

Critique of Major Themes of Darwinian Evolution

Usman Ali

22/04/2018

Disclaimers

1. The opinions presented here do not necessarily represent Fatima Elizabeth Cates Academy.
2. This lecture is a short collection of information and not a comprehensive overview of all lines of evidence used by Darwinian evolutionists.
3. This is not the final answer to the question of evolution.
4. The main focus of the talk is science; this is not a lecture on the interaction between religion and science about evolutionary thought.

Disclaimers

5. Importantly, this lecture should not be interpreted as Darwinian evolution cannot explain anything.
6. I am not telling you what to believe. I am merely giving you information so that you are better equipped to critique some of the assumptions underlying Darwinian evolution. You choose for yourself what you believe and think.

Session Plan

Introduction:

i) Neo-Darwinian Evolution and ii) its Evidences

Part 1: Critique of Common Descent

Mystery of the Cambrian Explosion

Part 2: Critique of Natural Selection

Darwin's Finches

Conclusion

A Scientific Dissent from Darwinian Evolution
Metaphysical Assumptions of Darwinism

i) What is Darwinian Evolution?

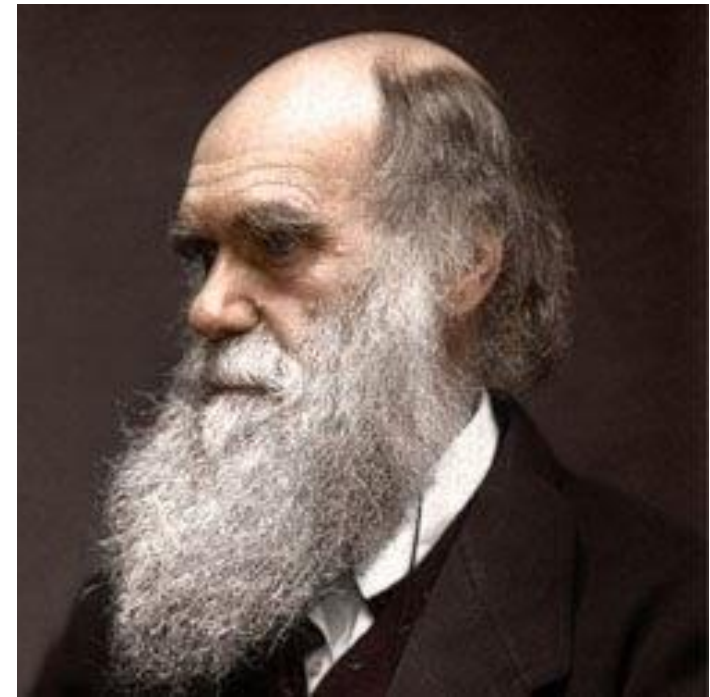
“Descent
with
Modification”

i) What is Darwinian Evolution?

Descent

“...I view all beings not as special creations, but as the lineal descendants of some few beings which lived long before the first bed of the Cambrian system was deposited...”

– **The Origin of Species**



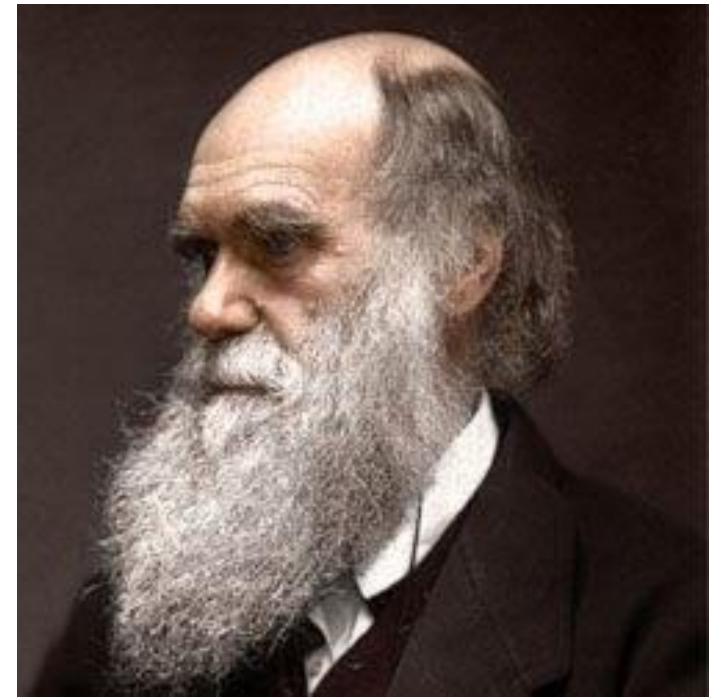
Charles Darwin
(1809–82)

i) What is Darwinian Evolution?

Modification

“Natural Selection has been the main but not exclusive means of modification.”

– The Origin of Species



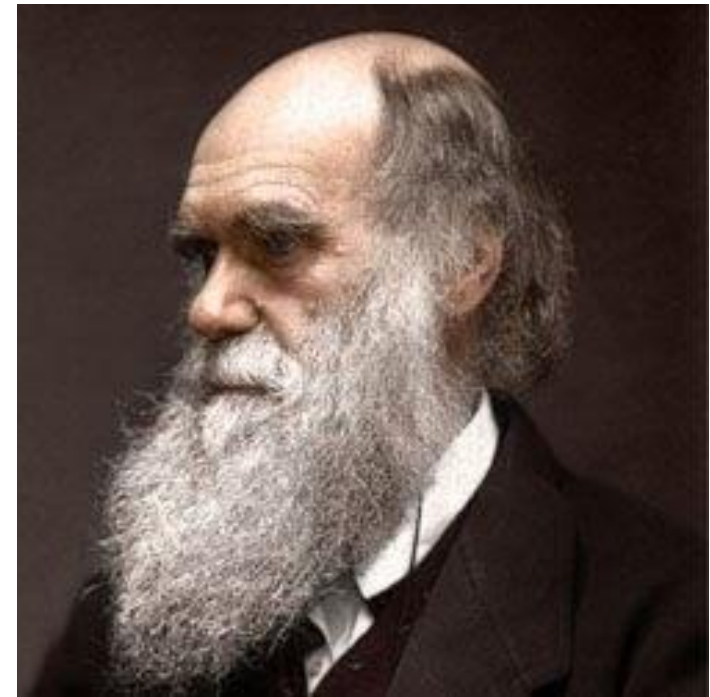
Charles Darwin
(1809–82)

i) What is Darwinian Evolution?

Purely Naturalistic Theory

“I would give absolutely nothing for theory of nat. selection, if it require miraculous additions at any one stage of descent.”

– Letter to Charles Lyell,
11th Oct 1859



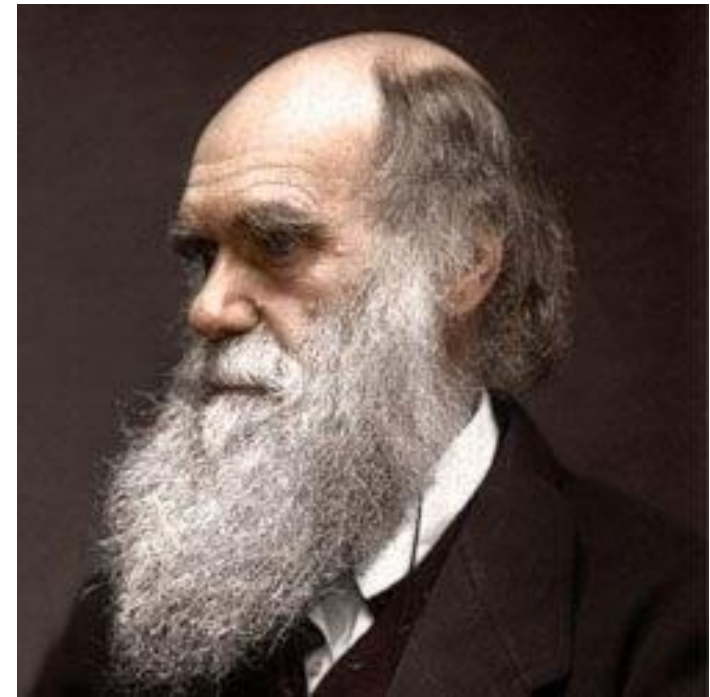
Charles Darwin
(1809–82)

i) What is Darwinian Evolution?

Darwin Was Not An Atheist

“With respect to the theological view of the question; this is always painful to me — I am bewildered — I had no intention to write atheistically.”

– Letter to Asa Gray,
22nd May 1860



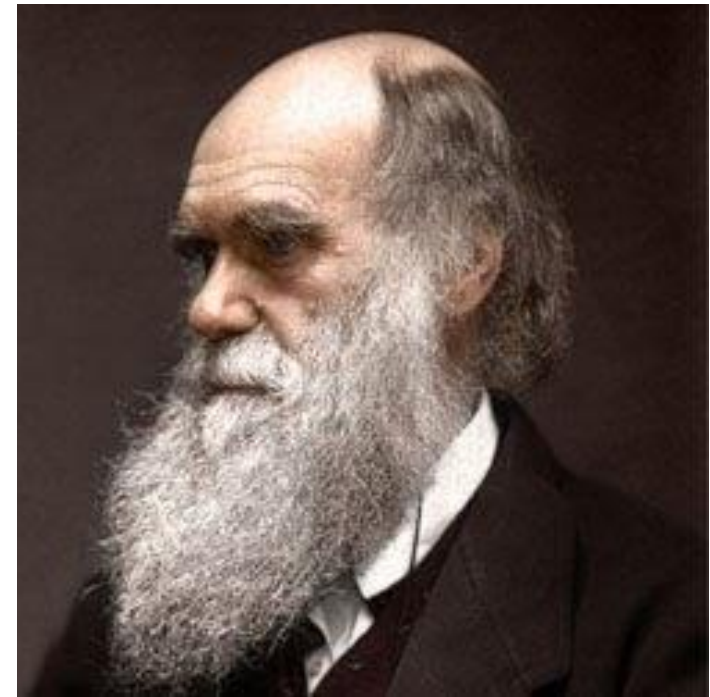
Charles Darwin
(1809–82)

i) What is Darwinian Evolution?

Darwin Was Not An Atheist

“In my most extreme fluctuations, I have never been an atheist in the sense of denying the existence of a God...”

- Letter to John Fordyce,
7th May 1879

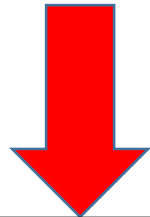


Charles Darwin
(1809–82)

i) What is Darwinian Evolution?

What is 'Darwinism'?

“**Descent** with **Modification**”



Common Descent

Pattern

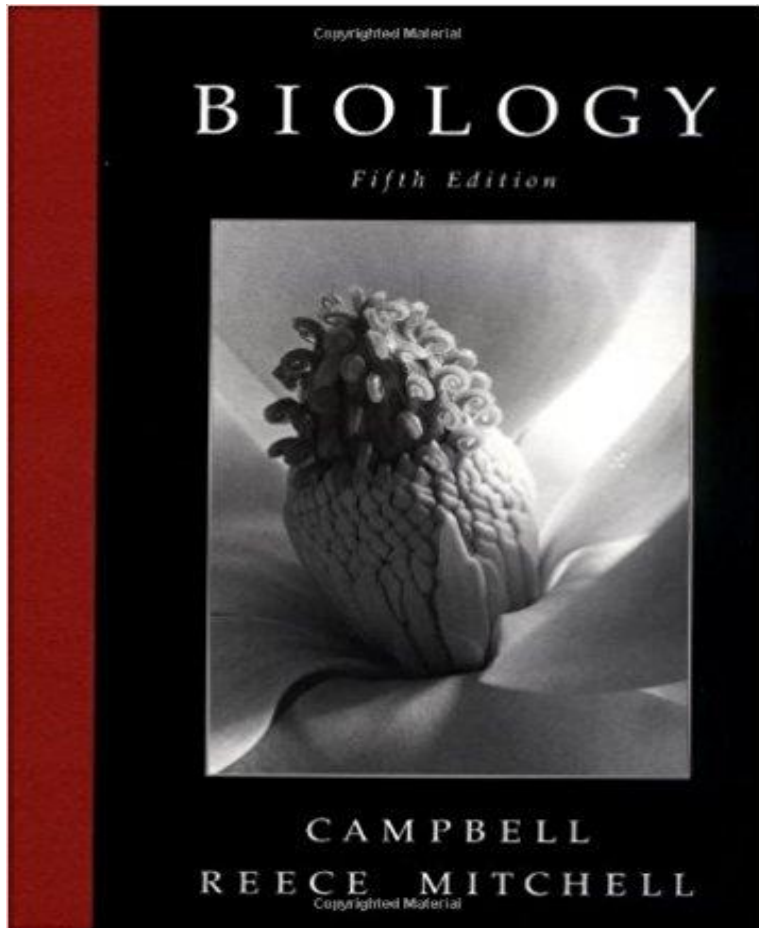


Natural Selection

Process

i) What is Darwinian Evolution?

What is Modern 'Darwinism'?



Neil A. Campbell,
Jane B. Reece &
Lawrence G. Mitchell.

Biology

5th edition (1999)

i) What is Darwinian Evolution?

What is Modern 'Darwinism'?

“Darwinism has a dual meaning”

Fact: “that modern species evolved from ancestral forms”

Theory: “natural selection is the main mechanism
....to explain the historical **facts** of evolution”


Neil A. Campbell, Jane B. Reece, Lawrence
G. Mitchell. **Biology**. (1999), pp 419, 426

i) What is Darwinian Evolution?

What is 'Darwinism'?

Biology (1999). Authors, Neil A. Campbell, Jane B. Reece,
Lawrence G. Mitchell.

“Darwinism has a dual meaning”



Fact

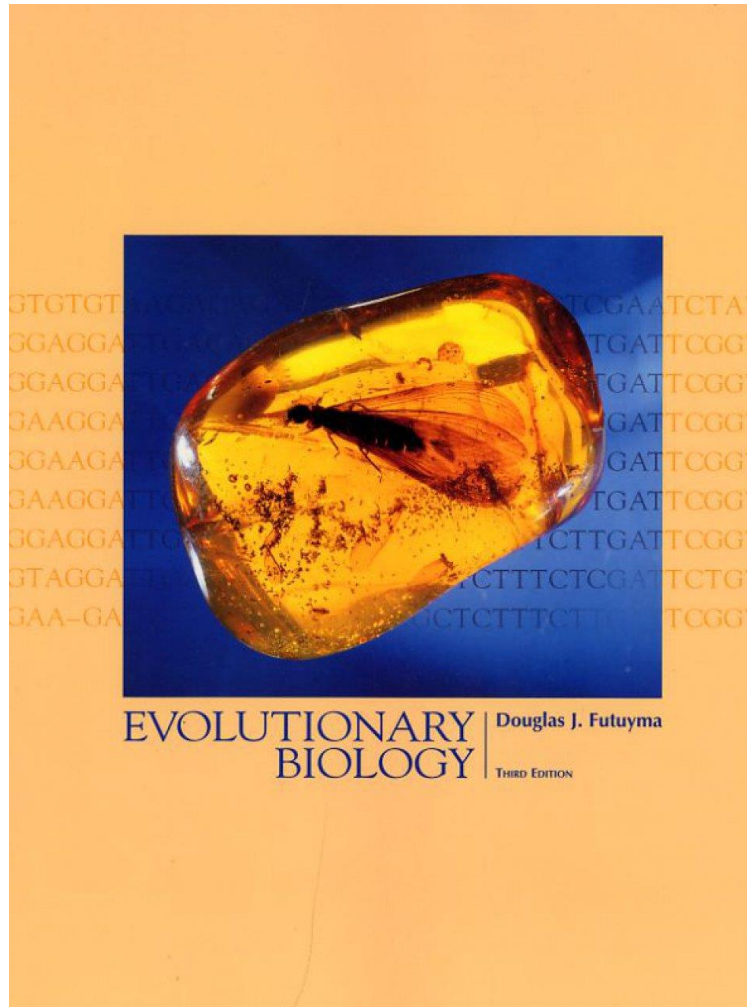
Centred on the
Tree of Life



Theory

Centred on
Natural Selection

i) What is Darwinian Evolution?



