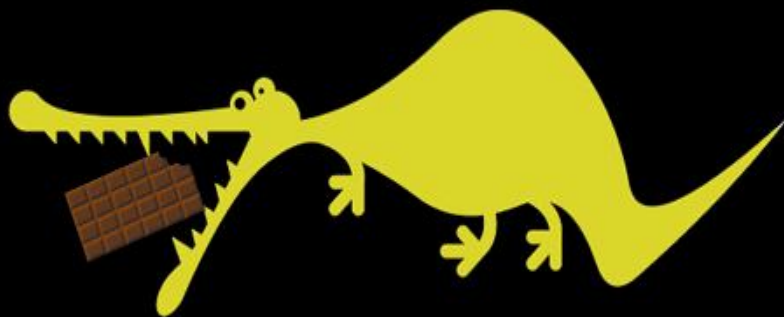


REALITY BITES

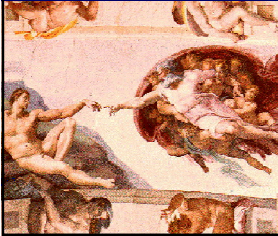


<http://www.realitybites.org.uk/>

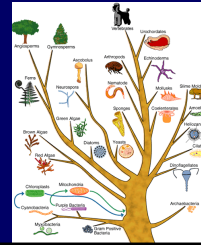


REALITY BITES

Introduction to Intelligent Design (ID)



© Dr Arthur Jones
November 2009



**“Any story sounds true until
someone tells the other side
and sets the record straight.”**

(Proverbs 18:17 Living Bible)



Introduction

It is important to recognise
real cultural watersheds
and address real positions.



‘Adult’ vs ‘Noddy’
helps no-one.

Introduction



Some worldviews are unnoticed not
because they are *hidden*, but
because they are *pervasive*.



Intelligent Design (ID)



What is ID?

- An increasingly influential movement.
- Not a version of creationism.
- Not an anti-evolutionary position.

What is ID?

- A minimalist or non-creedal position:
- *denies* universe and living things are solely the product of materialistic processes;
- *affirms* that design is real and scientifically researchable.

What is ID?

- Hence IDers will also be YECs, OECs, TEs, or even non-theists.
- ID takes no position on scripture, common descent, or on the age of the universe, Earth, or life.

What is ID?

- Has the support of some famous secularists e.g. David Berlinski, Steve Fuller and Guy M...

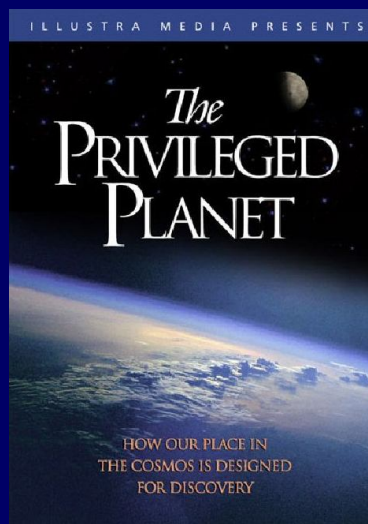


Areas of Design

- Universe
- Living Organisms
- Science & Technology

Universe

Universe

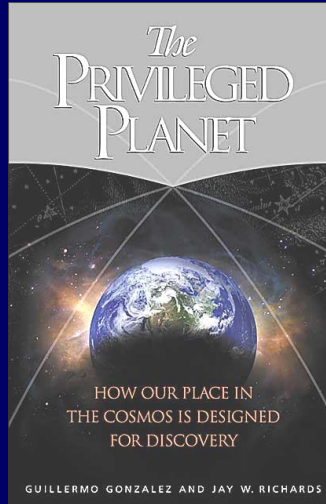


The Privileged Planet

(Regnery, 2004)

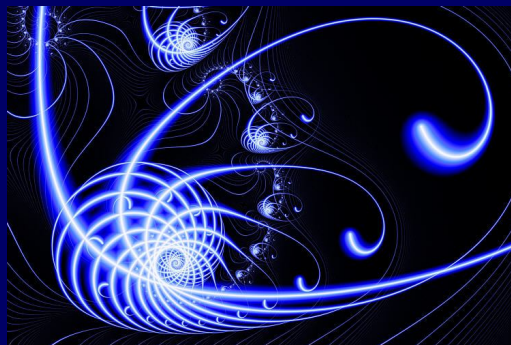


**Jay
Richards**



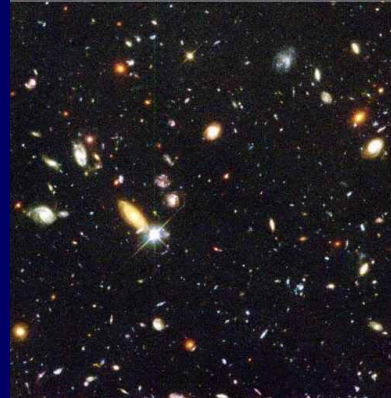
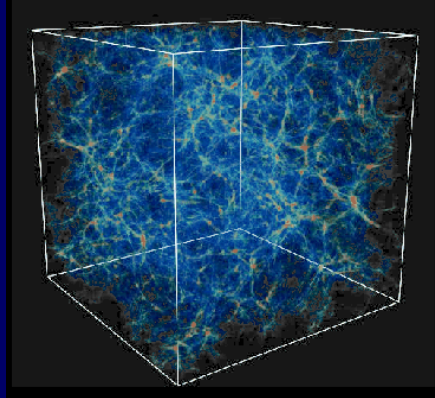
**Guillermo
Gonzalez**

A “Just Right” Universe

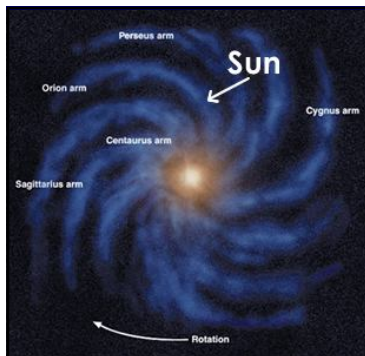


- Constants in equations for gravity, electromagnetism, strong and weak nuclear forces
- Ratio of proton to electron mass

