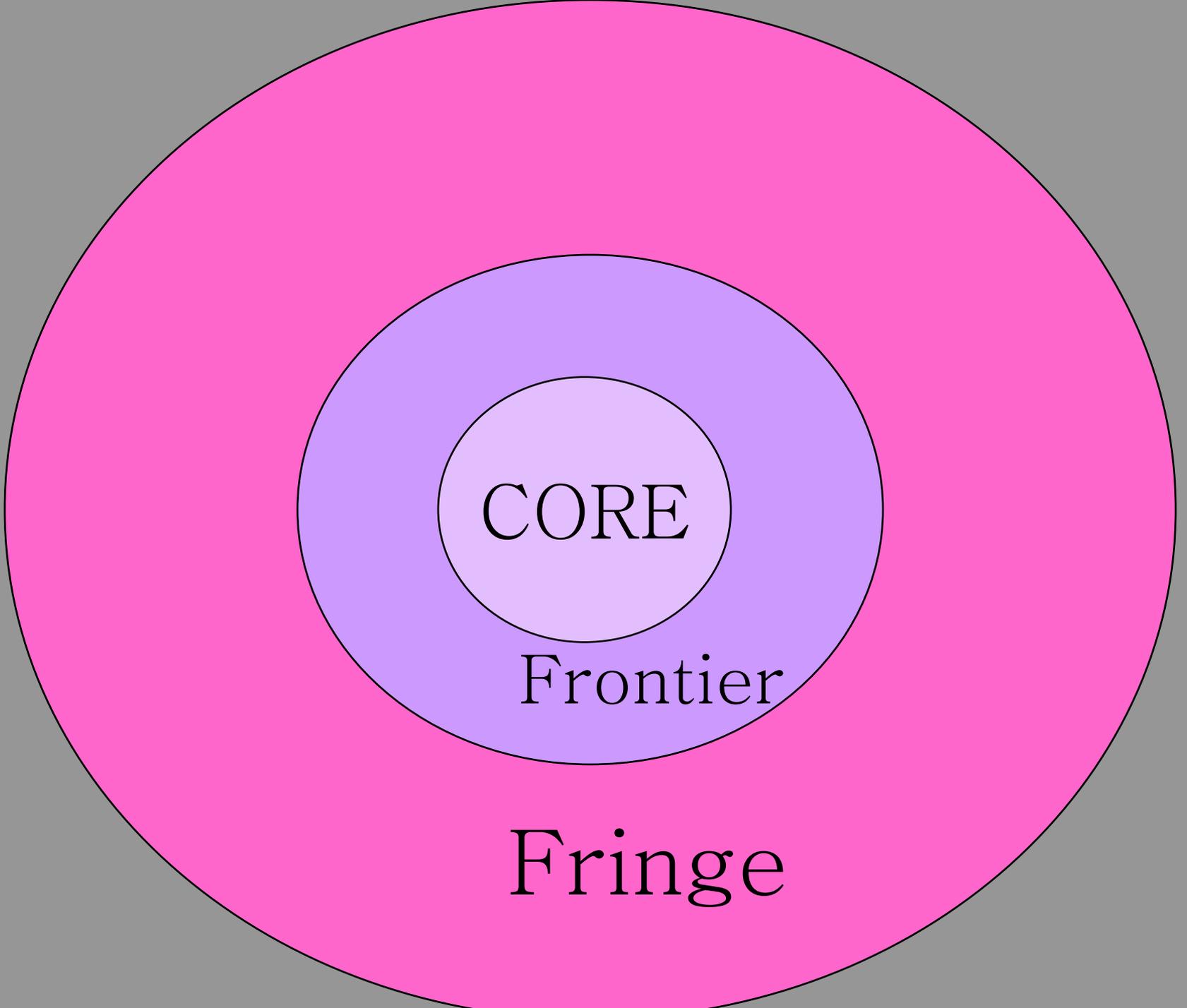


CORE



CORE

Frontier



CORE

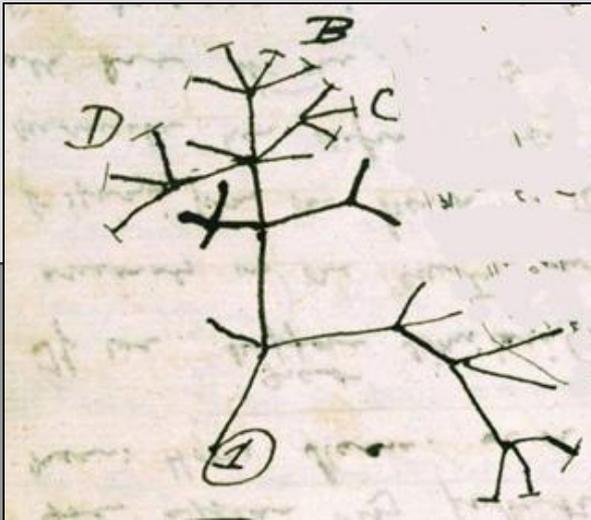
Frontier

Fringe

Evolution, Pattern, Process

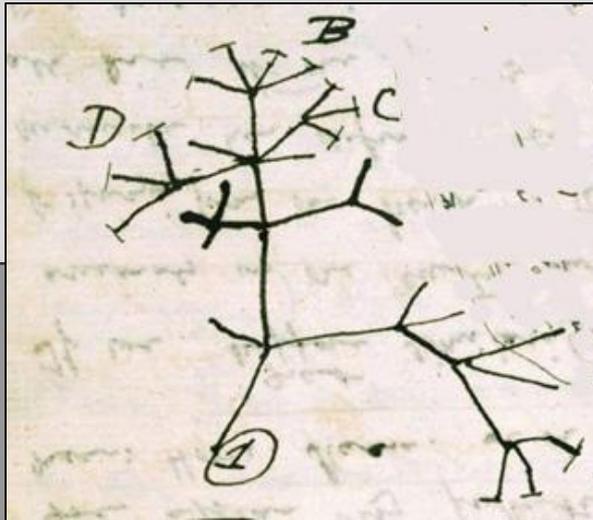
“Big idea”:

Descent with
modification/
common ancestry



Evolution, Pattern, Process

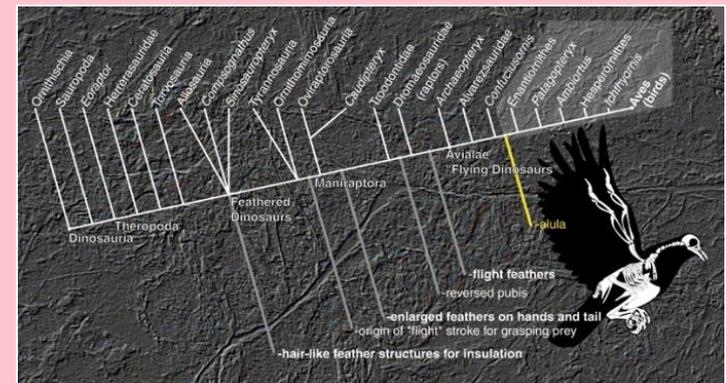
“Big idea”:
Descent with
modification/
common ancestry



Mechanisms or Factors
Effecting Evolution:

- natural selection
- non-selective (drift)
- “evo-devo”

Patterns of Evolution:



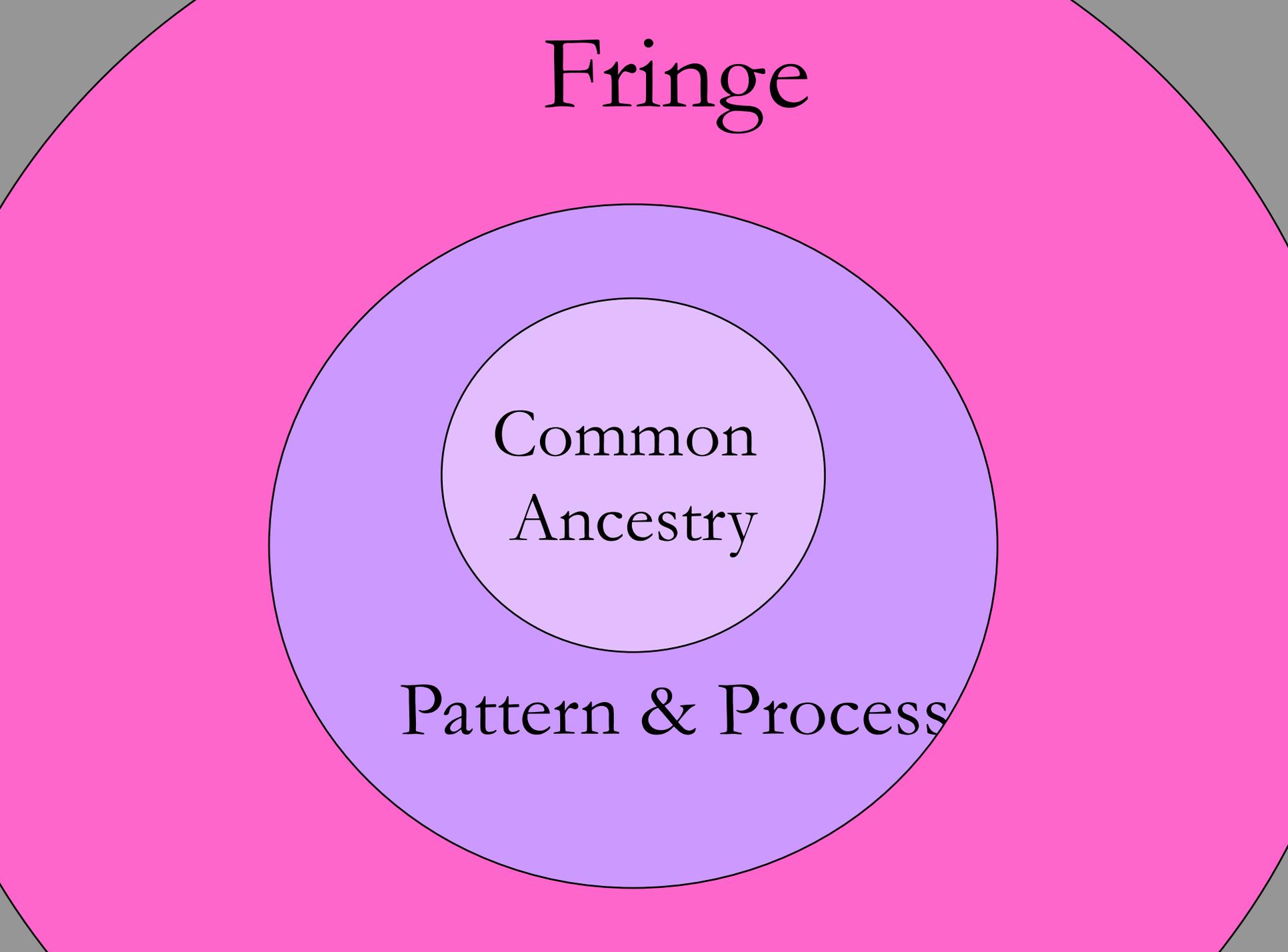


Common
Ancestry

Common
Ancestry

Pattern & Process

Fringe



Common
Ancestry

Pattern & Process

Global Warming

“Big Ideas”:

- The planet has been warming
- Humans are largely responsible for the current accelerated rate of warming

Global Warming

“Big Ideas”:

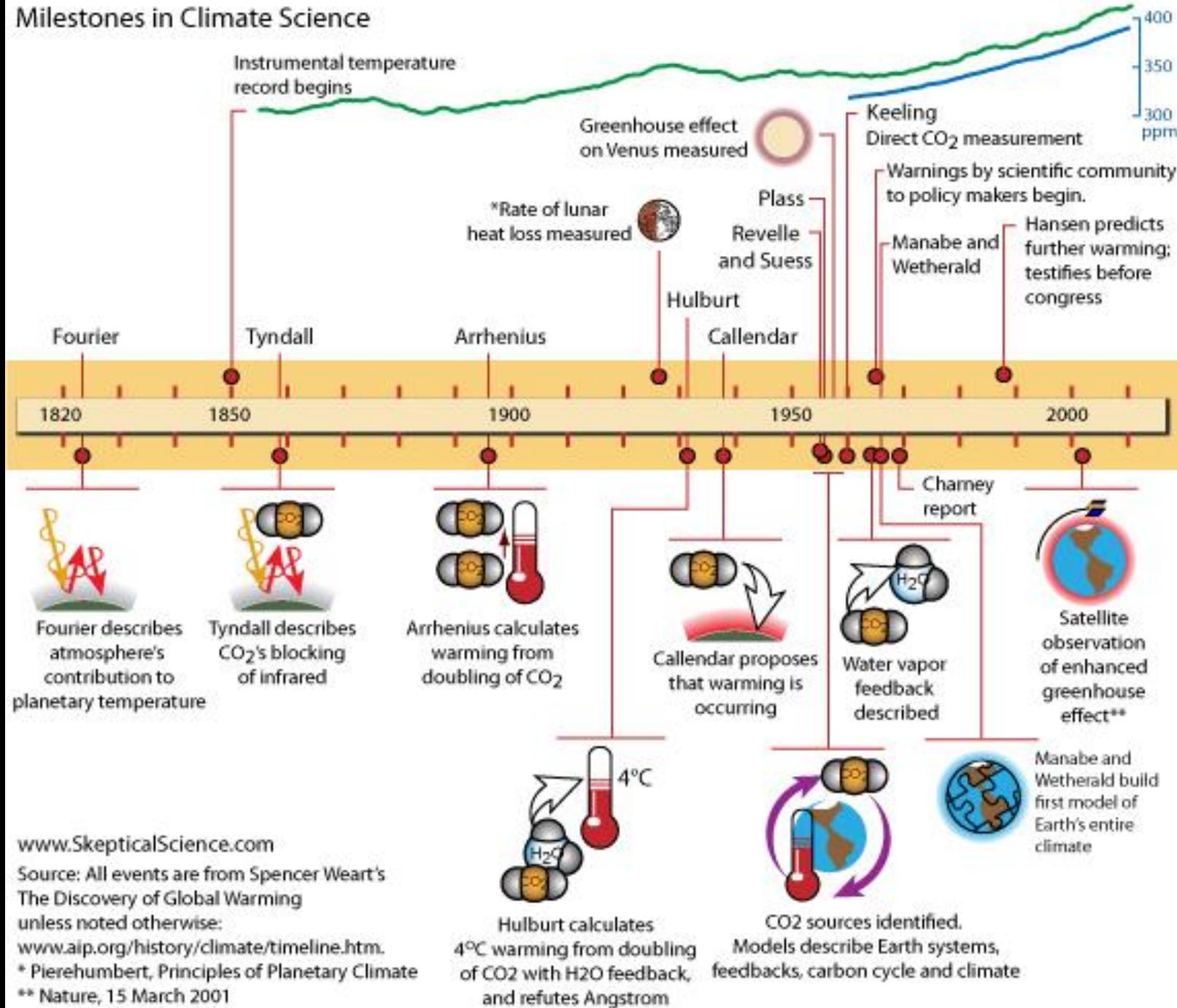
- The planet has been warming
- Humans are largely responsible for the current accelerated rate of warming