Douglas J. Futuyma

Evolutionary Biology

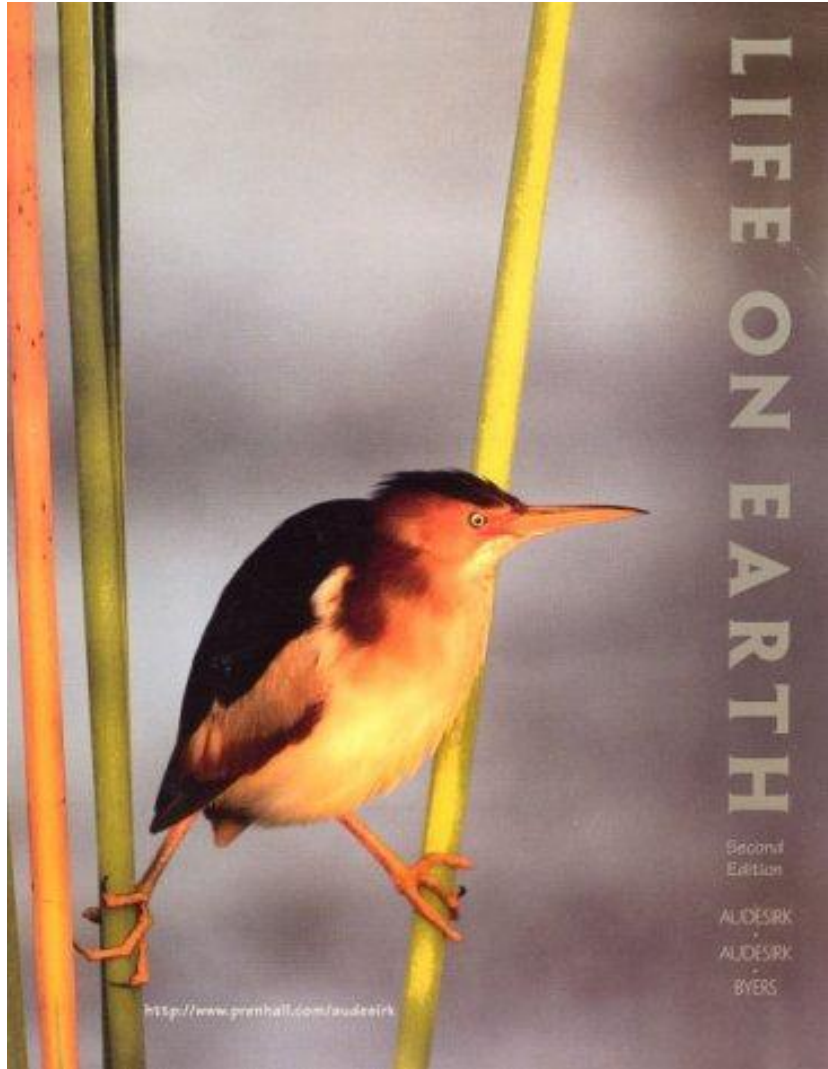
3th edition (1998)

i) What is Darwinian Evolution?

“Descent with modification from common ancestors is a **scientific fact**, that is, a hypothesis so well supported by the evidence that we take it to be true”

Douglas J. Futuyma. **Evolutionary Biology**. (1998), p. 15

i) What is Darwinian Evolution?



Teresa Audesirk,
Gerald Audesirk &
Bruce E. Byers.
Life on Earth

2th edition (2000)

i) What is Darwinian Evolution?

“...the theory of evolution states that modern organism descended, with modification, from pre-existing life forms... Virtually all biologists consider evolution to be a **fact**.”

Teresa Audesirk, Gerald Audesirk & Bruce E. Byers. **Life on Earth**. (2000), pp. 6, 235

i) What is Darwinian Evolution?

“Although debates still rage over the *mechanisms* of evolutionary change, exceedingly few biologists dispute that evolution occurs.”

Teresa Audesirk, Gerald Audesirk & Bruce E. Byers. **Life on Earth**. (2000), pp. 6, 235

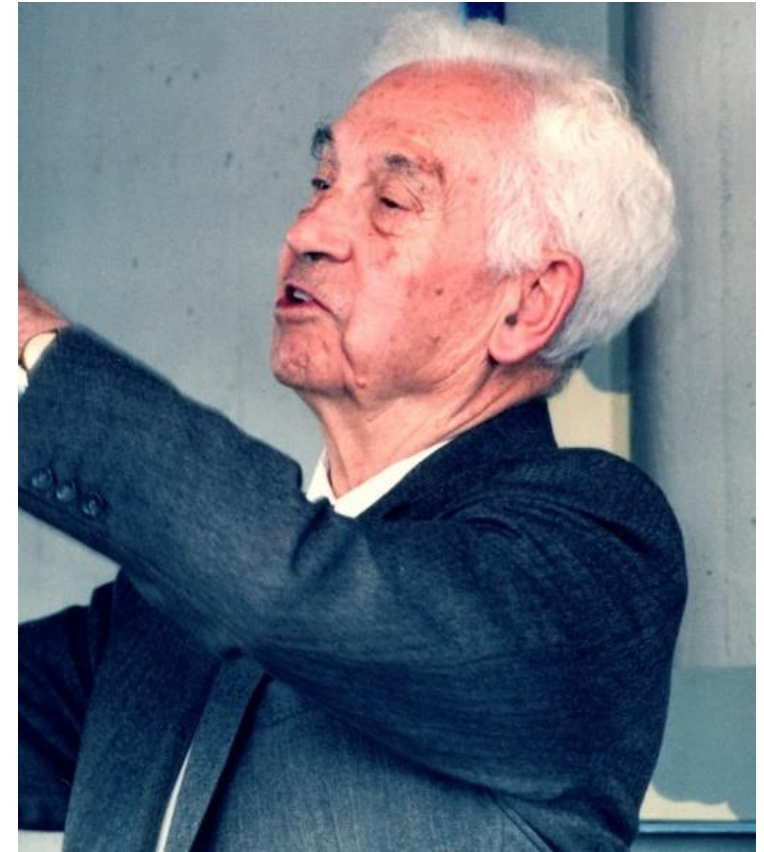
i) What is Darwinian Evolution?

Why? “Because an
overwhelming body of
evidence permits no other
conclusion.”

i) What is Darwinian Evolution?

“There is probably no biologist left today who would question that all organisms found on earth have descended from a **single origin of life**”

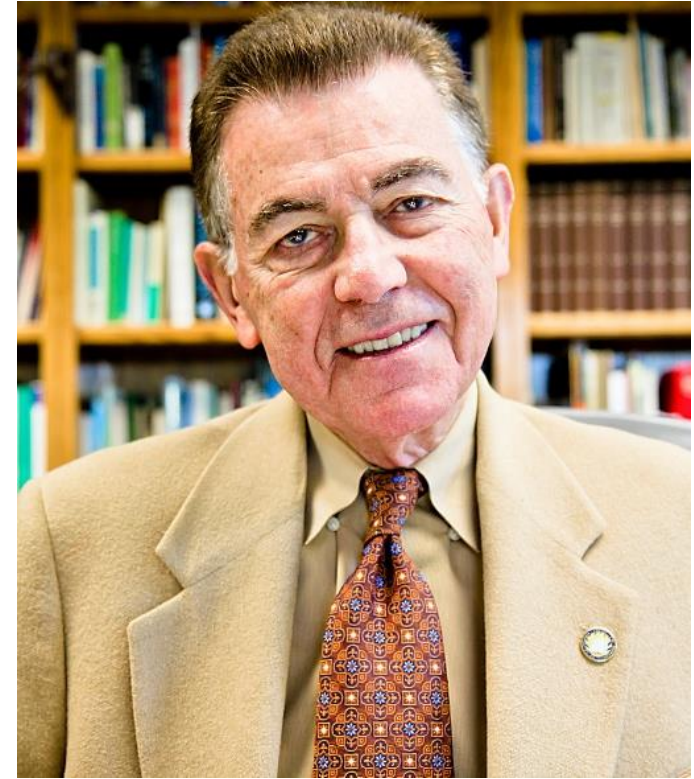
Ernst Mayr. **One Long Argument**. (1991)



Ernst Mayr
1904–2005

i) What is Darwinian Evolution?

Common Decent: “is a conclusion **established with a certainty** similar to that of notions such as the roundness of the earth, the motion of the planets, and the molecular composition of matter”
(1985)



Francesco Ayala
1934–

ii) What is the Evidence of Evolution?

Evidence for Universal Common Descent

“The key lines of evidence include such sources as the **fossil record**”

ii) What is the Evidence of Evolution?

Evidence for Natural Selection

“...average beak size in this **finch population** has increased dramatically...Changes in food supply created selection pressure that caused finch population to evolve within decades.”

Miller and Levine, Biology, (2014
Ed), p. 472–473.



Kenneth R. Miller Joseph Levine

ii) What is the Evidence of Evolution?

Universal Common Descent

Fact of Darwinian Evolution

 { **The Fossil Record**

My Critique: Part 1

Mystery of the Cambrian Explosion

Natural Selection

Theory of Darwinian Evolution

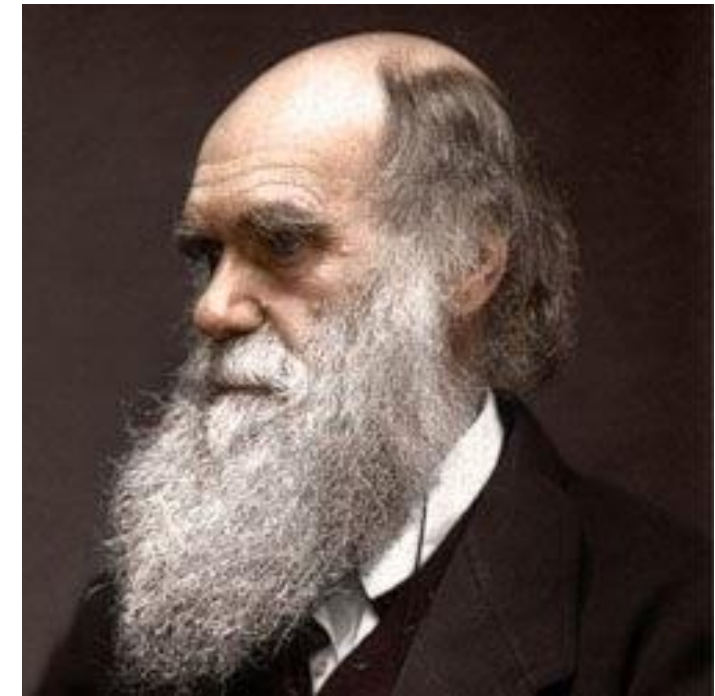
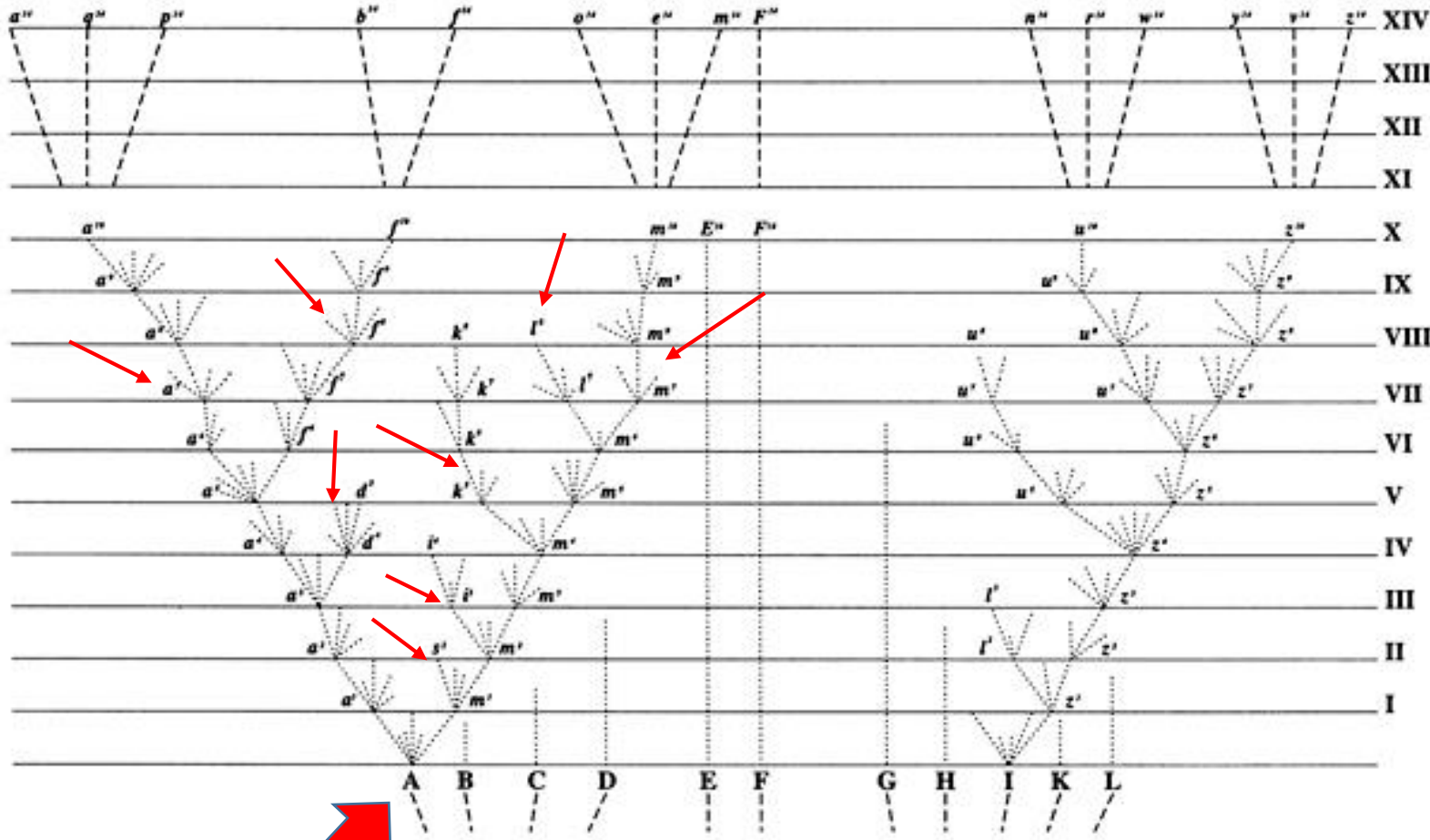
 { **Darwin's finches**

My Critique: Part 2

To show the exaggeration in this
line of evidence

PART 1:
Critique of
Universal Common Descent
– The Fact of
Darwinian Evolution –
Using the Fossil Record