A “Just Right” Universe



- 29 fine-tuned parameters to the Universe



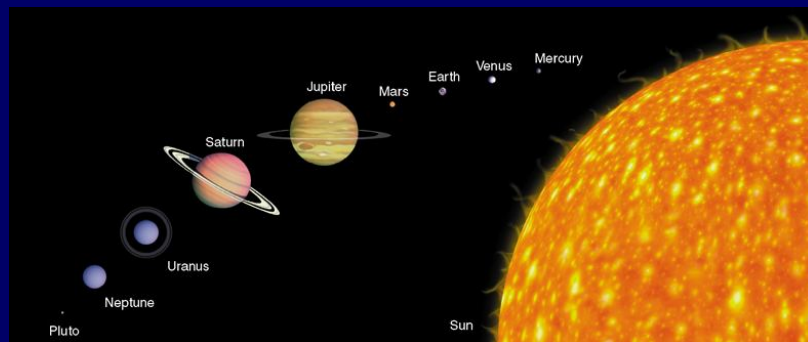
A “Just Right” Universe

- Our sun is located between the spiral arms of the Milky Way Galaxy where

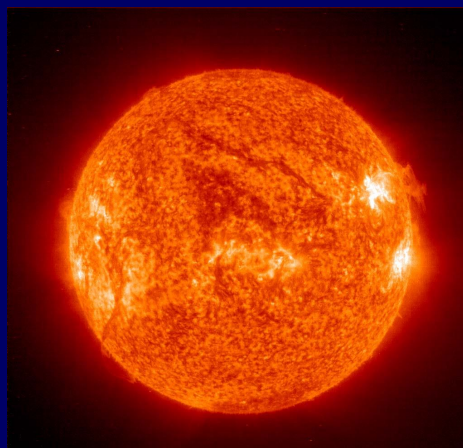
there are fewer stars (less harmful radiation and disruptive gravity) and less gas and dust (we can see the rest of the galaxy and universe).

A "Just Right" Universe

- 51 fine-tuned parameters to our galaxy, solar system, and planet



A "Just Right" Universe



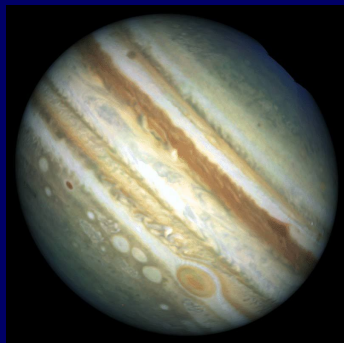
- Size, temperature, & type of sun

A “Just Right” Universe



- Distance of Earth from Sun
- Size, axial tilt, rotation speed, moon, & composition of earth

A “Just Right” Universe



- Stability of Jupiter and Saturn

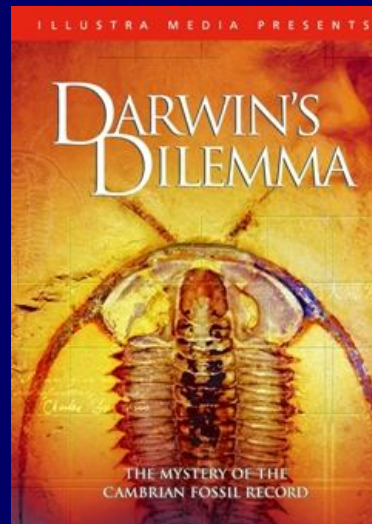
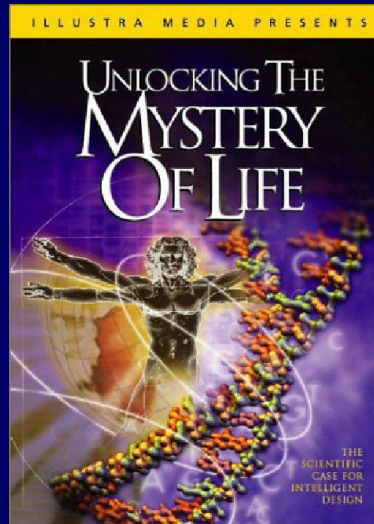
A “Just Right” Universe



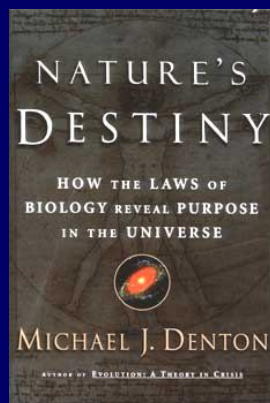
- Jupiter acts as a comet and asteroid magnet, shielding earth from catastrophic collisions.

Living Organisms

Living Organisms

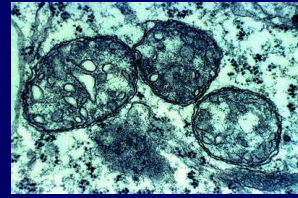


A "Just Right" Biology

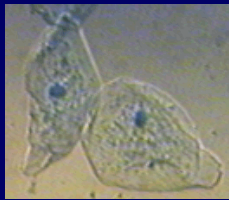


Dr Michael Denton
(University of Otago, NZ)

A "Just Right" Biology



The existence of life on earth depends on a huge number of very precise, mutual adaptations in the physical and chemical properties of the constituents of cells.



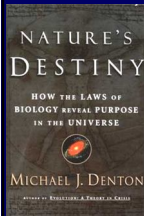
A "Just Right" Biology

- Fitness of water for carbon-based life;
- mutual fitness of sunlight and life;
- fitness of oxygen and oxidations;
- fitness of carbon dioxide for waste removal;
- fitness of bicarbonate as a buffer;
- mutual fitness of DNA and proteins.

A “Just Right” Biology



“In nearly every case these constituents are the only available candidates for their biological roles, and each appears superbly tailored to that particular end.”

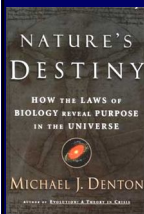


(Denton, *Nature's Destiny*, page 381)

Doubly “Just Right”



“science has revealed a universe stamped in every corner, riven in every tiny detail, with an overwhelmingly and all-pervasive biocentric and anthropocentric design.”



(Denton, *Nature's Destiny*, page 380)

Science and Technology

Science and Technology

**In relation to both the physical
and the biological sciences
there is an incredible
complementarity of design**

Science and Technology

The universe is not only incredibly 'fine-tuned' for Earth to be a home for intelligent life.

Earth-like planets are also the only places from which the universe can be seen and investigated.

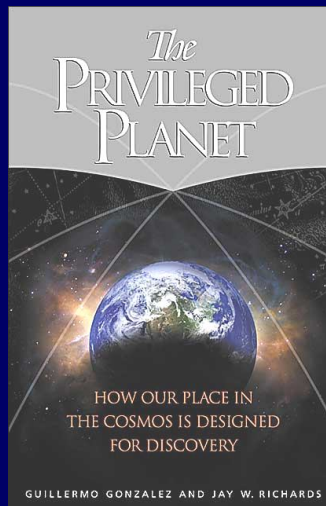


The Privileged Planet

(Regnery, 2004)



Jay
Richards

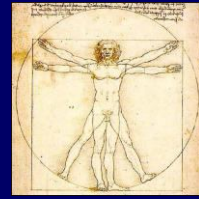


Guillermo
Gonzalez

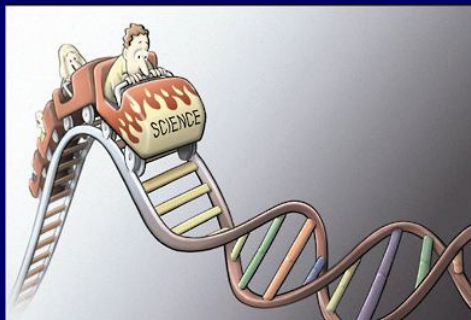
Science and Technology

The properties of the constituents of living things are not only incredibly fine-tuned for life *and human beings*.