- How much will ocean rise, by 2100? 2' or 6'?
- Role of aerosols in cooling?
- Role of oceans as heat sink?
- How much heating is due to humans?
- Etc.

It's warmer.

Rate = humans

Milestones in Climate Science



www.SkepticalScience.com

Source: All events are from Spencer Weart's The Discovery of Global Warming unless noted otherwise:
www.aip.org/history/climate/timeline.htm

* Pierehumbert, Principles of Planetary Climate
 ** Nature, 15 March 2001

It's warmer
Rate = humans

Details (how
much rise)

“it’s just a
socialist/liberal plot”

It’s warmer
Rate = humans

Details(how
much rise)

Fringe

Pillars of Rejection

Science

Ideology

Culture



Daguerreotype of Charles and William Darwin in 1842

CHARLES DARWIN
ON THE ORIGIN
OF SPECIES

A Facsimile of the First Edition

with an Introduction by Ernst Mayr

AUTHOR OF *Animal Species and Evolution*

DARWIN ON THE ORIGIN OF SPECIES
A Facsimile of the First Edition
Mayr
Harvard

Religious Implications of Evolution

Evolution
Happened



Challenged Special
Creation (literal view of
Bible)

Religious Implications of Evolution

Evolution
Happened



Challenged Special
Creation (literal view of
Bible)