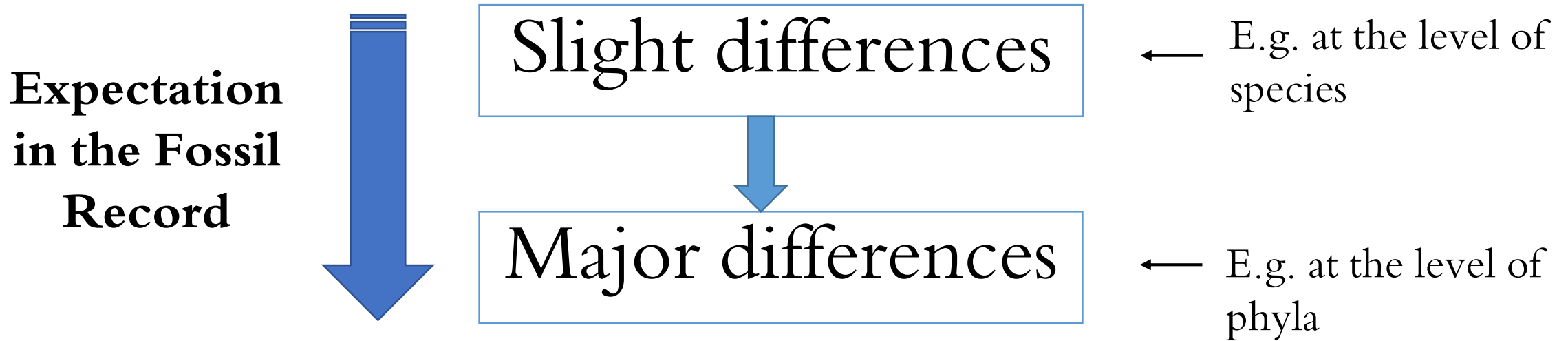
Mystery of the Cambrian Explosion



Charles Darwin
(1809–82)

– The Origin of Species

Mystery of the Cambrian Explosion



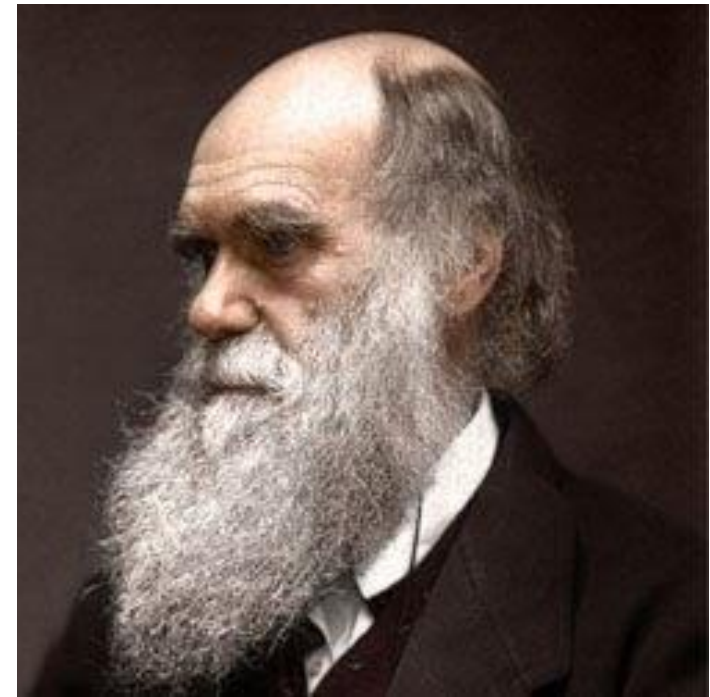
“...the small differences distinguishing varieties of the same species, steadily tend to increase, till they equal the greater differences between species...”

– **The Origin of Species**

Mystery of the Cambrian Explosion

“... As natural selection acts solely by accumulating slight, successive, favourable variations, it can produce **no great or sudden modification**; it can act only by very short and slow steps.”

– **The Origin of Species**



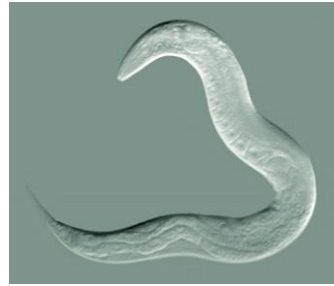
Charles Darwin
(1809–82)

Mystery of the Cambrian Explosion

Seven major animal groups (Phyla)