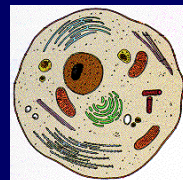
They are also fine-tuned for the use of fire and the development of the technology to explore and study the cosmos.



Information



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10100101100
00110100110
10100101100
00110100110
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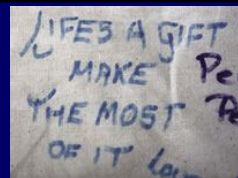


Information is:

- irreducible to physics and chemistry – to matter and energy;
- independent of the physical embodiment or *carrier*.

Information

The same information may be conveyed as writing on paper, magnetic points on a computer's hard disk, as electric domains in a random-access memory, as bumps on a CD, or as bases in DNA.



Information in Living Organisms

- *Coded* information
- Expressed through biological *machines*

Biological Machines

- capture *random energy*
- raise local *free energy*
- perform useful work – a *biological function*



Biological Machines

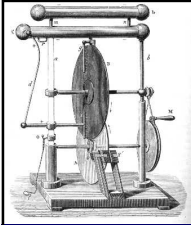
Perform their *function* only if they
have the *information* to do so

Random energy flow ...

... will produce neither the machines
nor the information.

Naturalistic (mindless) processes ...

... will produce neither living
organisms nor new biological
systems.



Machines do not contravene physical laws and processes in any way – but they cannot be reduced to them, or defined by them. They harness them for the purposes specified by their (technological) ***design***.



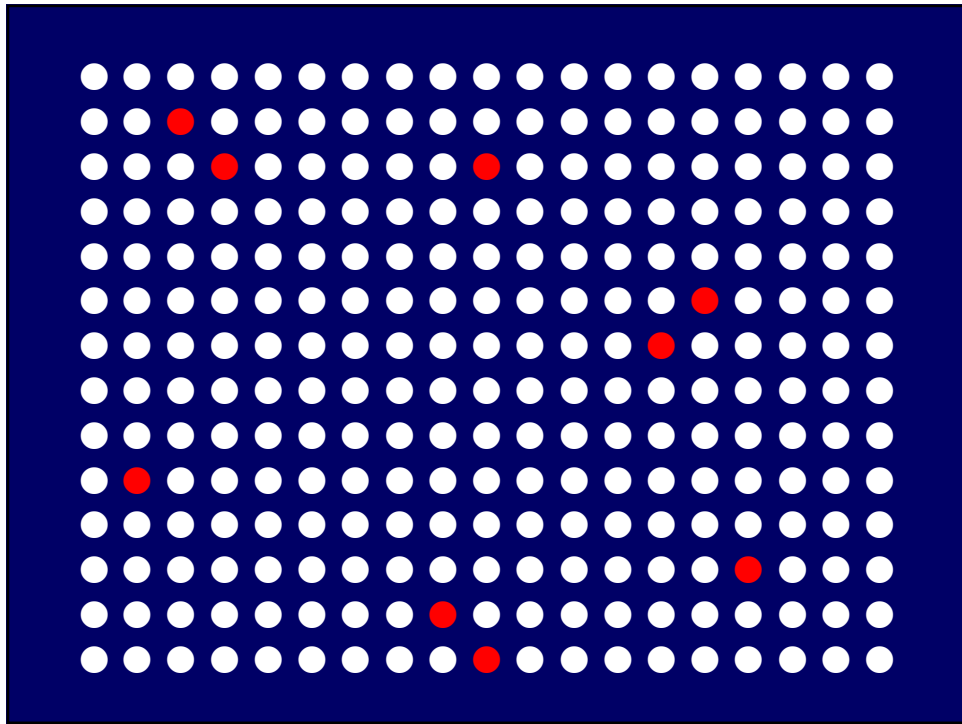
Living organisms do not contravene physical laws and processes in any way – but they cannot be reduced to them or defined by them. They harness them for the purposes specified by their (biological) ***design***.