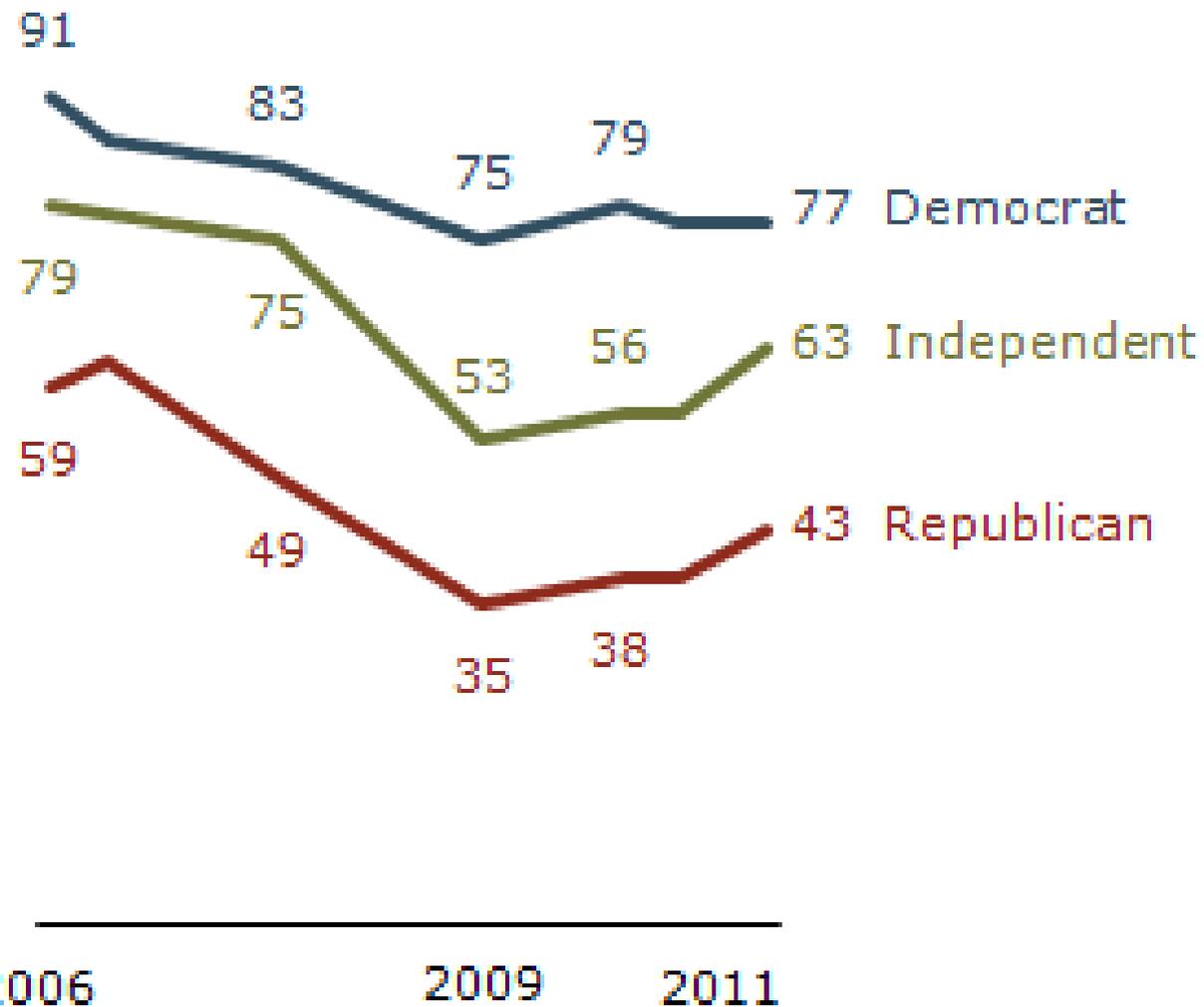
Natural
Selection
Explains It

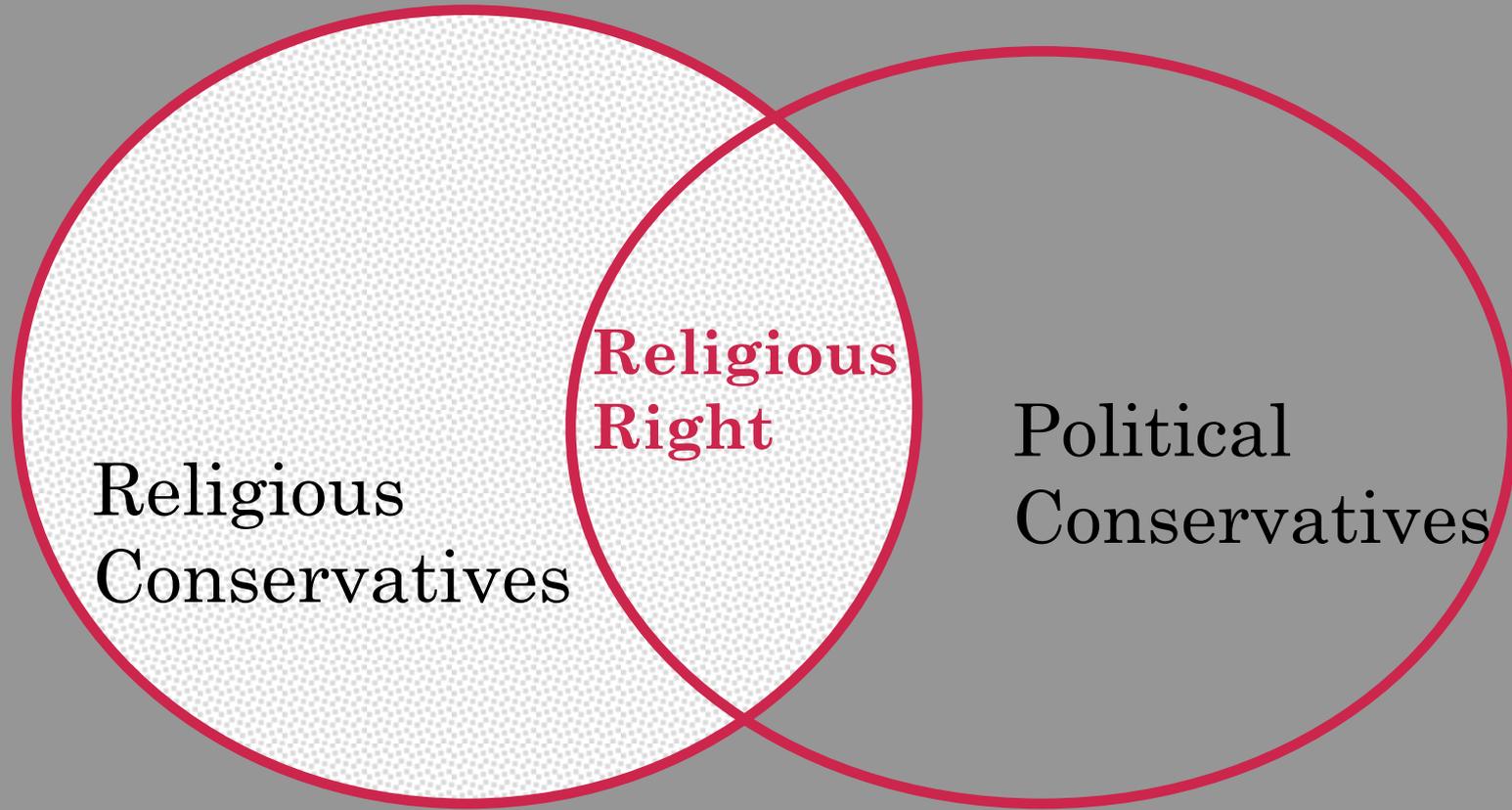


Challenged direct hand
of God as Creator
(God less personal)

Solid Evidence of Global Warming?