Platyhelminthes



Nematoda



Echinodermata



Chordata



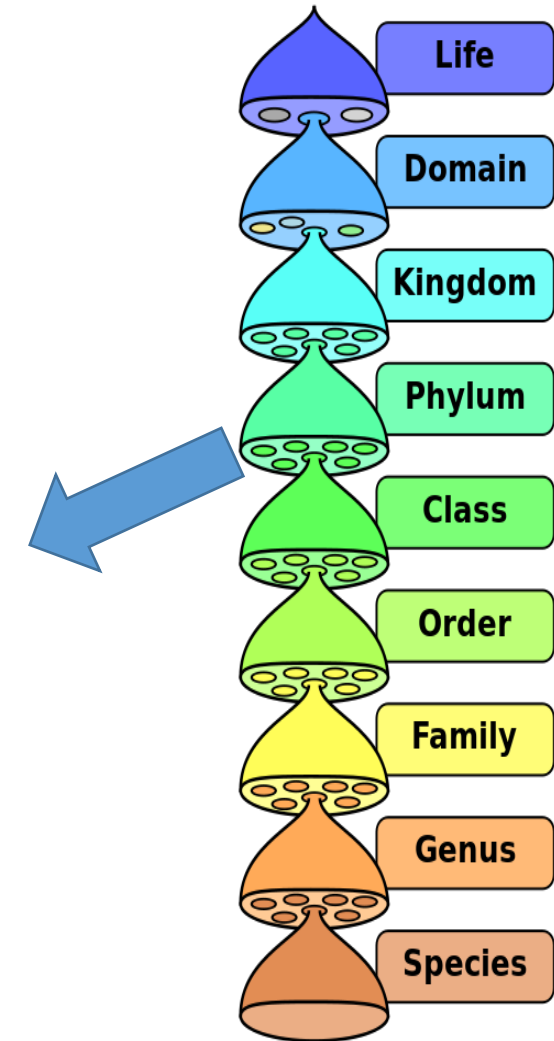
Mollusca



Arthropoda

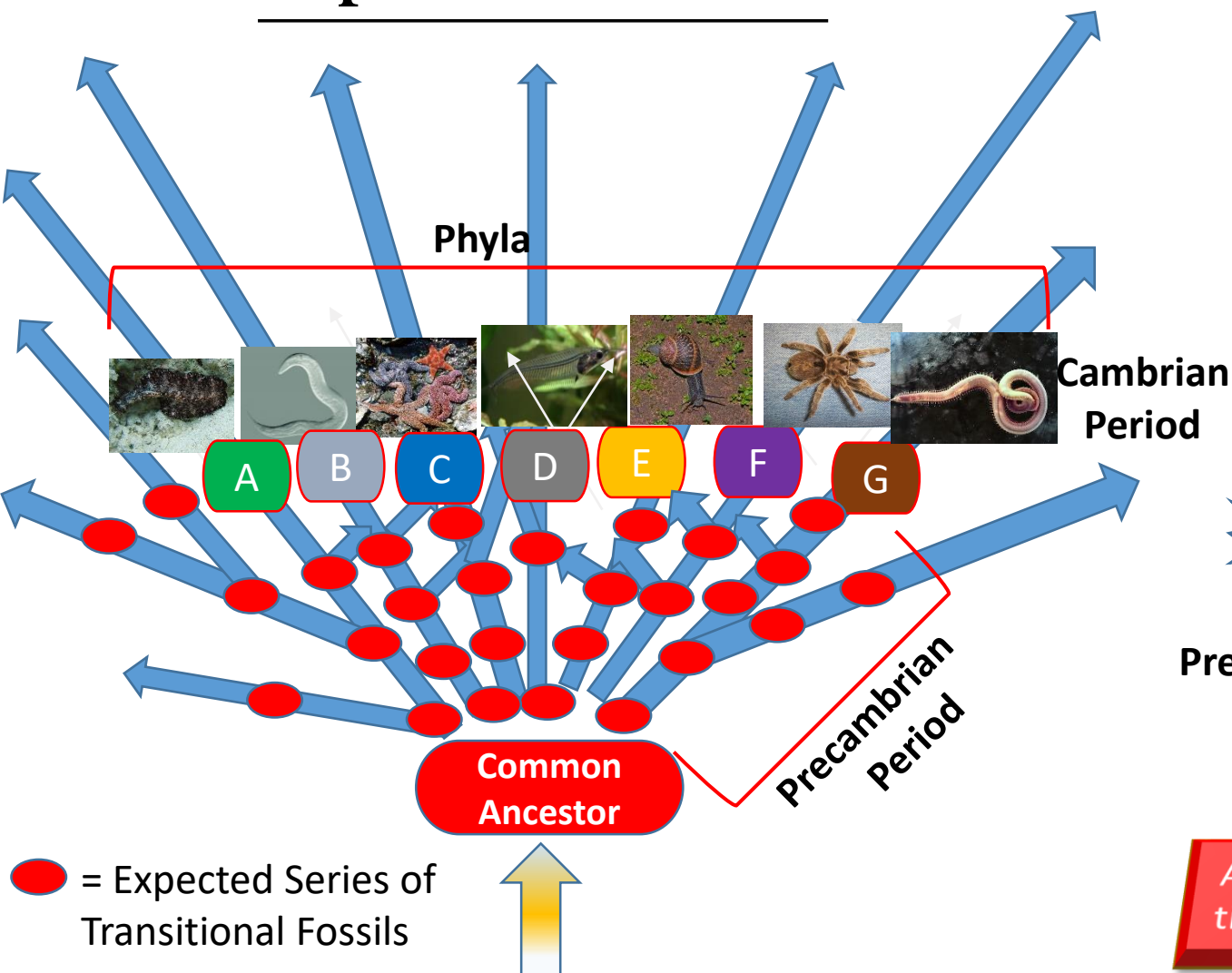


Annelida

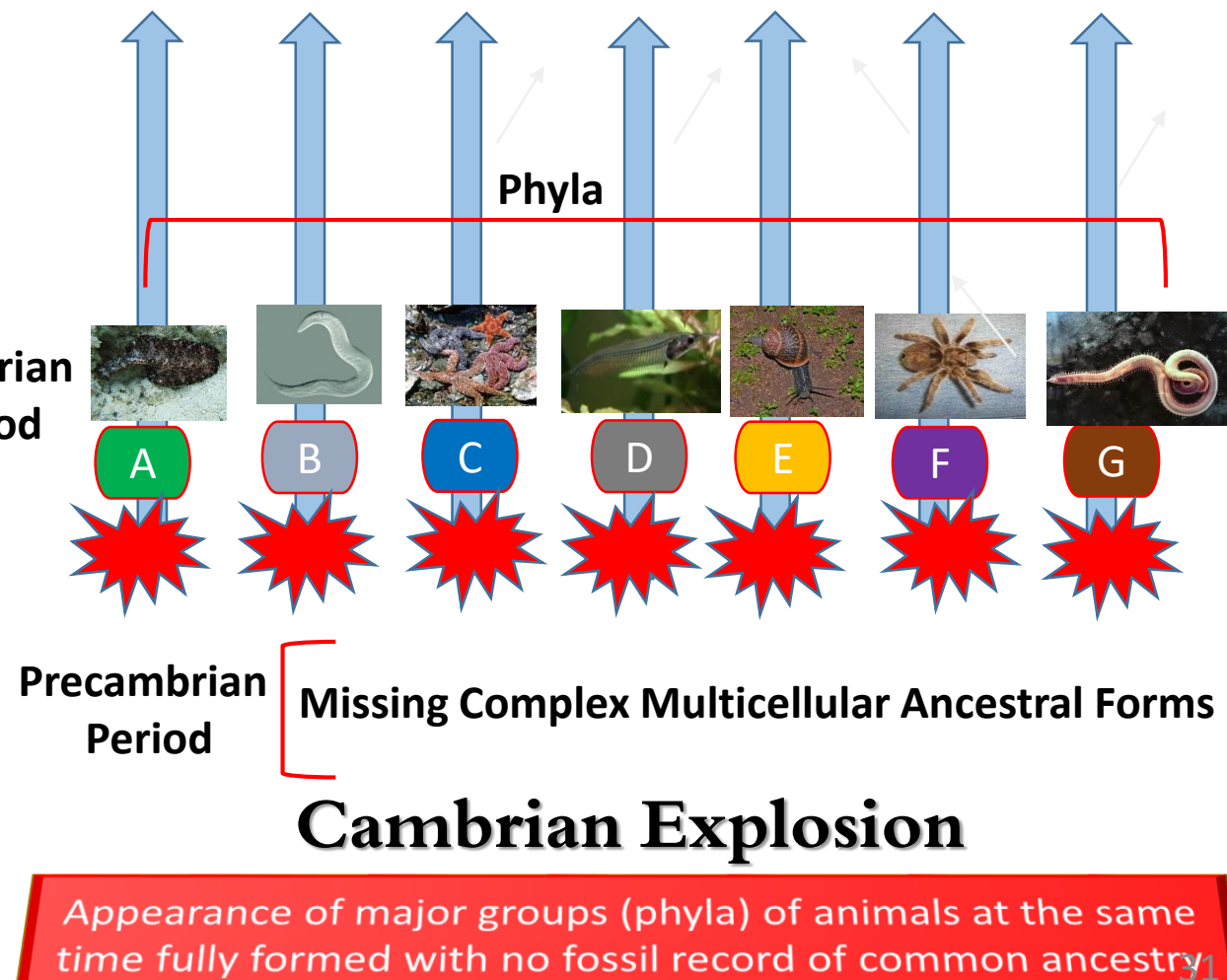


Mystery of the Cambrian Explosion

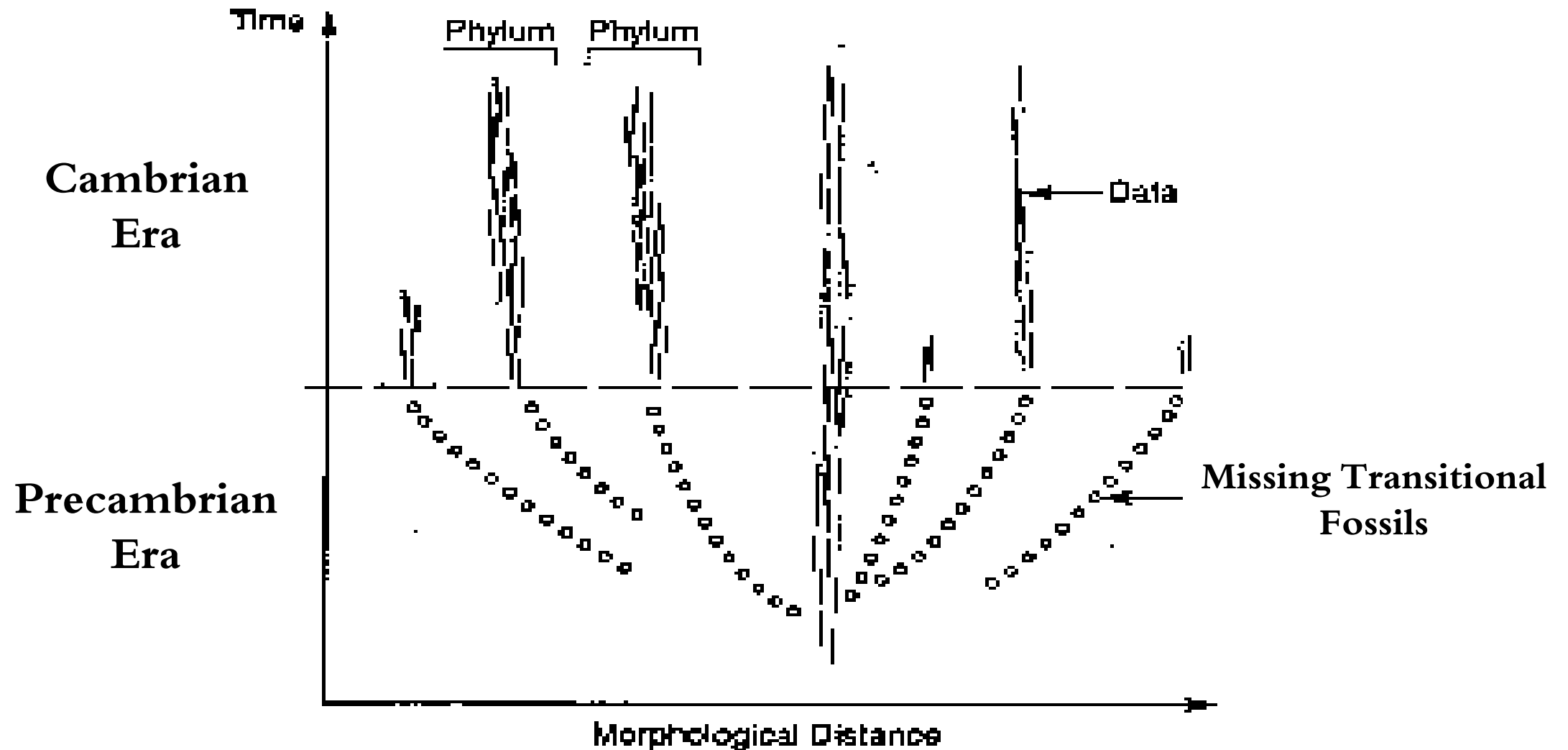
Expected Evidence



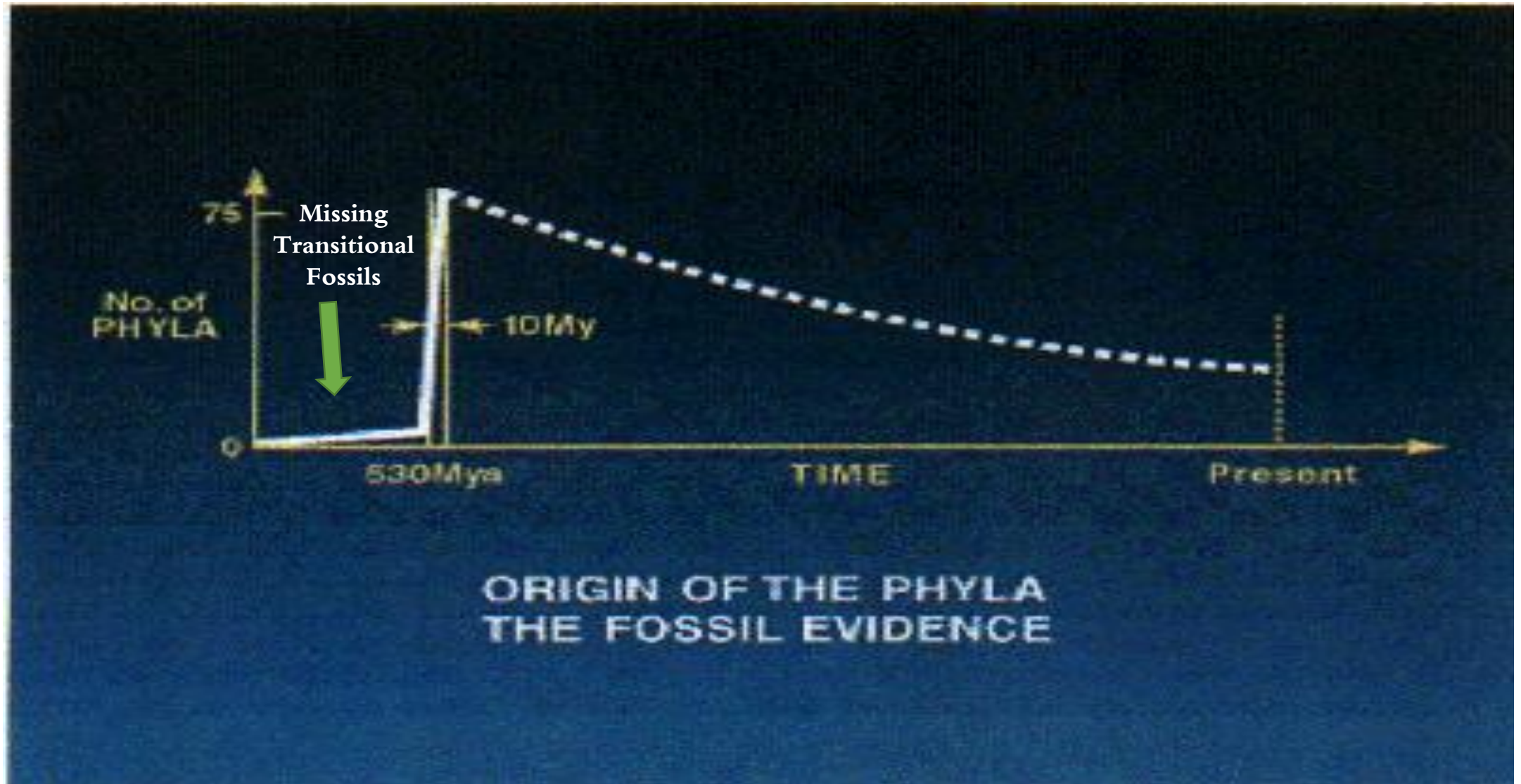
Actual Evidence



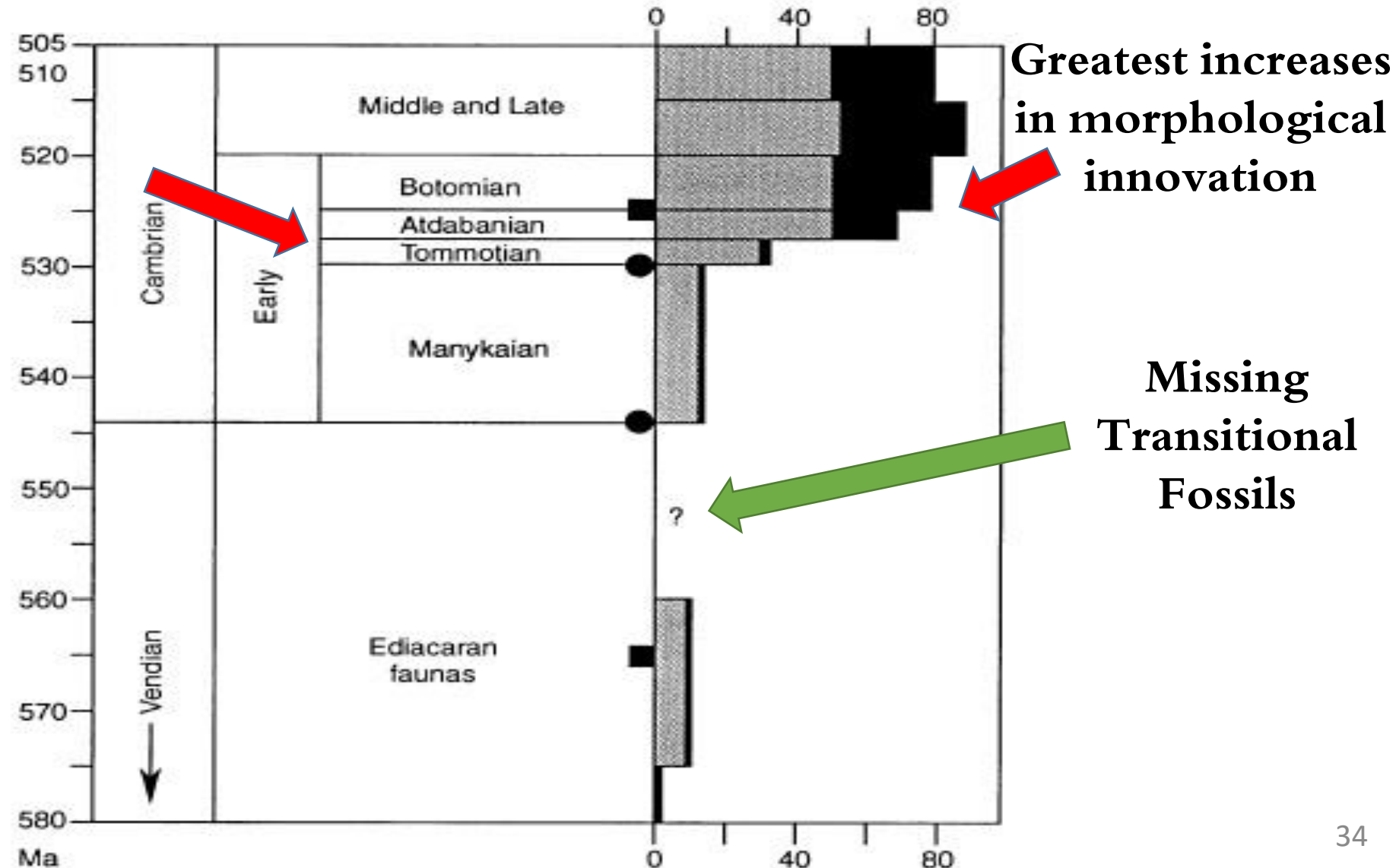
Mystery of the Cambrian Explosion



Mystery of the Cambrian Explosion

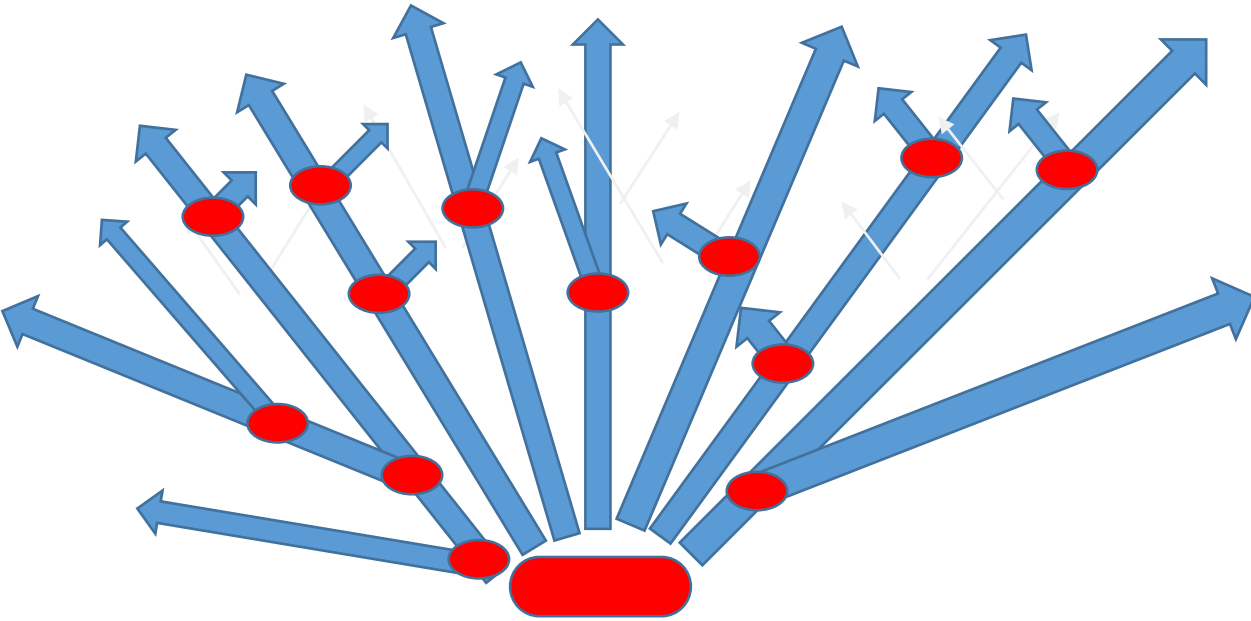


Mystery of the Cambrian Explosion



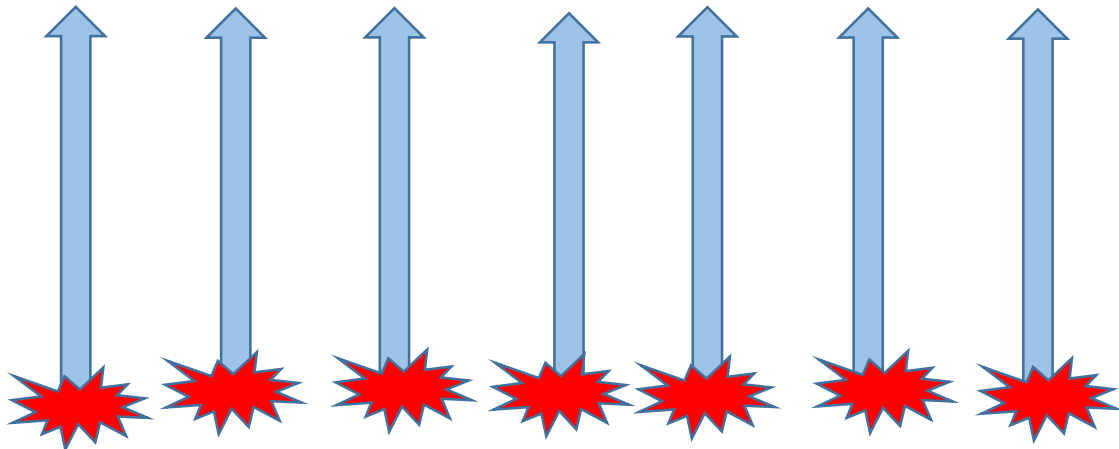
Samuel A. Bowring, John P. Grotzinger, Clark E. Isachsen, Andrew H. Knoll, Shane M. Pelechaty, Peter Kolosov, "Calibrating Rates of Early Cambrian Evolution," *Science*, Vol. 261 (September 3, 1993): 1293-1298.

Mystery of the Cambrian Explosion



Theory

Gradual Branching Tree
leading up to the phyla



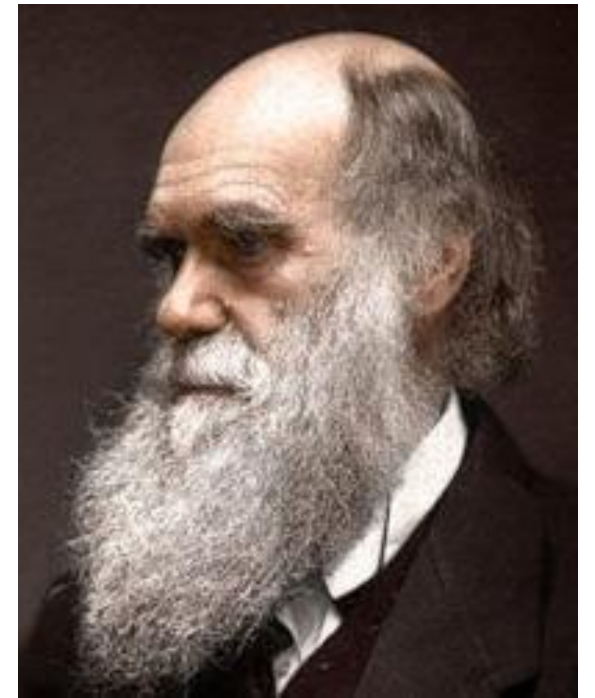
Fact

Fully formed Major Groups
(Phyla) right at the start

Mystery of the Cambrian Explosion

“There is another and allied **difficulty**, which is much more **serious**. I allude to the manner in which species belonging to several of the main divisions of the animal kingdom **suddenly appear** in the lowest known fossiliferous rocks.”