Beyond the Reach of Chance

About **one in 30** 3-letter words
is meaningful in English

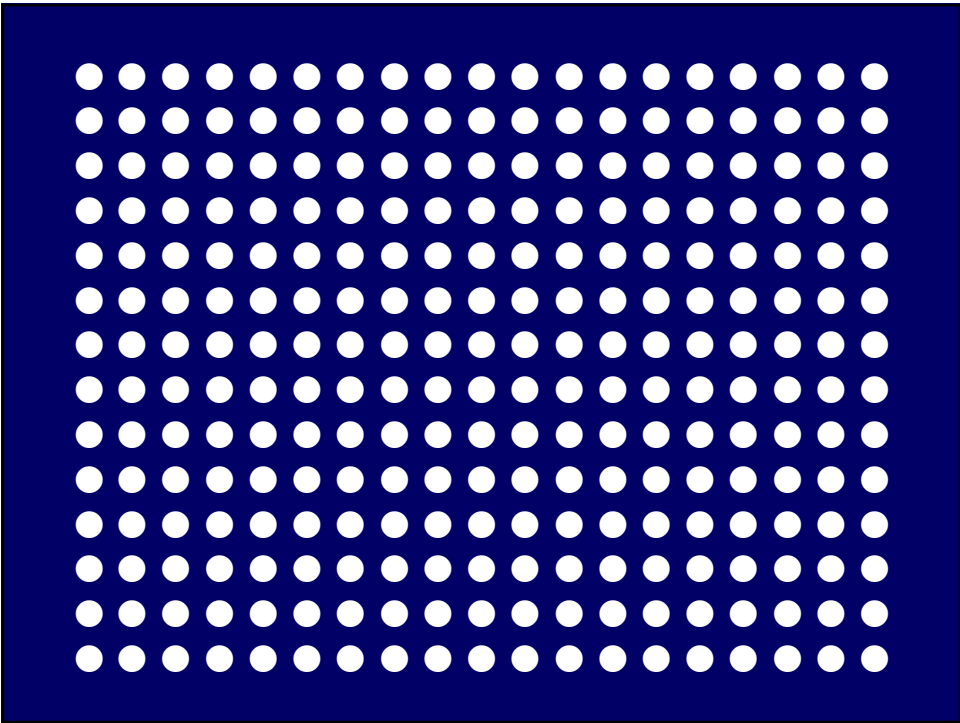
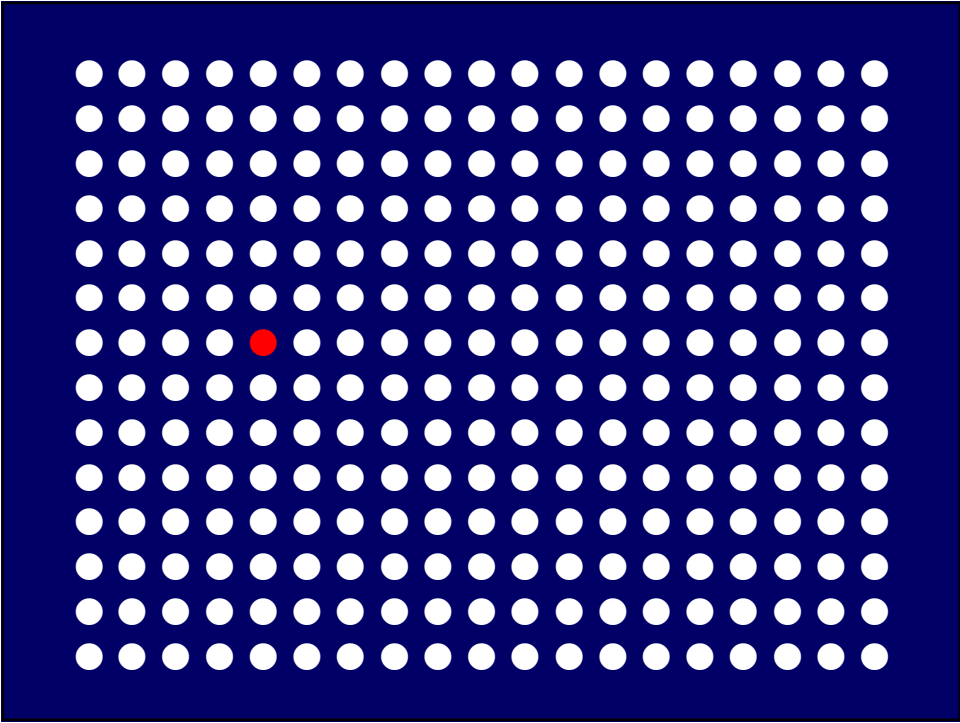
hat → cat → can → tan → tin
→ bin → bun → fun → fen

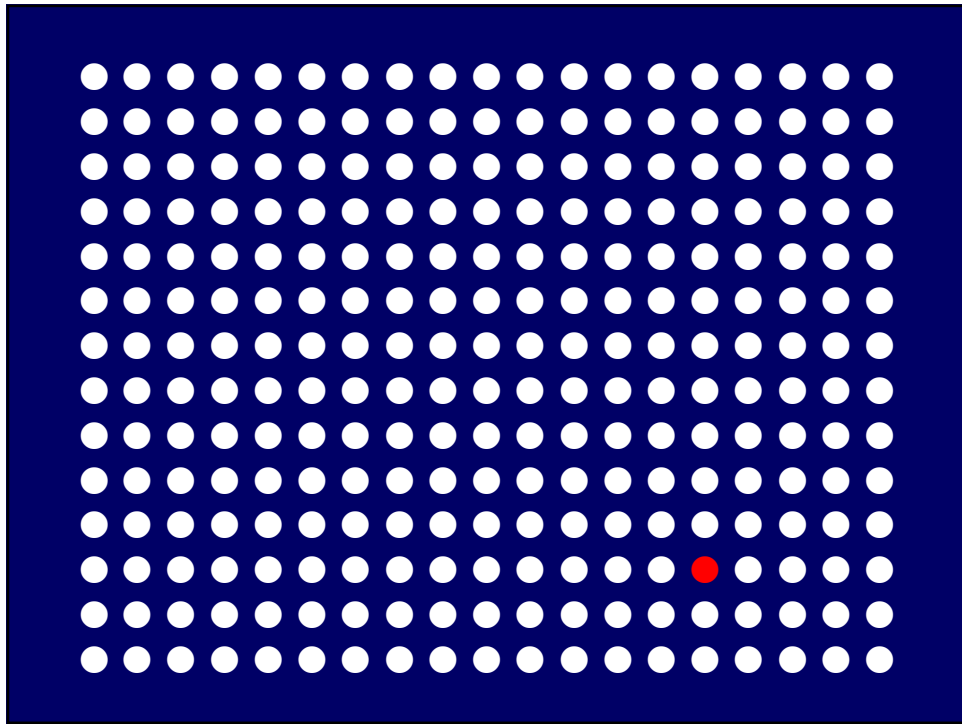




Only about **1 in 100,000**
7-letter words is
meaningful in English

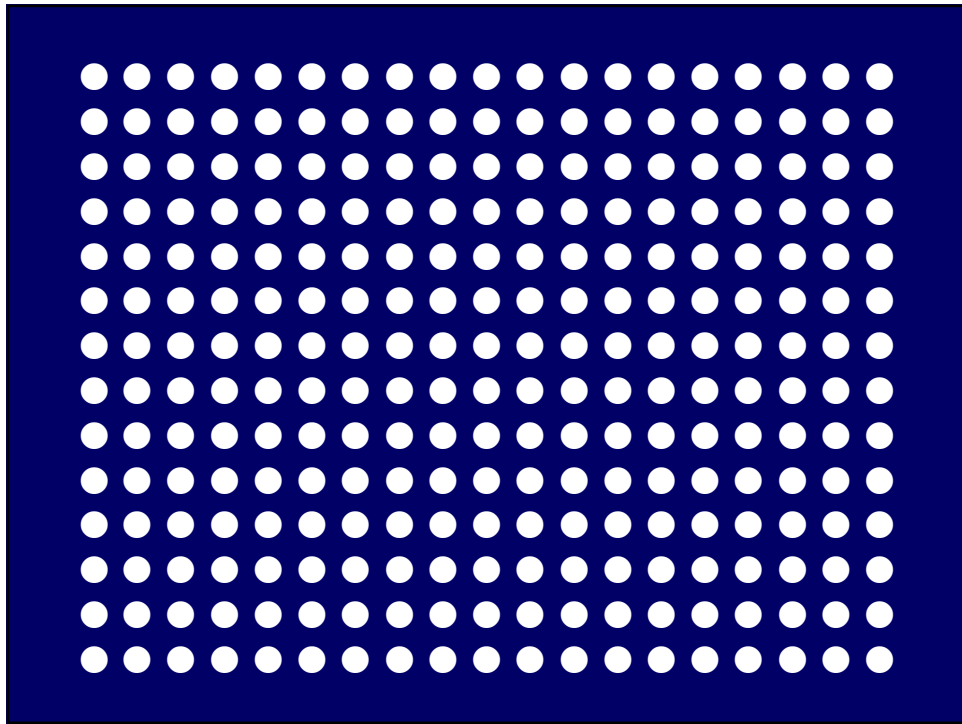
Beyond the reach of chance





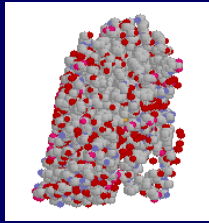
Only about **1 in 100 trillion**
12-letter words is
meaningful in English