% saying yes



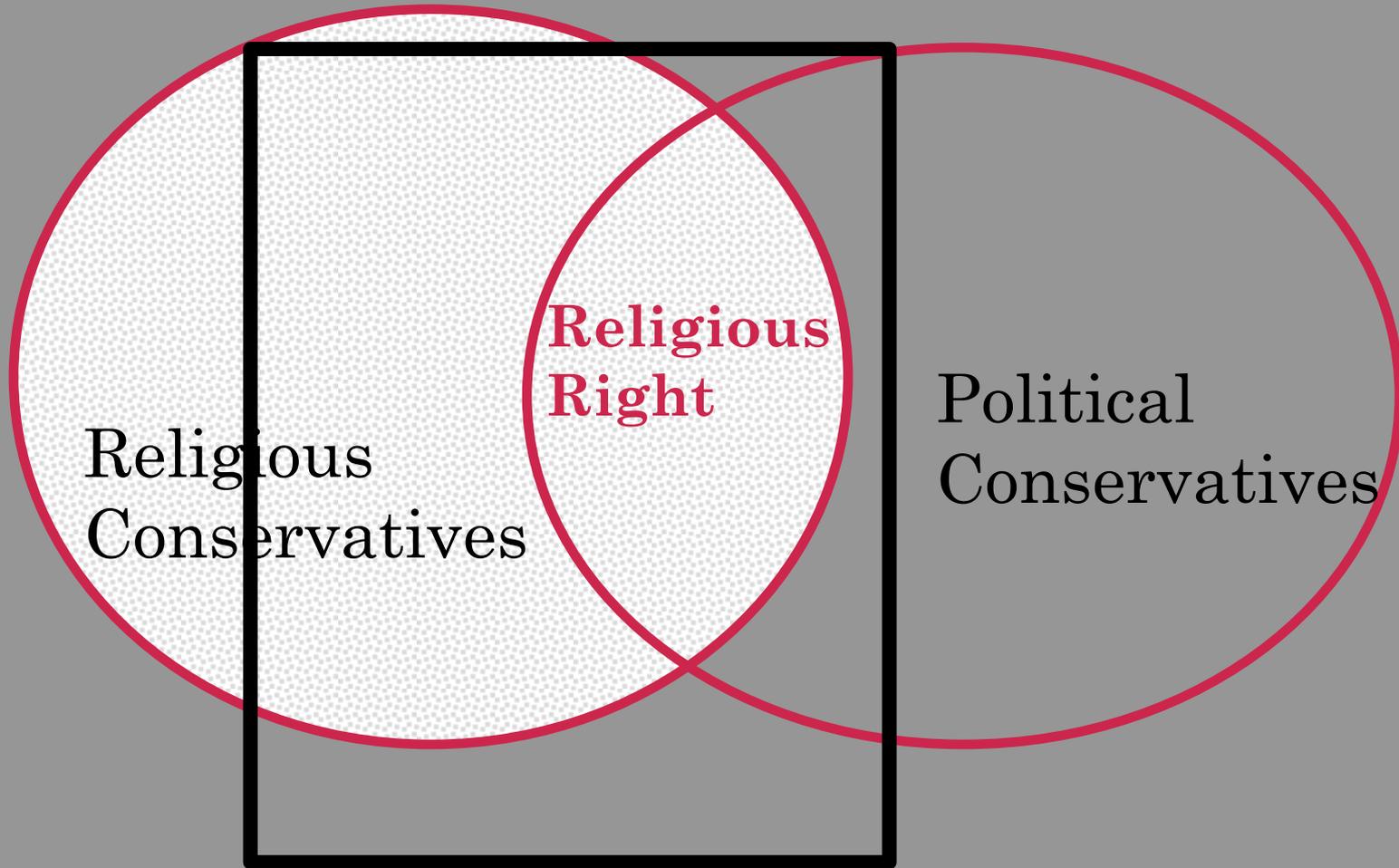


Religious
Conservatives

**Religious
Right**

Political
Conservatives

Anti-Evolutionists

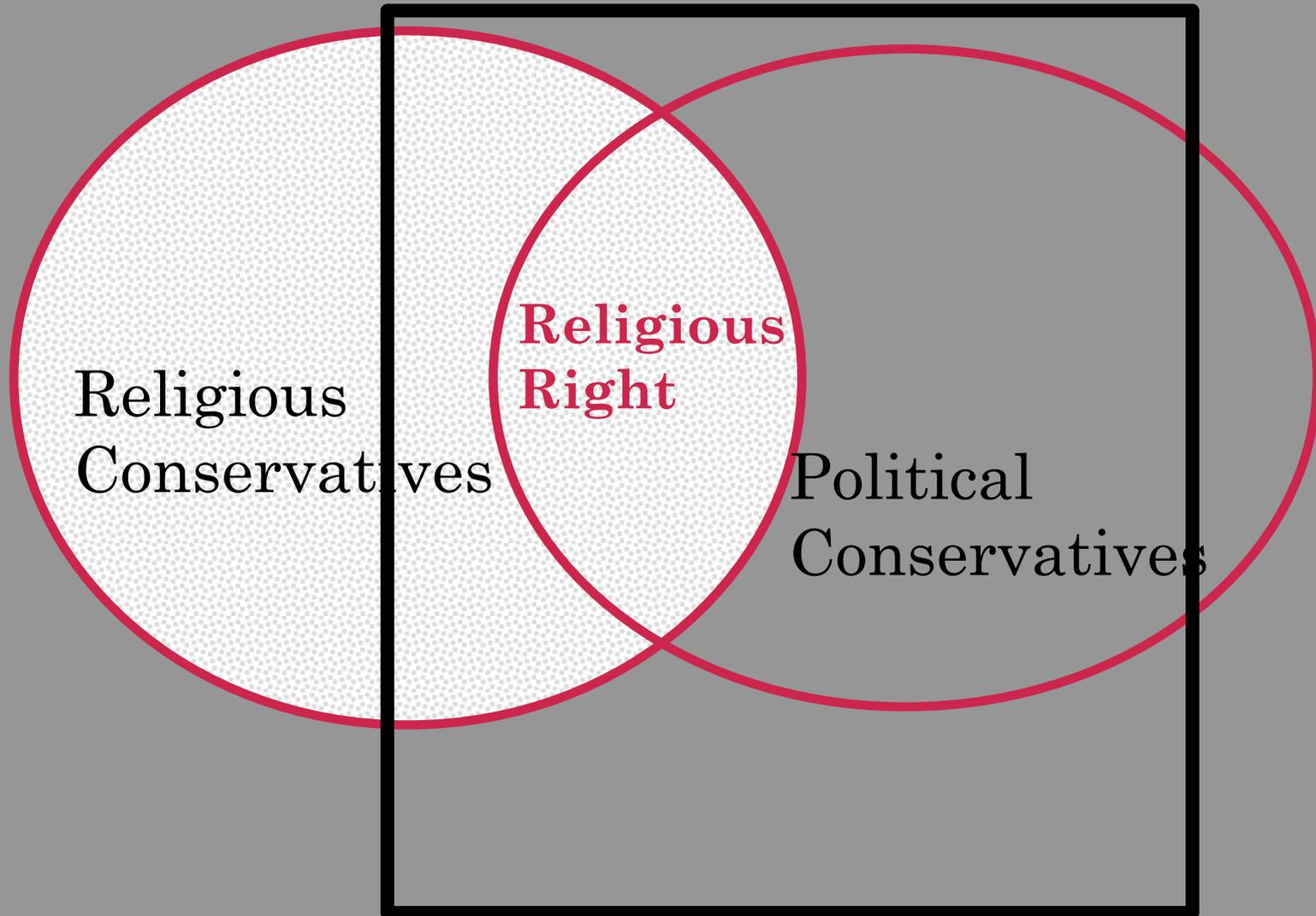


Religious
Conservatives

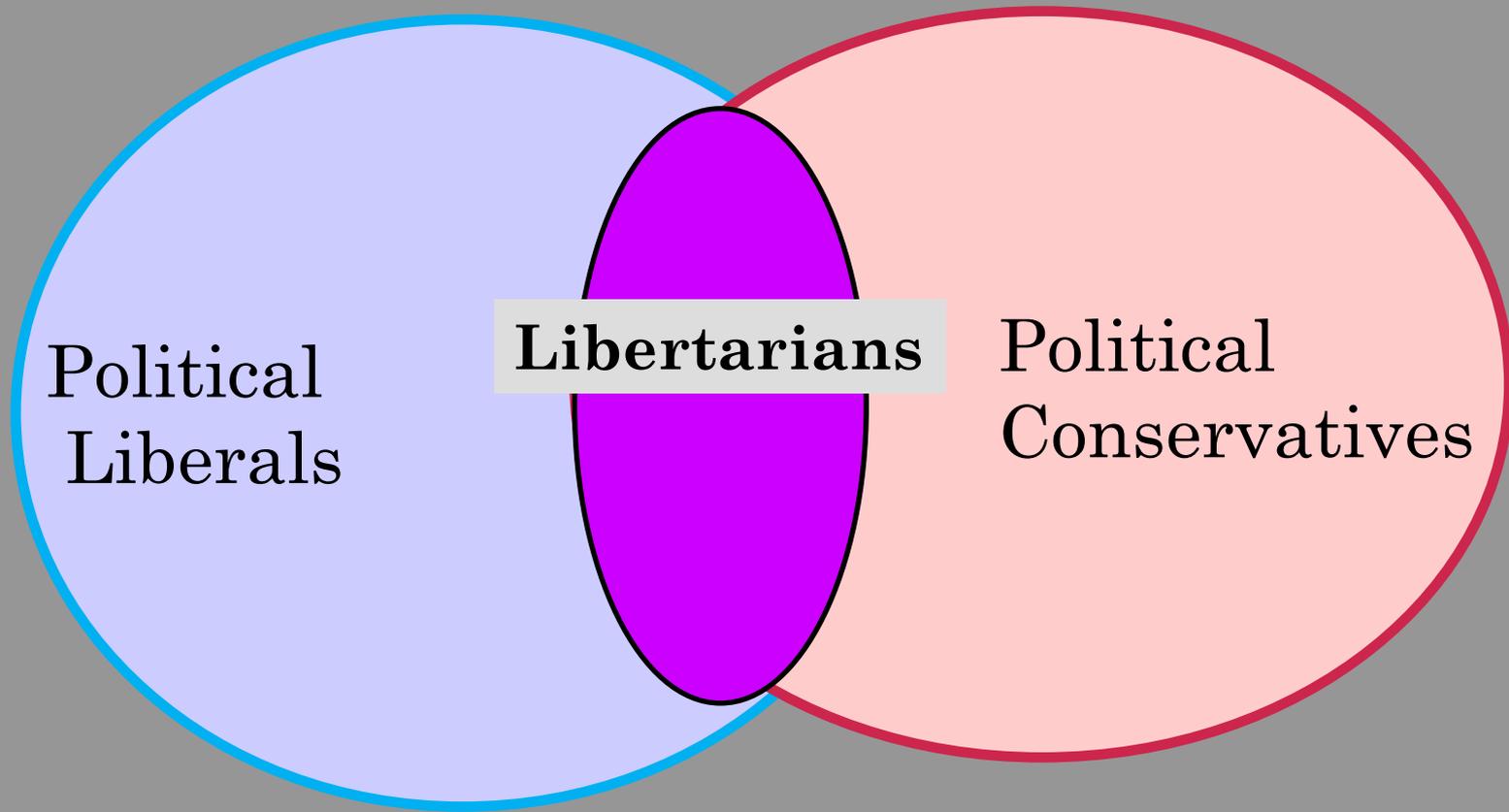
**Religious
Right**

Political
Conservatives

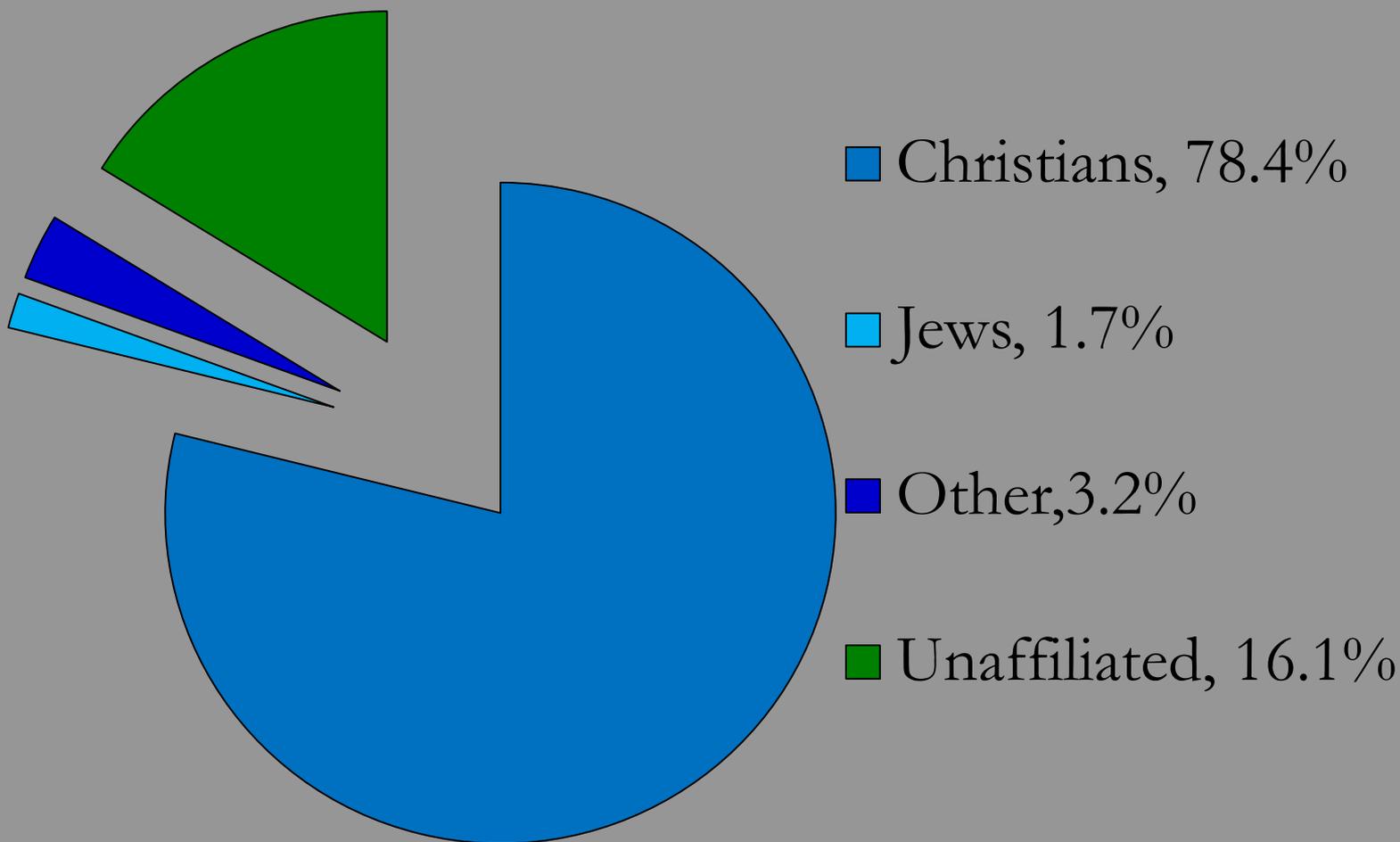
Global Warming Contrarians



Global Warming Contrarians -2

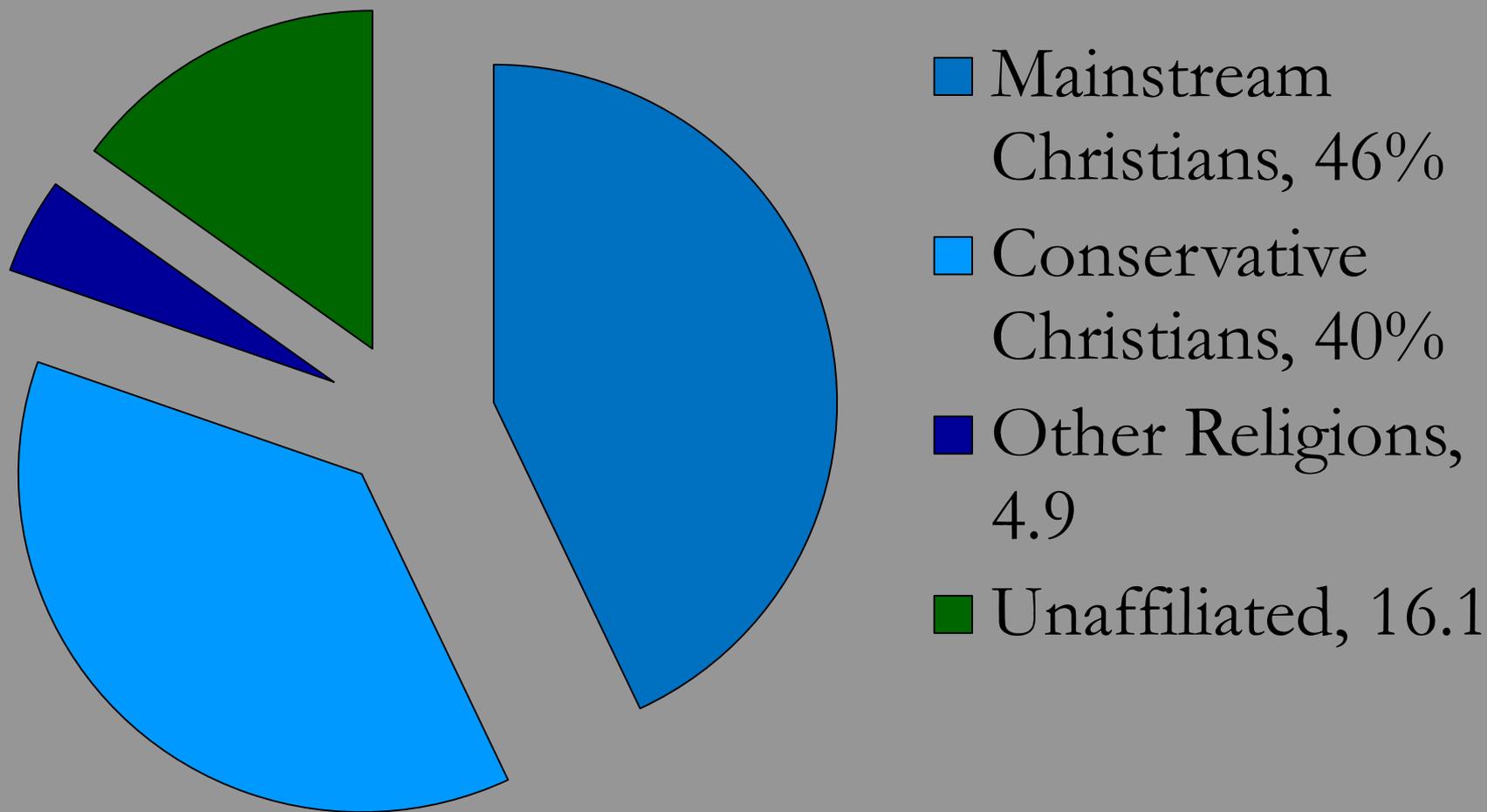


US Religious Affiliations, 2008



Source: Pew Religious Landscape Survey, 2008

Divisions of American Christianity



Source: data from Pew Religious Landscape Survey, 2008

Statements from Religious Organizations

American Jewish Congress

American Scientific Affiliation

Center For Theology And The Natural World

Central Conference Of American Rabbis

Episcopal Bishop Of Atlanta, Pastor Gene Robinson

General Assembly of the Presbyterian Church in the U.S.A.

*

The General Convention Of The Episcopal Church

Lexington Alliance Of Religious Leaders

The Lutheran World Federation

Roman Catholic Church (1981)

Roman Catholic Church (1996) *

Unitarian Universalist Association (1992)

Unitarian Universalist Association (2008)

United Church Board For Homeland



*Voices
FOR
Evolution*



Political Conservatism: Not Monolithic!

http://www.businessweek.com/news/2011-10-02/conservative-means-standing-with-science-on-climate-bob-inglis.html

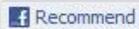
Bloomberg Businessweek Tuesday October 11, 2011

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Bloomberg

Conservative Means Standing With Science on Climate: Bob Inglis

October 02, 2011, 8:22 PM EDT

 84  94  26  E-mail  Print

By *Bob Inglis*

Oct. 3 (Bloomberg) — Normally, the country can count on conservatives to deal in facts. We base policies on science, not sentiment, we insist on people being accountable for their actions, and we maintain that markets, not mandates, are the path to prosperity.

When it comes to energy and climate, these are not normal times.

We're following sentiment, not science, we're turning a blind eye to accountability, and we're failing to use the power of markets.

The National Academy of Sciences says, "Climate change is

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When it comes to energy and climate... [w]e're following sentiment, not science, we're turning a blind eye to accountability, and we're failing to use the power of markets.