– **The Origin of Species**

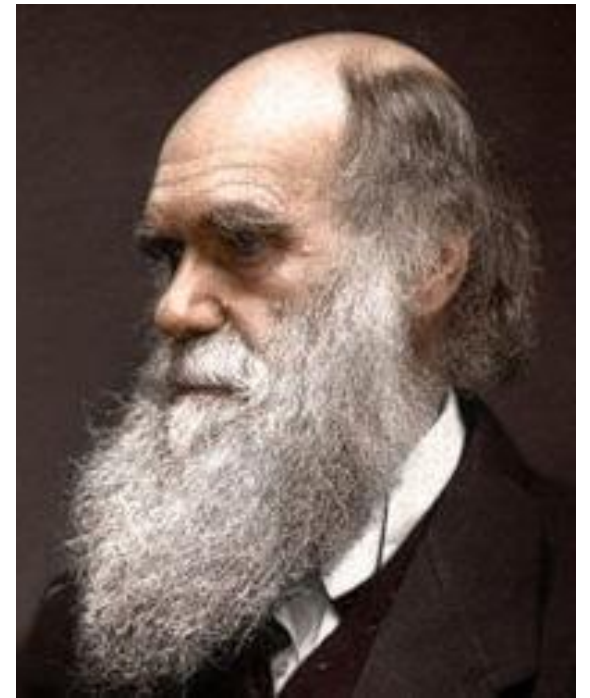


Charles Darwin
(1809–82)

Mystery of the Cambrian Explosion

“The case at present must remain **inexplicable**; and may be truly urged as a valid argument against the views here entertained.”

– **The Origin of Species**

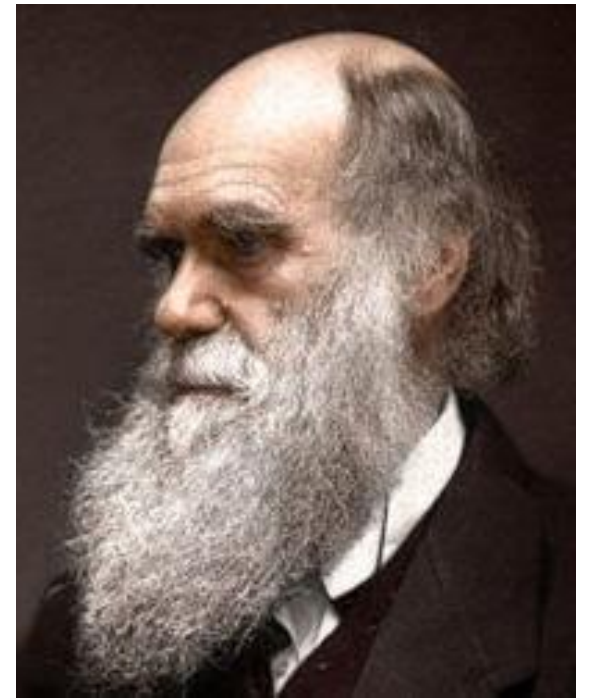


Charles Darwin
(1809–82)

Mystery of the Cambrian Explosion

“To show that it may hereafter receive some explanation, I will give the following hypothesis...have we any right to assume that things have thus remained from the beginning of this world?”

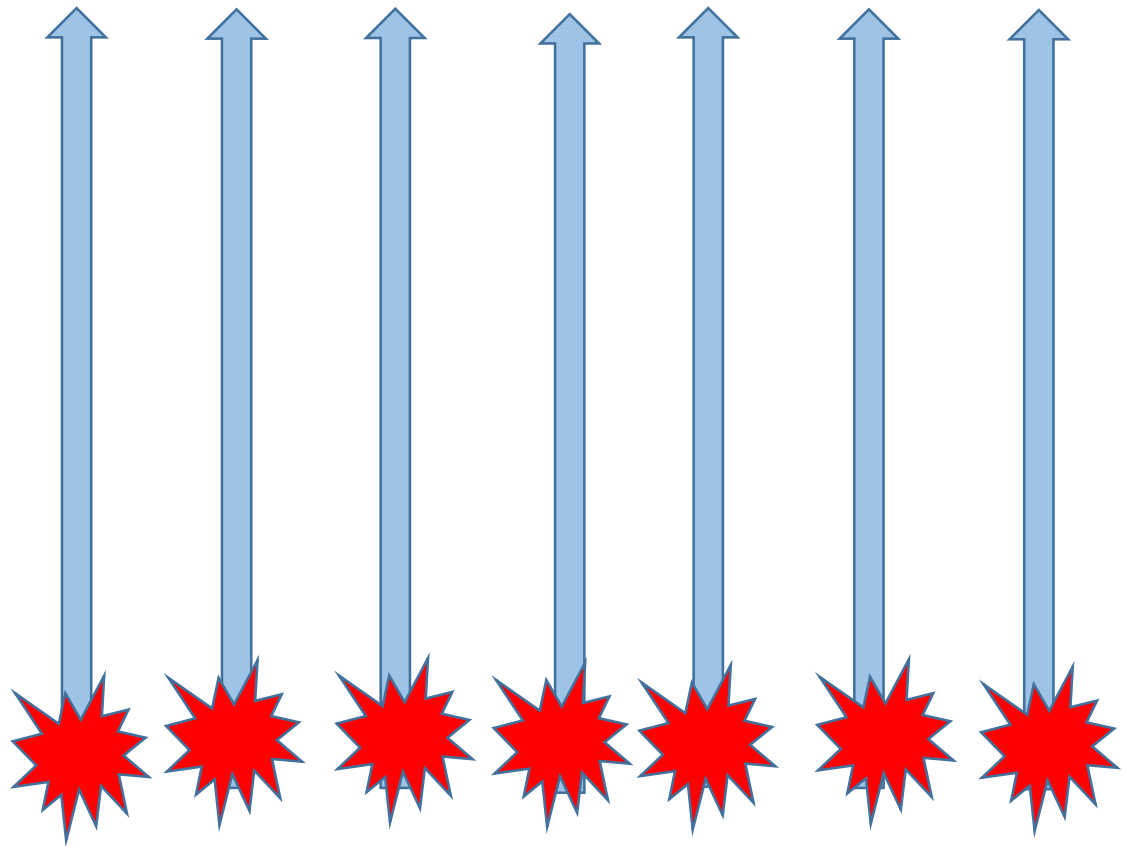
– **The Origin of Species**



Charles Darwin
(1809–82)

Mystery of the Cambrian Explosion

Main Argument



Fossil record is incomplete or flawed

Why?

Fossils of ancestors were too small and delicate to have fossilised

Mystery of the Cambrian Explosion

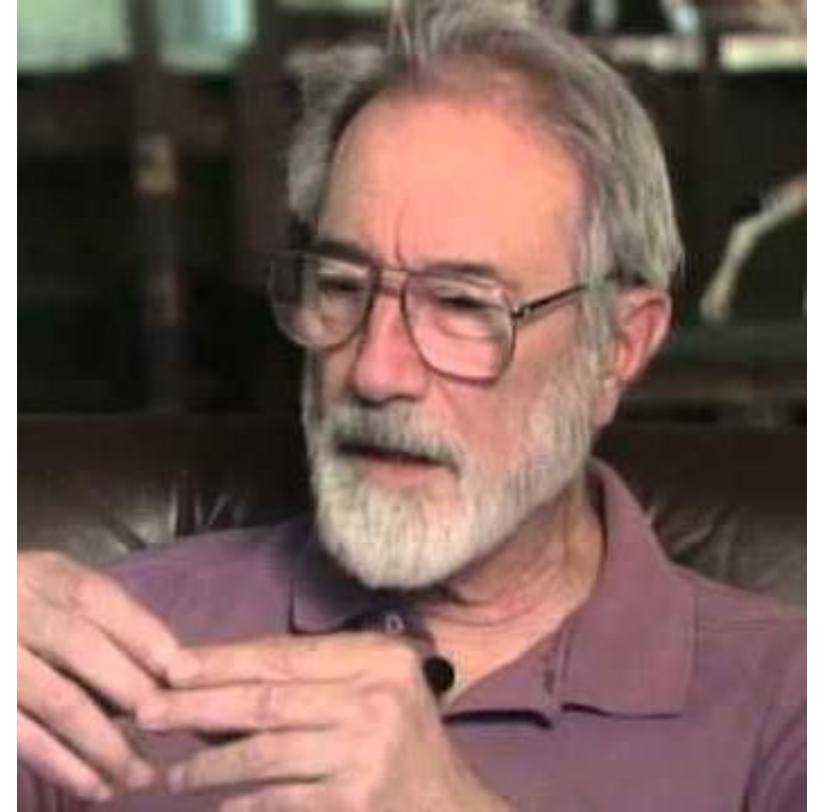
Counter-arguments

1. Many soft-bodied precambrian fossils have been found
2. Microfossils have been found in rocks billions of years before the Cambrian explosion.
3. Furthermore, the Cambrian explosion is now well documented from several locations, e.g. China, and the problem has become more acute.

Mystery of the Cambrian Explosion

Cambrian explosion “is real; it is too big to be masked by flaws in the fossil record...[it] was even more abrupt and extensive than had been previously envisioned.”

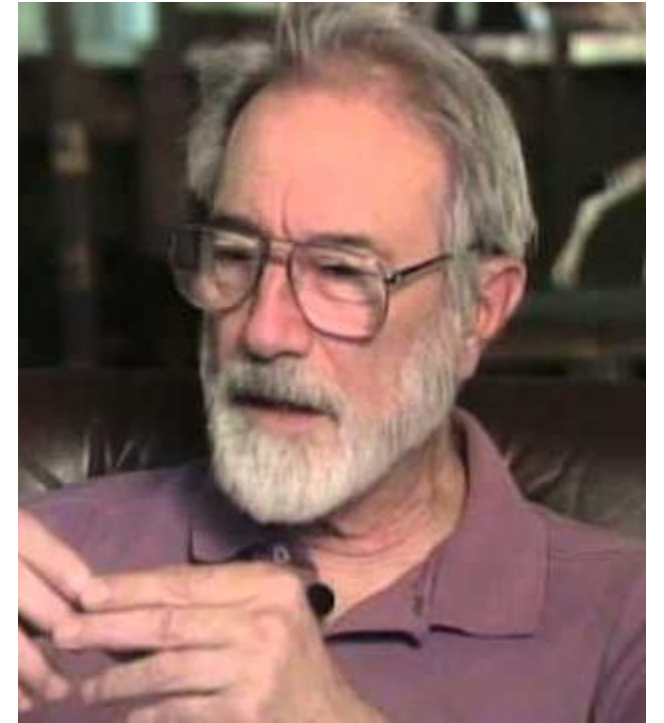
James W. Valentine, Stanley W. Awramik, Philip W. Signor & Peter M. Sadler. “The biological explosion at the precambrian–Cambrian boundary”. *Evolutionary Biology* (1991): 279–356.



James W. Valentine
1926–

Mystery of the Cambrian Explosion

“Organisms with the characteristic body plans that we identify as living phyla **appear abruptly in the fossil record**, many within a narrow window of geologic time... It is consistent with the fossil record that all the characteristic animal body plans had evolved by the close of this period, but **none of them can be traced through fossil intermediates to an ancestral group.**”



James W. Valentine
1926–

Mystery of the Cambrian Explosion

“The long held notion that Precambrian organisms must have been too small or too delicate to have been preserved in geological materials...[is]...now recognized as incorrect.”

J. William Schopf. Trends in Ecology and Evolution (1994)



J. William Schopf

Mystery of the Cambrian Explosion

“I look **sceptically** upon diagrams that show the branching diversity of animal life through time, and come down at the base to a single kind of animal”

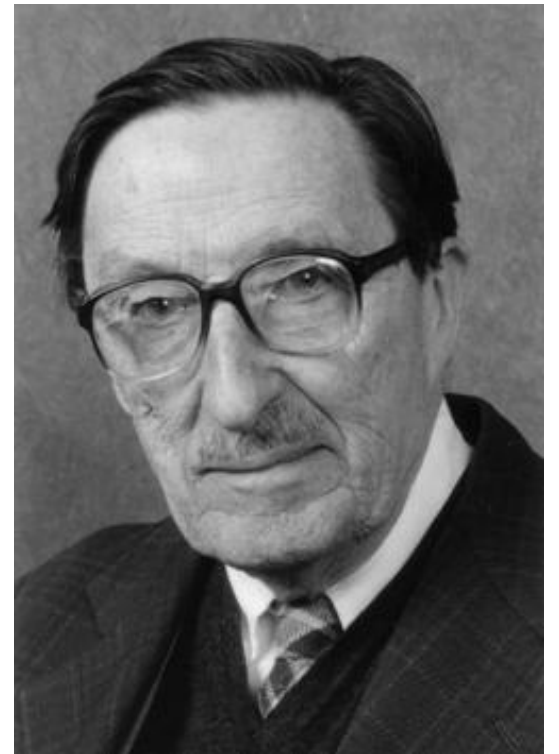
Harry B. Whittington, *The Burgess Shale* (New Haven, CT: Yale University Press, 1985).



Harry B. Whittington
(1916–2010)

Mystery of the Cambrian Explosion

“Animals may have originated more than once, in different places at different times”

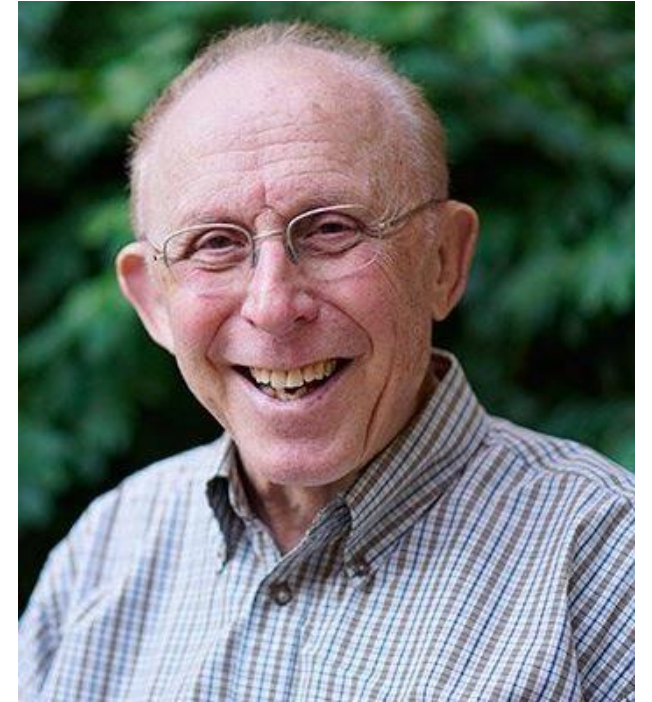


Harry B. Whittington

Harry B. Whittington, *The Burgess Shale* (New Haven, CT: Yale University Press, 1985).

Mystery of the Cambrian Explosion

“At the macro-scale life appears to have had **many origins**. The base of the universal tree of life appears not to have been a single root.”