Way beyond the reach of chance

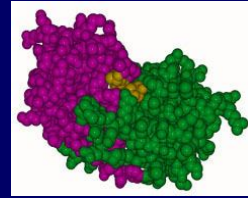


Words are arbitrary

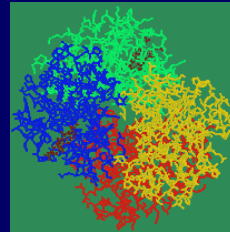
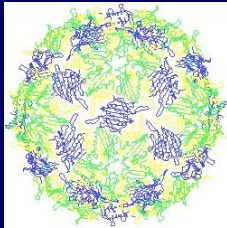
**Amino acid sequences in
proteins are not arbitrary**



Proteins



The proteins of life contain
hundreds or thousands of
amino acid 'letters'



There are small islands of
functional protein in vast
oceans of non-function



Many of these islands are separated by thousands or millions of bits or information.

No known natural processes have been shown to be able to cross even a 50 bit information gap – not even in computer simulations.

That last point is crucial.

ID is not an argument from incredulity, nor a 'god of the gaps' argument.

ID is an empirical approach that rejects the rationalism associated with evolutionism.

The argument for ID is not the '*we do not know how it happened, therefore God did it*' approach claimed by critics, but a thoroughly empirical stance:

- Numerous aspects of organic life appear to be design-like;
- no known naturalistic process can produce the necessary amounts of functional information;

On the other hand, we do know one thing which can cross huge information gaps:

- we know that intelligent agents, such as humans, can produce unlimited quantities of new functional information.

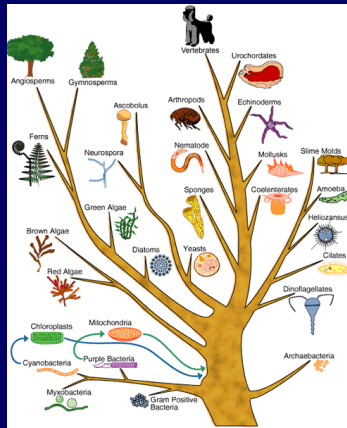
ID is an argument from *evidence*:

- **the evidence of the inability of unguided natural forces to produce even relatively small gains in functional information;**
- **the evidence that intelligence can produce unlimited quantities of new functional information.**



**No theory that lacks such
crucial support can be
regarded as robust**

Evolution & Materialism



What do we mean by 'evolution'?



evolution¹ = change over time
(variation)

evolution² = natural selection

evolution³ = universal common
descent

evolution⁴ = materialism

Evolution = materialism



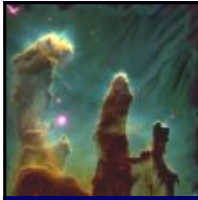
- No definition is neutral.
- Every definition has a worldview context.
- Today the dominant worldview is materialism.



Materialism



- *Physical nature* is all there is.
- There is no *immaterial* realm beyond physical detection (no spirit, soul, angels, God).
- There is no independent existence of *mind*.

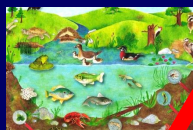


Materialism



- There is no *intelligence*, *design* or *purpose* behind, or at work in the universe.
- There is no *moral order* in the universe.
- The universe is *eternal* or *self-generating*.

Secular Story



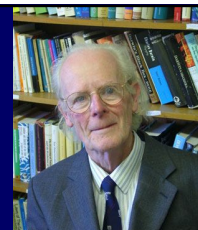
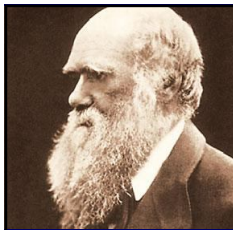
intelligent
life

life

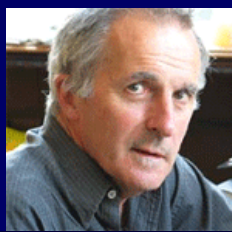


something

nothing



For both its original author,
Charles Darwin, and its leading
modern proponents, Darwinism is
the materialistic theory of origins.

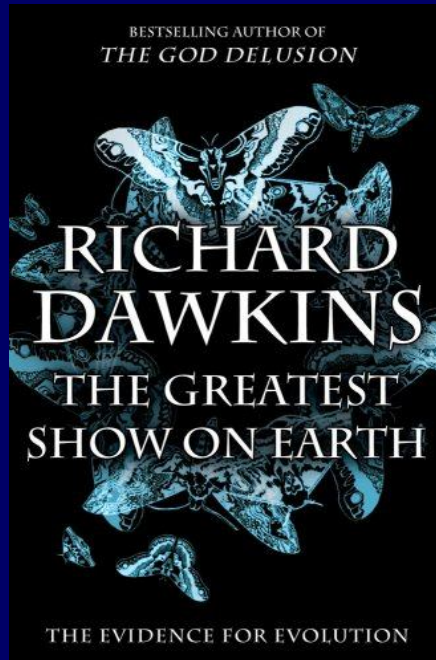


Secular science is identified with
materialism.



Darwinism is
then the only
game in town ...

... neutral,
objective science.



Richard Lewontin (evolutionary geneticist, Harvard)



“It is not that the methods and institutions of science somehow compel us to accept a material explanation for the phenomenal world ...



Richard Lewontin

... but, on the contrary, that we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations ...

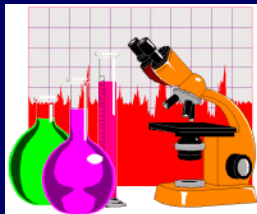


Richard Lewontin

... no matter how counterintuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a divine foot in the door.” *(New York Review of Books, 1997)*



Darwinism is the secularist's
materialistic origins myth.



Religious Root of Evolution



Religious root of evolution

We live in a *universe*.

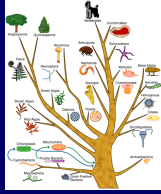
It has an intelligible unity and order that our minds can grasp.