Political Conservatism: Not Monolithic!



"Many laws protecting environmental quality have promoted liberty by securing property against the destructive trespass of pollution."

Ronald Reagan

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ACTION ALERT

Oppose anti-wilderness legislation

Bills pending in the House and Senate would terminate protection of at least 43 million acres of pristine backcountry and prohibit land management agencies from protecting wilderness-quality lands.

Please urge your member of Congress to oppose this wholesale rollback in protections for America's wild places.

[Find out more.](#)

WHAT'S NEW

Preserving Fort Monroe

[Op-ed](#) published September 23, 2011 in *The Hill's Congress Blog*



David Jenkins' Testimony Supporting Protection of Arctic National Wildlife Refuge from Oil Drilling

[Testimony](#) delivered September 21, 2011 to House Natural Resources Committee

(Photo: FWS)

FEATURED CONTENT

STAND UP AND BE COUNTED!!
National Registry of
GREEN REPUBLICANS

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Facebook





Pillars of Rejection

Science

Ideology

Culture

“Academic Freedom” Legislation

Alabama	2004, 2005, 2006, 2008, 2009		
Florida	2008, 2011	New Mexico	2009, 2011
Louisiana	2008	Maryland	2006
Michigan	2006, 2008	Texas	2009, 2011
S. Carolina	2008, 2010	Kentucky	2010, 2011
Missouri	2007, 2008, 2009, 2010, 2011, 2012, 2013		
Oklahoma	2006, 2009, 2011, 2012, 2013		
Iowa	2009	Indiana	2013
Tennessee	2011, 2012	Arizona	2013
Colorado	2013		
Montana	2013		

www.ncse.com

Pillar 3: Fairness & Critical Thinking

“full range of views”

“critically evaluate” the “strengths and weaknesses”

“arguments for or against”

“all relevant scientific information”

“understand, critique and review”

Pillar 3: Fairness & Critical Thinking

The goal should be to get politics out of the classroom, not protect it by banning debate and censoring objective sources of research.

Joe Bast, <http://blog.heartland.org/2011/08/heartland-replies-to-science/>, Aug. 10, 2011

Let me **TEACH!**

Why can't I supplement my science class with current articles and balanced discussion?



Let me **THINK!**

Why can't I be allowed to decide for myself what the truth is?

From AFA site: www.academicfreedomact.org/