Malcolm Gordon

M. Gordon et al., (1999) "The Concept of Monophyly: A Speculative Essay," *Biology and Philosophy*, pp. 335

Mystery of the Cambrian Explosion

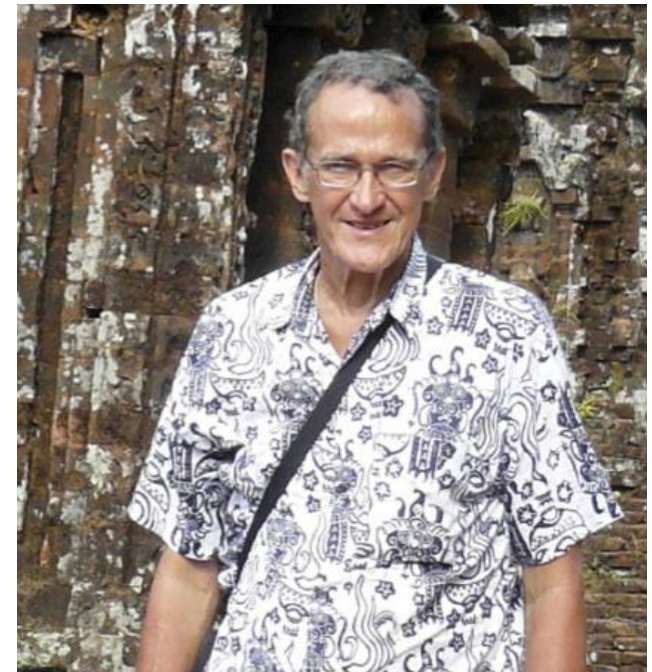
Hypothetically: What if transitional fossils are discovered in the future that are ancestral to the Cambrian Phyla?

Counter-argument: Fossils cannot establish ancestral-descended relationship

Mystery of the Cambrian Explosion

Fossils & Ancestor–Descendant Relationship

“The idea that one can go to the fossil record and expect to empirically recover an ancestral–descendant sequence, be it of species, genera, families, or whatever, has been, and continues to be, a pernicious illusion”

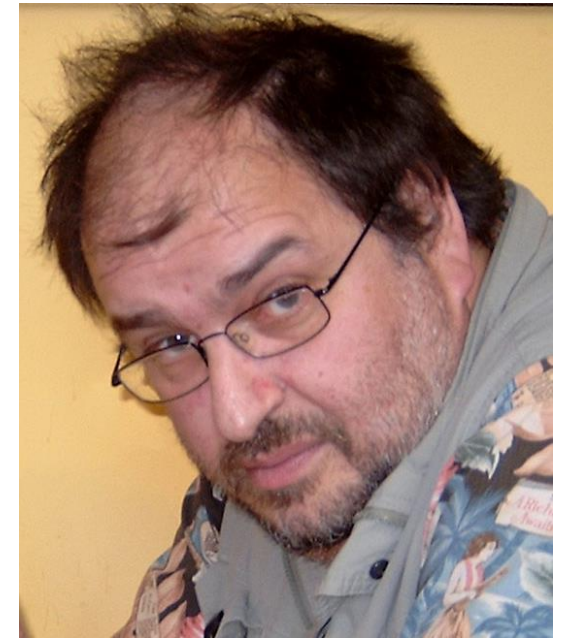


Gareth Nelson

Mystery of the Cambrian Explosion

Fossils & Ancestor–Descendant Relationship

“No fossil is buried with its birth certificate. That, and the scarcity of fossils, means that it is effectively impossible to link fossils into chains of cause and effect in any valid way... To take a line of fossils and claim that they represent a lineage is not a scientific hypothesis that can be tested, but an assertion that carries the same validity as a bedtime story—amusing, perhaps even instructive, but not scientific.”



Henry Gee
1962–

Henry Gee, *In Search of Deep Time: Beyond the Fossil Record to a New History of Life* (New York: The Free Press, 1999), 32, 113–117.

Mystery of the Cambrian Explosion

How do the biology textbooks
explain the Cambrian
explosion?

Mystery of the Cambrian Explosion

What to do with the Cambrian Explosion

Either it is ignored or its
significance is explained
away

Mystery of the Cambrian Explosion

Molecular Comparisons

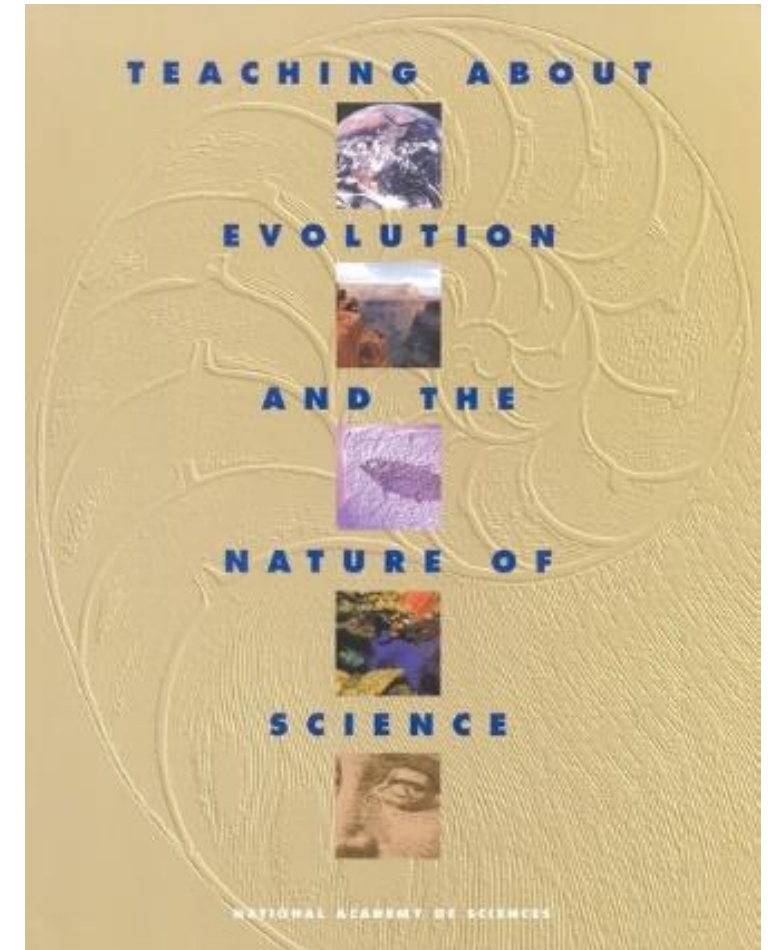
This is one way defenders of Darwin's theory explain away the Cambrian fossil evidence

Mystery of the Cambrian Explosion

The logic of Molecular Comparisons

“The greater the distance in the DNA..., the longer the time since two organisms shared a common ancestor. This DNA evidence for evolution has confirmed evolutionary relationships derived from other observations.”

National Academy of Sciences, Teaching about Evolution and the Nature of Science, (1998)



Mystery of the Cambrian Explosion

Seven major animal groups (Phyla)



1

Platyhelminthes



2

Nematoda



3

Echinodermata



4

Chordata



5

Mollusca



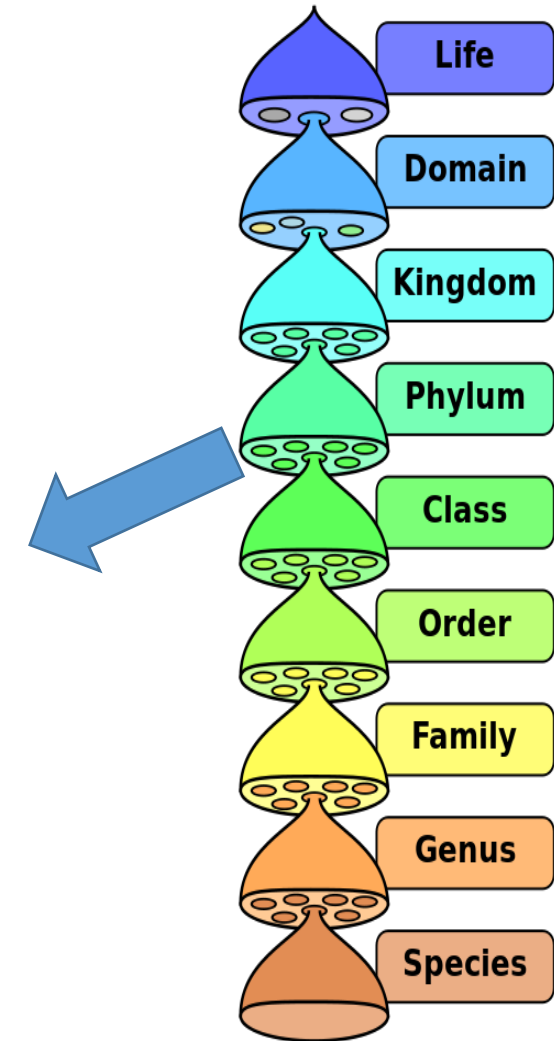
6

Arthropoda



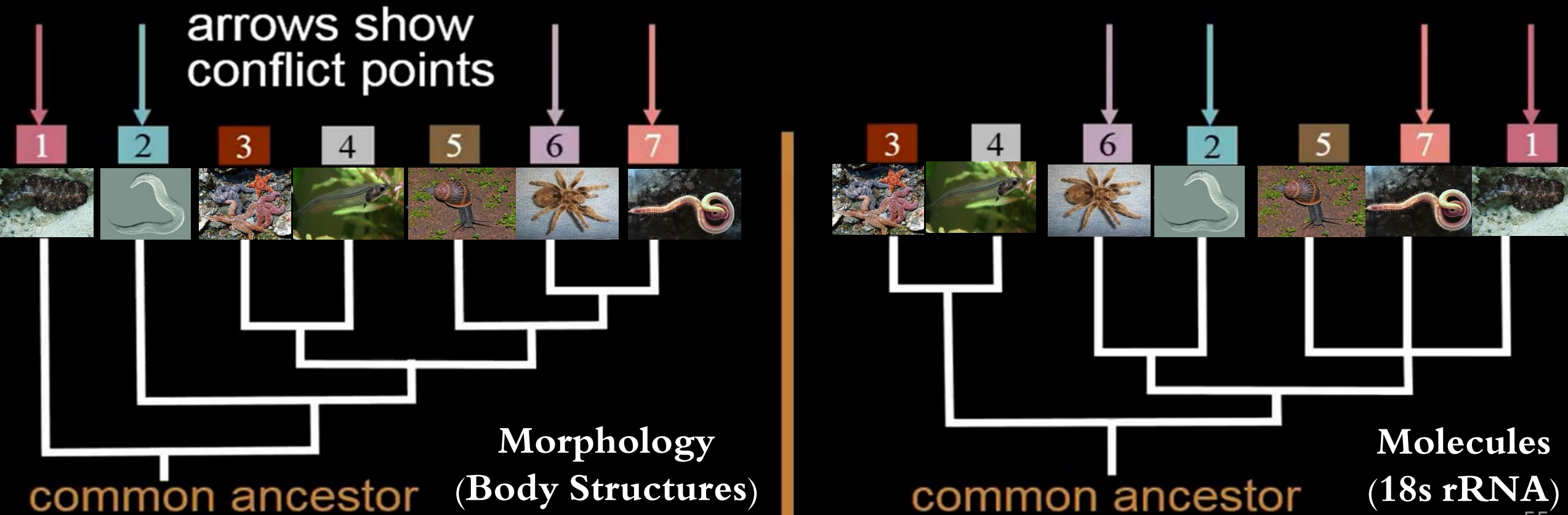
7

Annelida



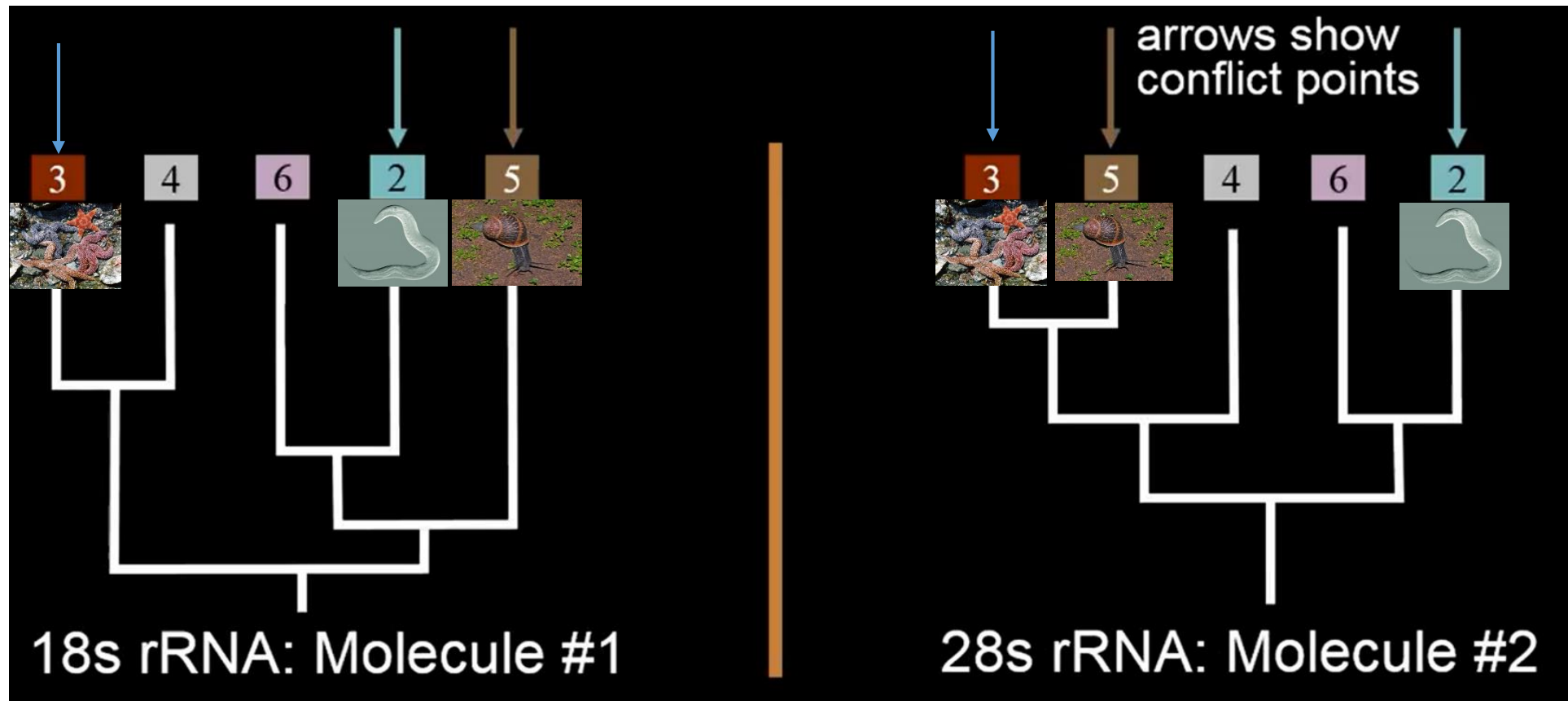
Mystery of the Cambrian Explosion

Inconsistencies Between Trees Based on Molecules and Trees Based on Body Structures