Without that unity and order there could be neither philosophy nor science.

Religious root of evolution

How do we account for this unity and order of the world:

- if there is no Creator outside the world?
- if the unity has to be found within the world?



Evolutionism



- Everything that has ever existed is part of a great *continuity* in space and time
- This accounts for the *rational unity* and order it displays

Religious root of evolution

This *principle of continuity* is seen as the only possible naturalistic basis for reason and science

There is no 'Principle of Continuity'

- Not an empirical finding of scientific investigation
- Not a theoretical principle of proven fruitfulness
- A *dogma* of evolutionist *faith*

Two Foundational Laws of Biology

Two Foundational Laws

1. The Law of Biogenesis:



Living things arise only
from other living things

Two Foundational Laws

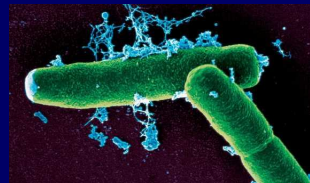
2. The Law of Heredity:



Living things arise only from other
living things *of the same kind*



Bacteria



“Throughout 150 years of the science of bacteriology, there is no evidence that one species of bacteria has changed into another”

Prof Alan Linton, Bacteriologist, Bristol

(THES, 20 April 2001, page 29)



**No theory that lacks such
crucial support can be
regarded as robust**

**Heredity is much
more than DNA**

Cortical Inheritance

Until the 1930s it was commonly believed by biologists that the genes do not determine the fundamental features of an organism's body plan.

Many developmental biologists still think so.

Ciliates

(Microscopic single-celled animals)



Vorticella



Paramecium

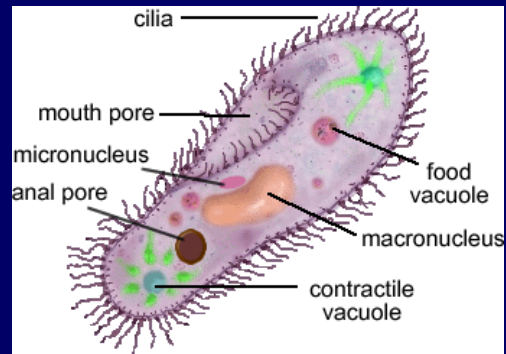
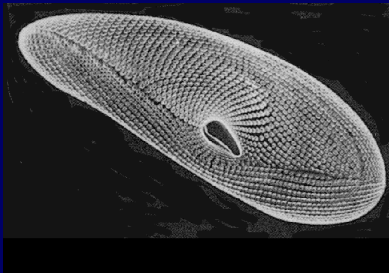


Stentor



Tetrahymena

Paramecium

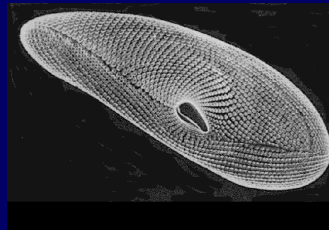


Ciliate Inheritance

By the 1950s it was proven beyond doubt that the ciliate cell surface structures and their patterns were inherited independently of genes and DNA.

Ciliate Inheritance

For example, microsurgical alterations (e.g. reversed patches of cilia) are inherited indefinitely



Ciliate Inheritance

At first many dismissed this as a quirk of ciliates with their elaborate cell surface structures:

‘the only significant threat to our views’

‘rare example’

‘lunatic fringe
of biology’

‘bizarre’

‘an extreme departure from our
standard genetic system’

Ciliate Inheritance

But it is clearly universal:

- 1. Cilate cortex is an elaboration of the cell membrane and cytoskeleton that are universal features of animal and plant cells.**
- 2. Developmental processes are the same in unicellular and multicellular organisms.**

Ciliate Inheritance

- 3. Some ciliates form cysts and then lose all visible surface structures, but cortical inheritance still occurs.**
- 4. Evidence of cortical inheritance is available for many animals and plants and contrary evidence for none.**

Neo-Darwinism

The Genetic paradigm is
dead and therefore so is
Neo-Darwinism

More on Genetic Reductionism

- DNA reductionism is like saying the bumps on a CD
- create both the music and the CD player.

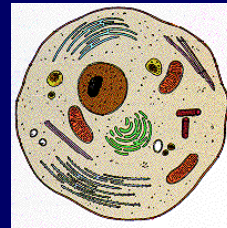


Developmental Biology



- DNA encodes the building materials (proteins), but not the architect's plans.

- Heredity and development never start with just DNA, but always with whole cells, whole organisms.



Biology - Genetics & Development

Fiddling with a chimp's DNA leads to one of only three outcomes:

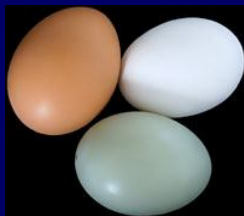


- a variety of normal chimp;
- an abnormal chimp;
- a dead chimp.

Is there a Scientific Theory of Darwinian Evolution?

Is there a Scientific Theory of Evolution?

(1) Embryological Development



How? No theory!

Is there a Scientific Theory of Evolution?

(2) Evolutionary Development

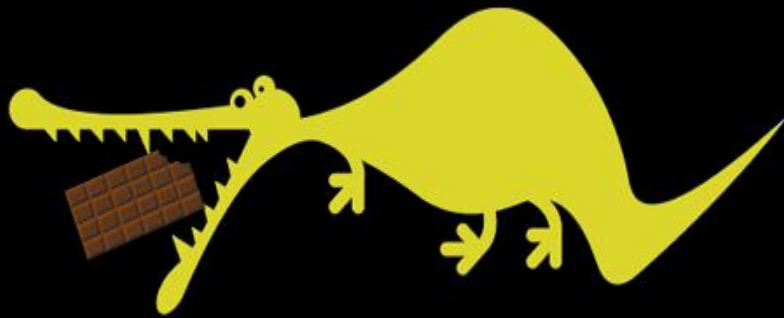


How? No theory!



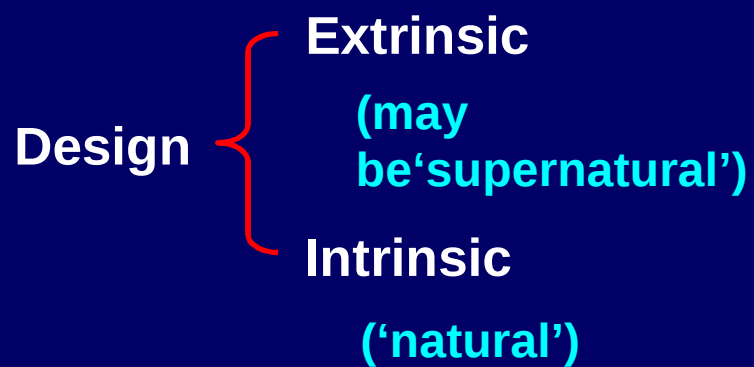
No theory that lacks such crucial support can be regarded as robust

REALITY BITES



<http://www.realitybites.org.uk/>

Intrinsic & Extrinsic ID



Intrinsic ID

Nature has an intrinsic, or inbuilt teleology that derives from immanent principles, *i.e.* principles of design that are part of nature and not due to a supernatural being.