Louisiana "Science Education Act"

AN ACT

To enact R.S. 17:285.1, relative to curriculum and instruction; to provide relative to the teaching of scientific subjects in public elementary and secondary schools; to promote students' critical thinking skills and open discussion of scientific theories; to provide relative to textbooks and instruction for effectiveness, and to be enacted by the Legislature.

"... including, but not limited to, evolution, the origins of life, global warming, and human cloning."

Section 1. R.S. 17:285.1 to hereby enacted to read as follows:
1285.1. Science education; development of critical thinking skills

A. This Section shall be known and may be cited as the "Louisiana Science Education Act."

B. (1) The purpose of this act is to create and foster an environment within public elementary and secondary schools that promotes critical thinking ...
... to create and foster an environment within public elementary and secondary schools that promotes critical thinking ...
... to create and foster an environment within public elementary and secondary schools that promotes critical thinking ...

"... to create and foster an environment within public elementary and secondary schools that promotes critical thinking ..."

Page 1 of 2
Coding: Words which are struck-through are deletions from existing law; words in boldface type and underscored are additions.

SB NO. 733 ENROLLED

(2) Such assistance shall include support and guidance for teachers regarding effective instructional practices, and shall include the following:
... to help students understand, analyze, critique, and objectively review..."

"... to help students understand, analyze, critique, and objectively review..."

C. A teacher shall use the materials provided to the students as provided by the school system and thereafter may use supplemental textbooks and other instructional materials to help students understand, analyze, critique, and review scientific theories in an objective manner, as permitted by the city, parish, or other local public school board unless otherwise prohibited by the State Board of Elementary and Secondary Education.

D. This Section shall not be construed to promote any religious doctrine, promote discrimination for or against a particular set of religious beliefs, or promote discrimination for or against religion or nonreligion."