Mystery of the Cambrian Explosion

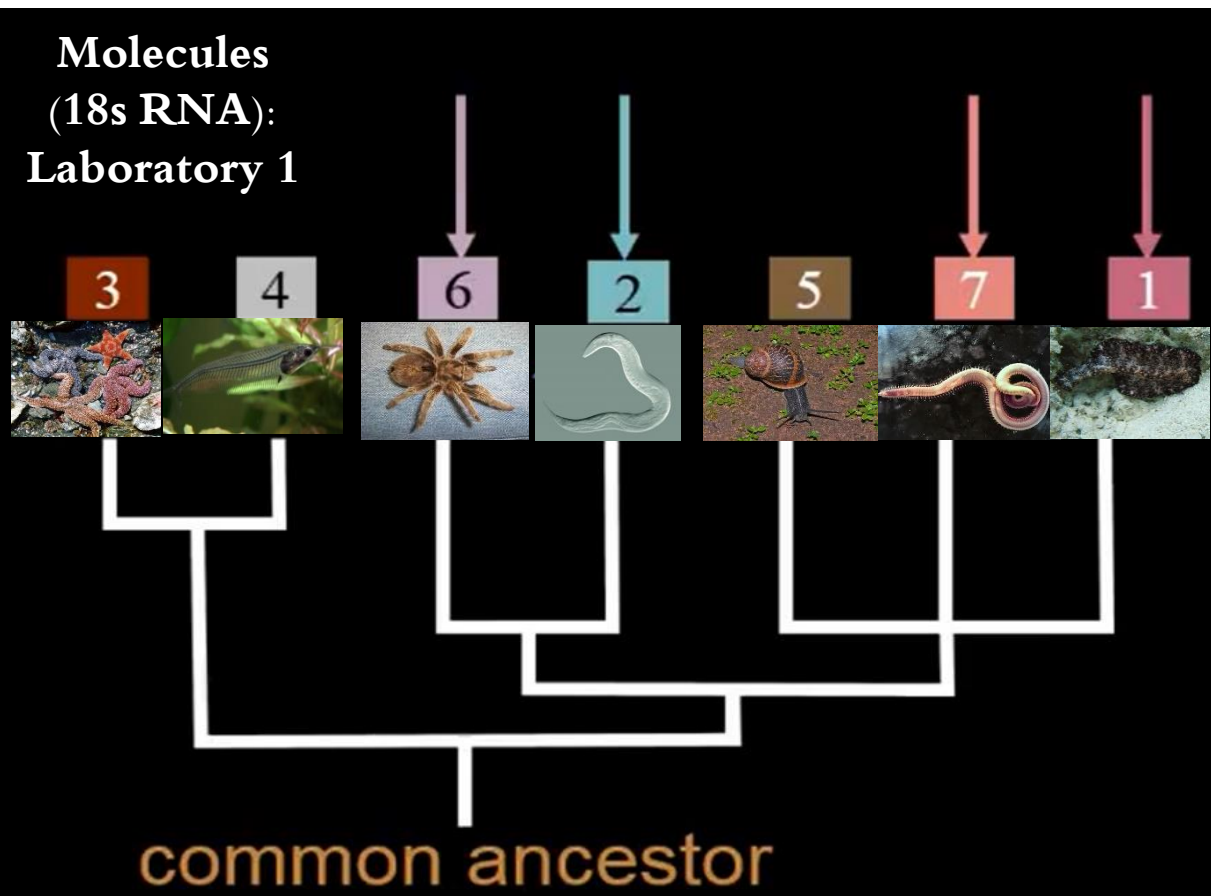
Inconsistencies Between Trees Based on Two Different Molecules



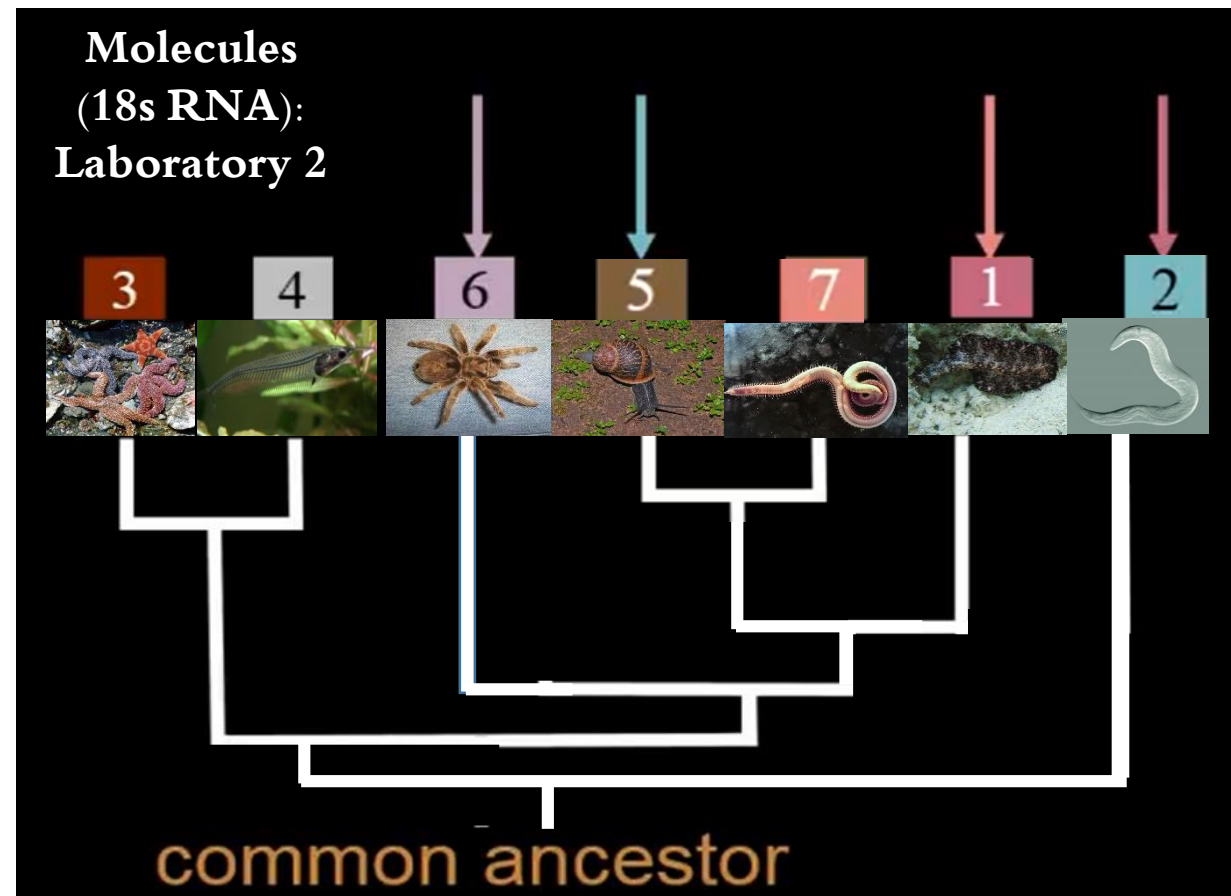
Christen R, *et al.* The EMBO Journal. (1991)

Mystery of the Cambrian Explosion

Inconsistencies Between Trees Based on the Same Molecule Between Two Laboratories



Anna Marie A. Aguinaldo & James A. Lake. American Zoologist (1998)

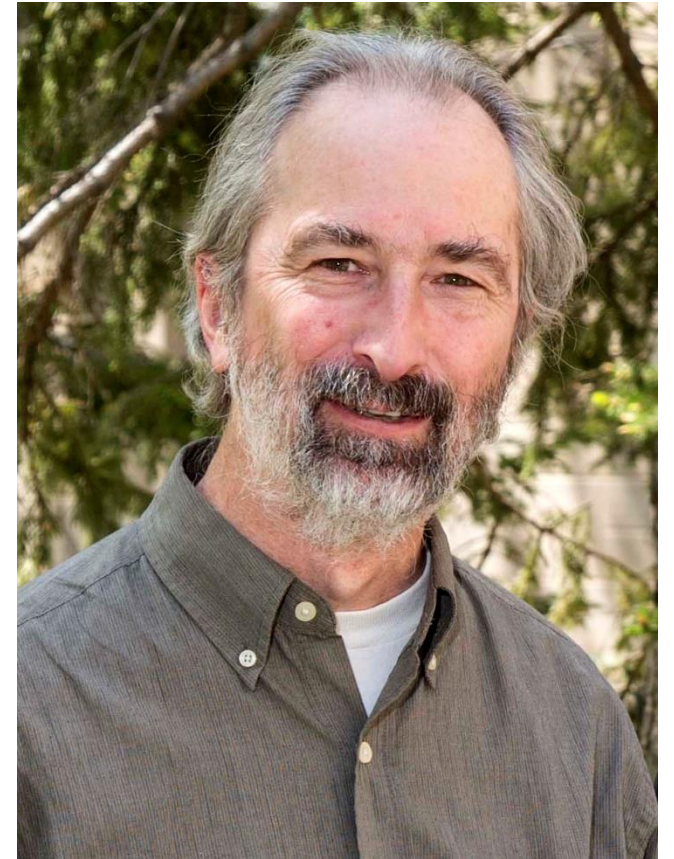


Birgitta Winnepeninckx, et al. Molecular Biology and Evolution (1995)

Mystery of the Cambrian Explosion

“Clarification of the phylogenetic relationships of the major animal phyla has been an elusive problem, with analyses based on different genes and even different analyses based on the same genes yielding a diversity of phylogenetic trees.”

Michael Lynch. The Age and Relationships of the Major Animal Phyla. *Evolution* (1999)



Michael Lynch

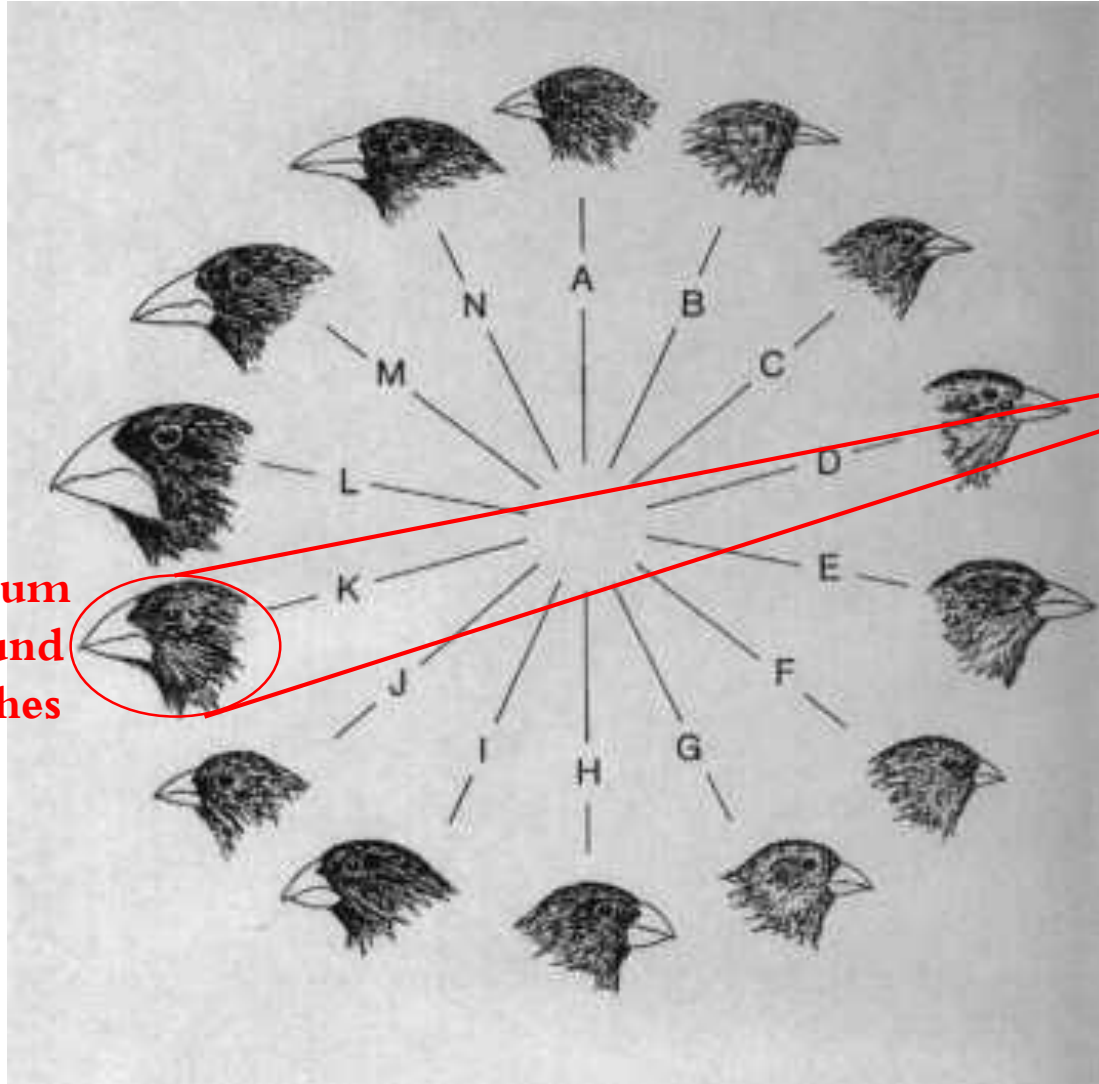
Mystery of the Cambrian Explosion

Summary

- There are missing complex multicellular ancestral forms in the Precambrian **fossil record**. The sudden appearance of phyla in the Cambrian period, known as the **Cambrian explosion**, lacks viable explanation in the context of Darwinian tree-of-life thinking.
- **Molecular comparison studies** are inconsistent and produce a diversity of phylogenetic trees, thus historical relationships cannot be confidently defined.