Held by Socrates, Plato, Aristotle and many others to this day

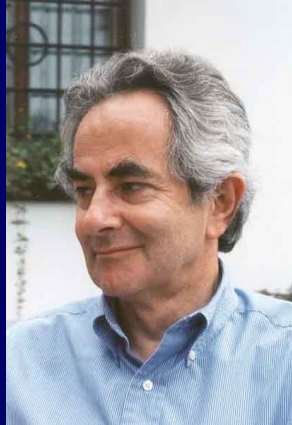
Extrinsic ID

An intelligent agent may use design vehicles, or proximal causes that belong within nature and are open to scientific investigation.

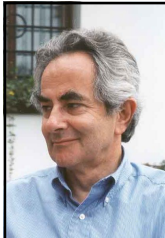
Extrinsic ID is not a 'Science Stopper' or 'God of the Gaps'.

Thomas Nagel

(b 1937)

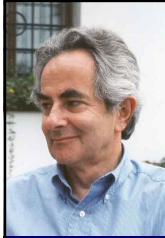


Professor of Philosophy
New York University



Thomas Nagel

“the idea that someone who admits the possibility of design as an explanation will have no reason to look for explanations in terms of natural law is completely unsupported, either epistemologically or historically. From Newton on down, ...



Thomas Nagel

... scientists who believe in God
have always been as intent
as anyone else to discover universal
natural laws that can be empirically
confirmed.”

(Philosophy & Public Affairs, 2008)

Angus Menuge

(b 1964)



**Professor of Philosophy
Concordia University Wisconsin**



Angus Menuge

“Even if God or some other transcendent power or principle were ultimately responsible for a phenomenon, the proximal cause actually inferred, a design vehicle, might be a natural entity. ... How this design vehicle itself works is then a tractable question, ...



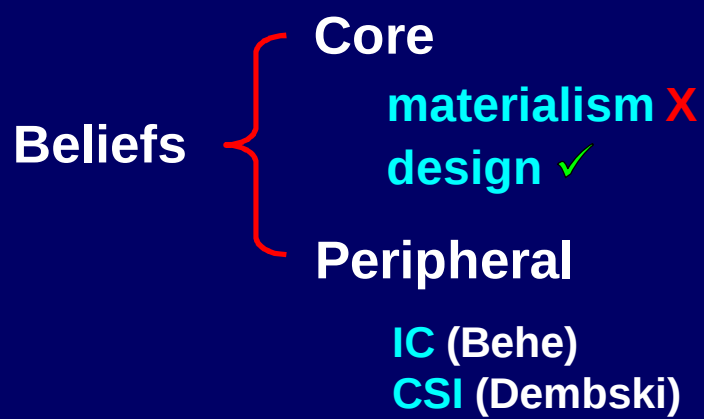
Angus Menuge

... which may in turn lead to the question of whether the program itself was designed, and if so, by what means. ... Normally ... design encourages further investigation into exactly how a designing system works.”

(Personal communication, 2009)

Core & Peripheral Beliefs

Research Programmes



Method, Realism & Completeness

- **Method**
(only materialistic explanations?)
- **Realism**
(explanations that work even if false?)
- **Completeness**
(explanations limited to particular aspects of the topic?)

- **Method + Completeness**
(Descartes, minority today)
- **Realism + Completeness**
(Empiricists, ID today)
- **Method + Realism**
(Bacon, evolutionists today)

Paradigm Shift

Paradigm Shift

- **Geology**
Geosynclinal Theory → Plate Tectonics
- **Biology**

Paradigm Shift

"The geosynclinal theory is one of the great unifying principles in geology. In many ways its role in geology is similar to that of the theory of evolution which serves to integrate the many branches of the biological sciences. ...

Paradigm Shift

... The geosynclinal theory is of fundamental importance to sedimentation, petrology, geomorphology, ore deposits, structural geology, geophysics, and in fact all branches of geological science. It is a generalization concerning the genetic relationship between the troughlike basinal areas of the earth's crust which accumulate great thicknesses of sediment and are called geosynclines, and major mountain ranges. ...

Paradigm Shift

... Just as the doctrine of evolution is universally accepted among biologists, so also the geosynclinal origin of the major mountain systems is an established principle in geology."

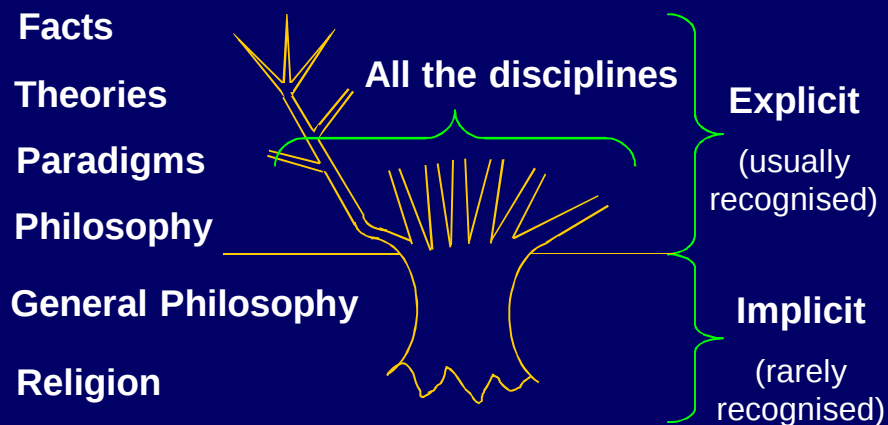
(Clark & Stearn, 1960, page 43)

Paradigm Shift

- **Geology**
Geosynclinal Theory → Plate Tectonics
- **Biology**
Darwinism → ID

Bush of Knowledge

The Bush of Knowledge



Philosophies of Biology

- **Atomism** – all wholes are explained by analysing them into their parts.
- **Mechanism** – All events are explained by preceding events which are their causes.