"... shall not be construed to promote any religious doctrine, promote discrimination for or against a particular set of religious beliefs, or promote discrimination for or against religion or nonreligion."

Section 2. This Act shall become effective upon signature by the governor or, if not signed by the governor, upon expiration of the time for him to become law without signature by the governor, as provided by Article III, Section 18 of the Constitution of Louisiana. If signed by the governor and subsequently approved by the Legislature, this Act shall become effective on the day following such approval.

Tennessee HB368/SB893

Senate Education Committee 1
Amendment No. 1 to SB893

Original
Signature of Sponsor
AMEND Senate Bill No. 893 House Bill No. 368

by adding the following language as a preamble to the bill:
WHEREAS, the general assembly finds that:

(1) An important purpose of science education is to inform students about biological evolution, the chemical origins of life, global warming, and human cloning ..."

(2) The state board of education, public elementary and secondary school governing authorities, directors of schools, school system administrators, and public elementary or secondary school principals or administrators shall ensure that students are able to explore scientific questions, learn about scientific evidence, develop critical thinking skills ..."

(3) The state board of education, public elementary and secondary school governing authorities, directors of schools, school system administrators, and public elementary or secondary school principals or administrators shall ensure that students are able to help students understand, analyze, critique, and review in an objective manner..."

(4) This section shall not be construed to promote any religious or non-religious doctrine, promote discrimination for or against a particular set of beliefs or non-beliefs, or promote discrimination for or against religion or non-religion."



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Summary: AFA

- Avoid religion (Establishment Clause)
- Stress free speech (academic freedom)
- Stress critical thinking
- Protective bills – teacher license to teach “alternatives/EAE”
- Permissive bills – as applied vs facial challenges

Anti-Science legislation in 2013

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MO HB 179*

MO HB 291

CO 13-1089*

MT HB 183*

OK SB 758

OK HB 1674*

IN HB 1283*

TX HB 285

AZ SB1213*

HOUSE BILL No. 1283

A BILL FOR AN ACT to amend the Indiana Code concerning education.

Be it enacted by the General Assembly of the State of Indiana:

SOURCE: IC 20-30-5-0.2; (13)
(a) The general assembly first
(1) an important purpose
informed citizens;
(2) some subjects, including
(3) some teachers may
(b) This section applies to
(c) The state board, department
an
environment within accredited
different conclusions and the
(d) The state board, department
teachers in finding effective
analyze, critique, and review
(e) The state board, department

FIRST REGULAR SESSION
HOUSE BILL NO. 179
97TH GENERAL ASSEMBLY

INTRODUCED BY REPRESENTATIVES KOENIG (Sponsor), BAHR, HIGDON, FUNDERBURK, CURTMAN, BRATTIN, WOOD, COOKSON, DAVIS, MCGAUGH AND FITZPATRICK (Co-sponsors)
D. ADAM CRUMBLESS, Chief Clerk

0440L011

AN ACT

To amend chapter 170, RSMo, by adding thereto one new section relating to teacher academic freedom to teach scientific evidence regarding evolution.

Be it enacted by the General Assembly of the state of Missouri, as follows:

Section A. Chapter 170, RSMo, is amended by adding thereto one new section, to be known as section 170.335, to read as follows:

170.335. 1. The state board of education, public elementary and secondary school governing authorities, superintendents of schools, school system administrators, and public elementary and secondary school principals and administrators shall endeavor to create an environment within public elementary and secondary schools that encourages students to explore scientific questions, learn about scientific evidence, develop critical thinking skills, and respond appropriately and respectfully to differences of opinion about controversial issues, including biological and chemical evolution. Such educational authorities in this state shall also endeavor to assist teachers to find more effective ways to present the science curriculum where it addresses scientific controversies. Toward this end, teachers shall be permitted to help students understand, analyze, critique, and review in an objective manner the scientific strengths and scientific weaknesses of the theory of biological and hypotheses of chemical evolution.

2. Neither the state board of education, nor any public elementary or secondary school governing authority, superintendent of schools, or school system administrator, nor any public elementary or secondary school principal or administrator shall prohibit any teacher in a public school system of this state from helping students understand, analyze, critique, and review in an objective manner the scientific strengths and scientific weaknesses of biological or chemical evolution whenever these subjects are taught within the course curriculum schedule.

3. This section only protects the teaching of scientific information and this section shall not be construed to promote any religious or nonreligious doctrine, promote discrimination for or against a particular set of religious beliefs or nonbeliefs, or promote discrimination for or against religion or nonreligion. Scientific information includes physical evidence and logical inferences based upon evidence.

4. No later than the start of the 2014-15 school year, the department of elementary and secondary education shall notify all public school superintendents of the provisions of this section. Each superintendent shall then disseminate to all employees within his or her school system a copy of this section.



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February 15th, 2012 [Read more](#)



A bill introduced in the Alabama House of Representatives would allow local boards of education to award credit for religious instruction – and its sponsor says that it is intended as a vehicle for teaching creationism.

Creationist bill in Indiana shelved

February 14th, 2012 [Read more](#)



"A bill passed last month by the Indiana Senate that would have allowed schools to teach religious stories of creation along with the theory of evolution when discussing the origins of life."

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CLIMATE CHANGE EDUCATION

UNDERSTANDING AND TEACHING
THE SCIENCE BEHIND
GLOBAL CLIMATE CHANGE

Welcome to the National Center for Science Education's climate change education initiative. Long respected for its work in defending and supporting the teaching of evolution in the public schools, in 2012 NCSE launched this new initiative to defend and support the teaching of climate change. This section of the website includes the four main sections of the climate change education resources here.



There is substantial scientific agreement about the occurrence, causes, and consequences of climate change. Yet due to the inherent complexity of the topic and the social controversies surrounding it, confusion and doubt often persist. ["Climate Change 101"](#) presents the central questions about climate change – is the climate changing? are humans causing that change? what will the



National Center for Science Education

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Creationism and Evolution: It's the American Way

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DOI 10.1016/j.cell.2006.01.028

The recent ruling in the *Kitzmiller v. Dover* court case that intelligent design is a form of religion and cannot be taught alongside evolution in science classes in US public schools garnered worldwide attention. But why is the antievolution movement so powerful in the United States?

In late December 2005 in the United States, newspapers, weekly newsmagazines, television, and radio extensively covered the long-awaited decision in a remarkable Federal district court trial, *Kitzmiller v. Dover*. The court case was brought by Tammy Kitzmiller and ten other concerned parents in the town of Dover, Pennsylvania, against the Dover Area School Board. Their concern was the board's requirement that "intelligent design" (ID), a form of creationism, be taught as an alternative to evolution in ninth-grade science

County, Tennessee, and efforts have been made to get ID included in the state science standards of several states.

Judge John Jones III, the judge in the *Kitzmiller* case, was not persuaded that ID is a legitimate scientific alternative to evolution. "Judge Rules Intelligent Design Is Not Science!" was a typical headline, reflecting the judge's decision—laid out in a 139-page ruling—that ID was merely a form of creationism. His ruling that the new ID form of creationism is a form of religion and thus its teaching in



“Everyone is entitled to his own opinion, but not his own facts”.

Daniel Patrick Moynihan