Paradigms in the biological sciences

Cell Theory

Exclusion Principle

Gene Theory

Principle of Homeostasis

Sociobiology

Selfish Gene Theory

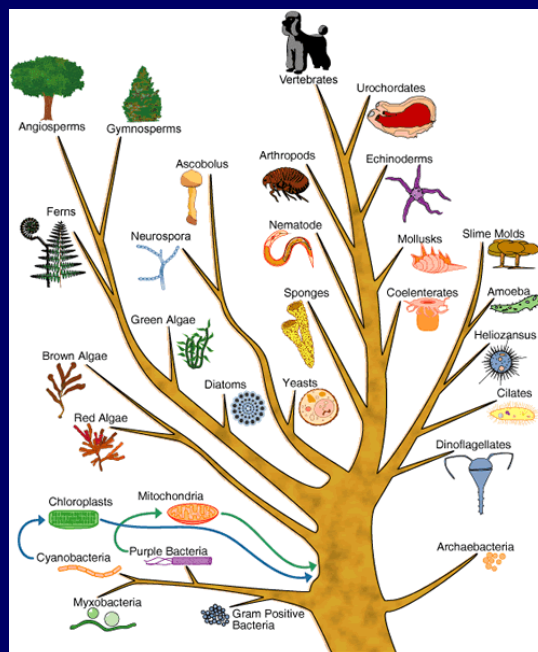
Law of Biogenesis

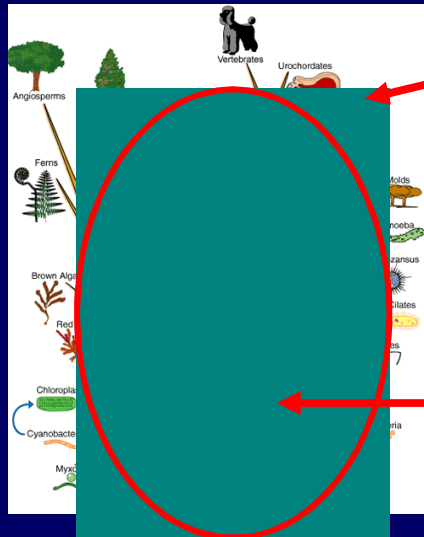
Darwinism

Structuralism

Principle of Homology

Tree of Life





Tips of the twigs (living species) are vastly outnumbered by the branches and trunk (extinct ancestors)

Fossils

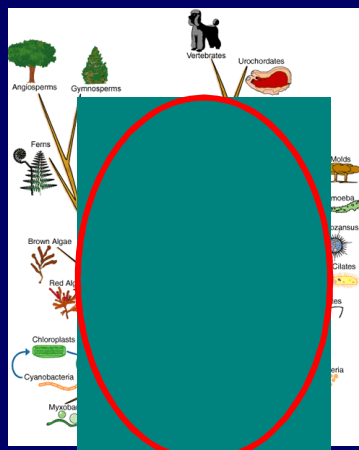
- Typically 40-80% of living species are found as fossils
- For genera (plants) and families (animals) figures are typically 80% and above
- Even for poorly represented groups the figures are high (e.g. 88% for bird families)

Fossils

	Living	Known fossil	% Known fossil	Reference
Bivalve families	53	48	90.6	Valentine (1989)
Bivalve genera	132	111	84.2	Valentine (1989)
Bivalve species	230	184	80.1	Valentine (1989)
Gastropod families	60	53	88.3	Valentine (1989)
Gastropod genera	159	130	81.8	Valentine (1989)
Gastropod species	468	354	75.6	Valentine (1989)
Ostracods			60	Paul (1990)
Terrestrial vertebrate orders	43	42	97.7	Romer (1966)
Terrestrial vertebrate families	329	261	79.1	Romer (1966)
Terrestrial vertebrate families (excluding birds)	178	156	87.8	Romer (1966)

Fossils

- Fossils of living species outnumber fossils of extinct species by about 10:1

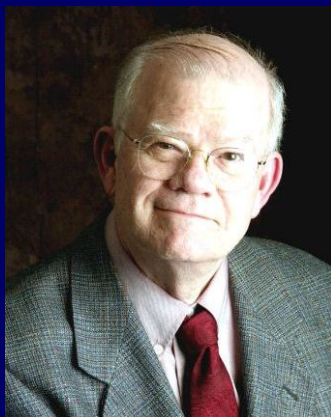




Michael Reiss
(b 1960)

**Professor of Science Education,
University of London**

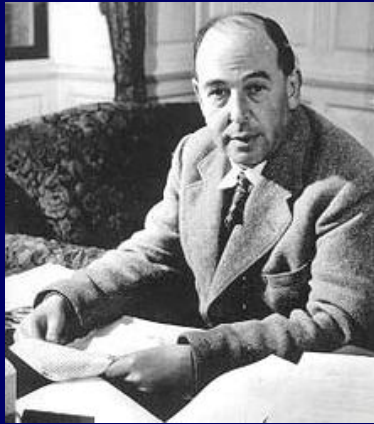
Phillip Johnson



Law Professor
University of California, Berkeley

C.S. Lewis

(1898-1963)



Professor of Medieval and Renaissance
Literature, Cambridge University

Marjorie Grene

(1910-2009)



American Philosopher of Science

Mary Midgley

(b 1919)



Formerly Senior Lecturer in Philosophy
University of Newcastle upon Tyne

Michael Denton

(b 1943)



British-Australian Biochemist

Lynn Margulis

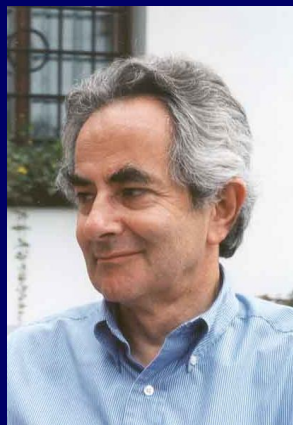
(b 1938)



Professor of Biology
University of Massachusetts

Thomas Nagel

(b 1937)



Professor of Philosophy
New York University

Alvin Plantinga

(b 1932)



Professor of Philosophy
University of Notre Dame

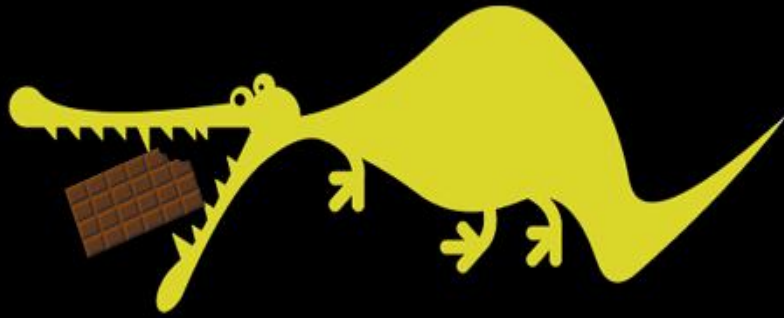
Keith Ward

(b 1938)



Professor of Divinity
University of Oxford

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