PART 2:
Critique of Natural Selection
– The Theory of
Darwinian Evolution –
Using the Putative Example of
Speciation in Darwin's Finches

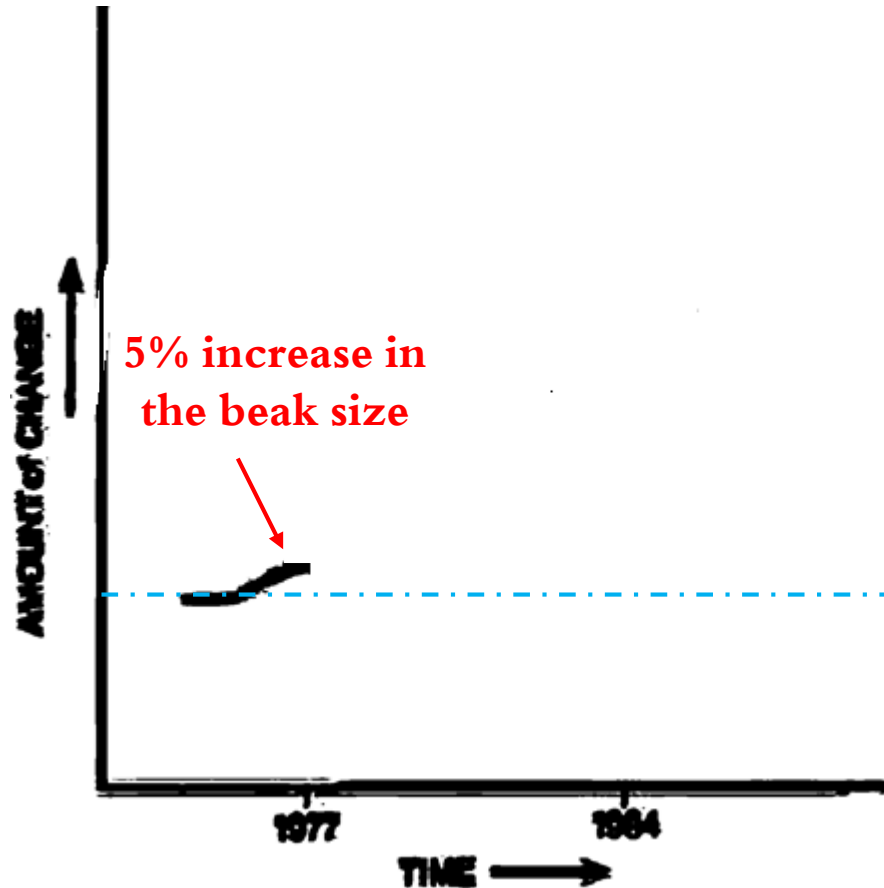
Darwin's Finches



Peter & Rosemary Grant

Darwin's Finches

1977 Drought

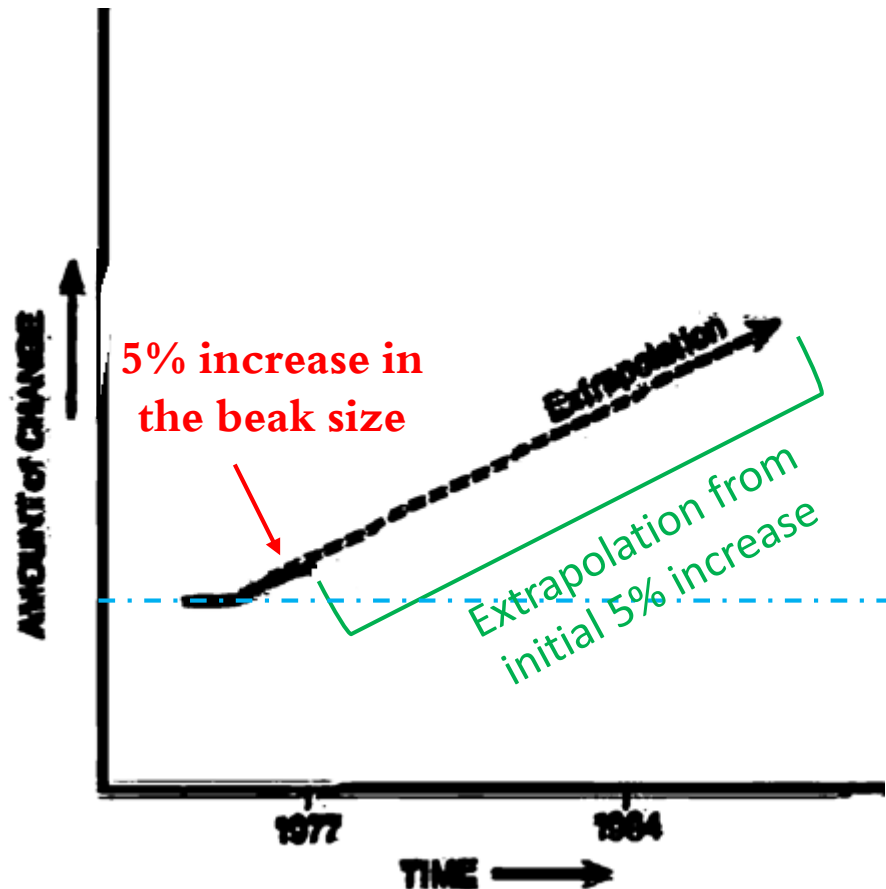


Drought killed **85%** of medium ground finches on Daphne Major.

Thus, survivors had **5%** larger-than-average beaks which amounted to **0.5mm difference.**

Darwin's Finches

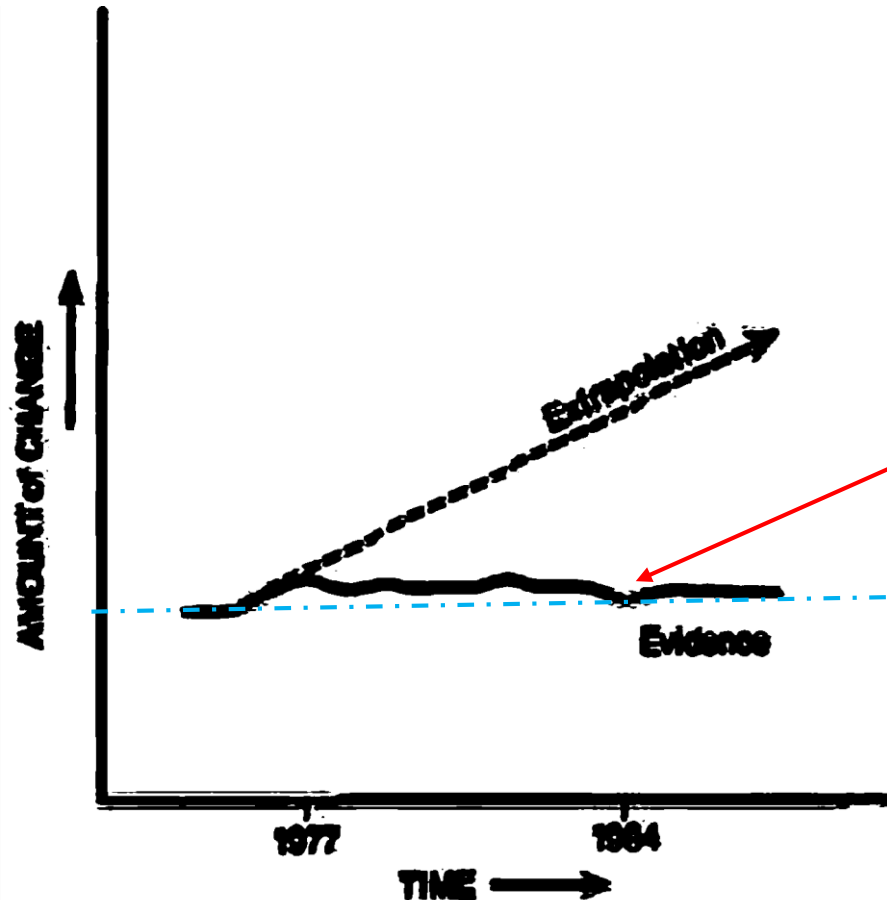
Extrapolations from 1977 Drought



Darwinists Estimate:
A drought every 10 years
could produce a new
species of finch in only
200 years

Darwin's Finches

When the Drought Ended



When drought ended,
the average beak-sizes
returned to normal

**No net evolutionary
change**

Darwin's Finches

When the Drought Ended

“the population,
subjected to natural
selection, is
oscillating back and
forth”



Peter Grant

Peter R. Grant, “Natural Selection and Darwin’s Finches,”
Scientific American 265 (October 1991), pp. 82–87

Darwin's Finches

When the Drought Ended

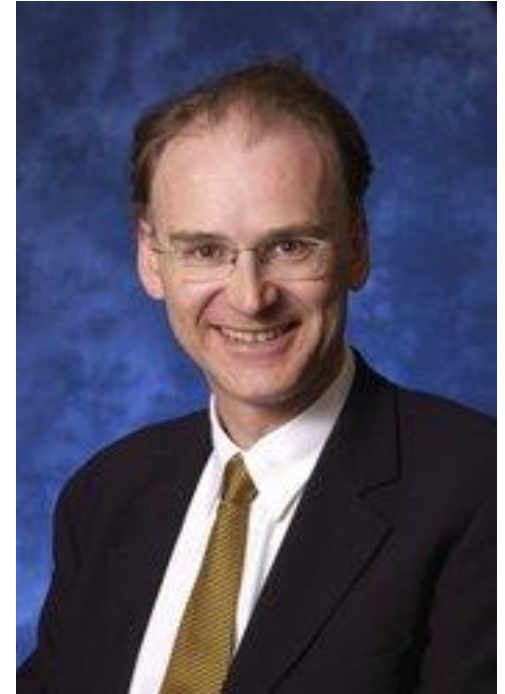
Darwin's finches “cycle between stages of differentiation and **never attain species status**, a process we refer to as **Sisyphean evolution**” which “has been confused with the standard model of speciation”.

Bailey D. McKay and Robert M. Zink, “Sisyphean evolution in Darwin’s finches,”
Biological Reviews of the Cambridge Philosophical Society 90 (2015): 689–698.

Darwin's Finches

When the Drought Ended

“Beaks evolving up in some years, down in other years, and staying constant in yet other years – probably resulting in some kind of stabilizing selection over a long period of time”



Mark Ridley
1956–

Ridley, M. 2004. *Evolution*. Malden, MA: Blackwell, 225.

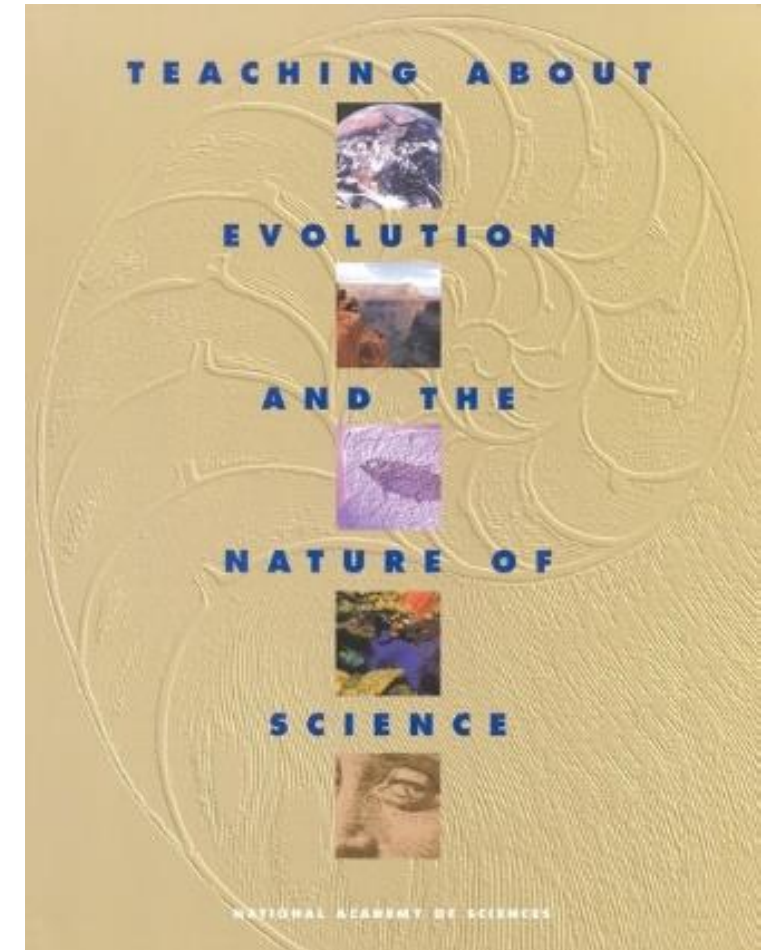
Darwin's Finches

Statement from National Academy of Science

Darwin's finches are “a particularly
compelling example of speciation...

Peter and Rosemary Grant [have]
shown that a single year of drought
can drive evolutionary change in the
finches...”

National Academy of Sciences, *Science
and Creationism*, (1999)



Darwin's Finches

Textbook Statement

“...average beak size in this finch population has increased **dramatically**...Changes in food supply created selection pressure that caused finch population to evolve within decades.”



Kenneth R. Miller Joseph Levine

Miller and Levine, Biology, (2014
Ed), p. 472–473.

Darwin's Finches

Exaggerations from Observations

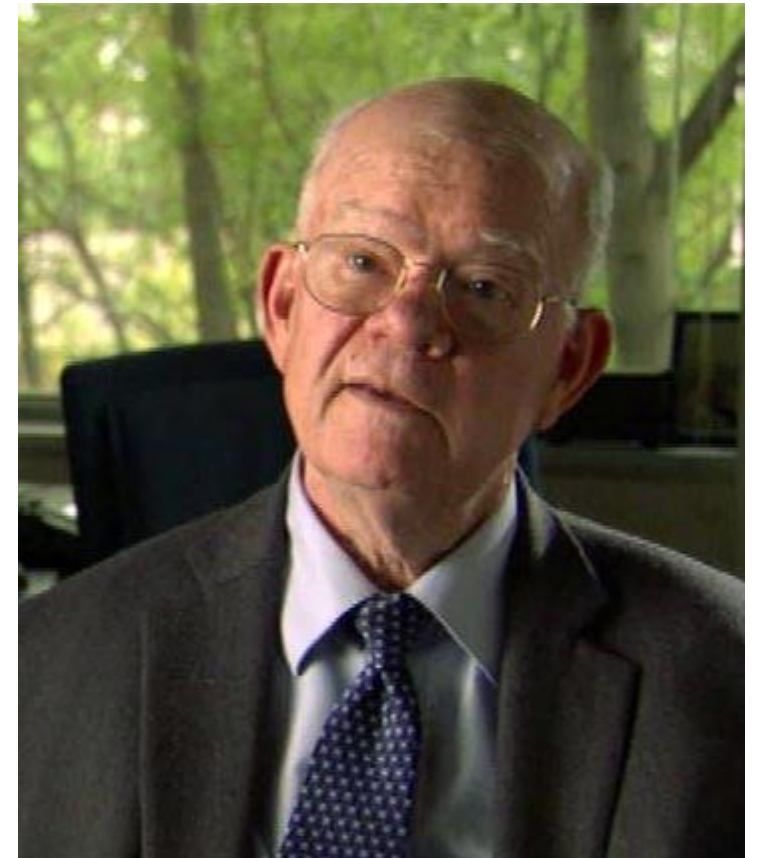
Darwin's finches are a good evidence of natural selection at the level of **varieties**.

However, small reversible effects seen by the Grants have been **exaggerated** to provide evidence of the **origin of species**.

Darwin's Finches

“When our leading scientists have to resort to the sort of distortion that would land a stock promoter in jail, you know you are in trouble.”

Phillip E Johnson. *The Wall*
Street Journal. (1999)



Phillip E Johnson

Darwin's Finches

Summary

Although changes in size of Darwin's finches is a good example for **micro-evolutionary change at the level of varieties**, extrapolations from the Grant's experiment is a hopeful thinking that does not compellingly support **macro-evolutionary change at the level of species** which is the evidence needed for the origin of new species.

Conclusion

Problem

Textbook ‘evidences’ for Darwinian evolution are either dogmatically confident in a **fact** insulated from falsification, by deduction rather than direct empirical evidence, or otherwise are satisfied with distorted and exaggerated extrapolations to fit the Darwinian **theory**.

A Scientific Dissent From Darwinism

Over 700 Scientists Signed A Statement

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

<https://dissentfromdarwin.org/>

A Scientific Dissent From Darwinism

"I signed the Scientific Dissent From Darwinism statement, because **I am absolutely convinced of the lack of true scientific evidence in favour of Darwinian dogma.**

Nobody in the biological sciences, medicine included, needs Darwinism at all. Darwinism is certainly needed, however, in order to pose as a philosopher, since it is primarily a worldview. And an awful one, as George Bernard Shaw used to say."



Dr. Raul Leguizamon
Pathologist, and a
Professor of Medicine

A Scientific Dissent From Darwinism

“I have found that some of my scientific colleagues are very reluctant to acknowledge the existence of problems with evolutionary theory to the general public. They display an almost **religious zeal** for a strictly Darwinian view of biological origins.”



Prof. Philip S. Skell
1918–2010
Member of National
Academy of Sciences

A Scientific Dissent From Darwinism

The Third Way

“Some Neo-Darwinists have **elevated natural selection** into a unique creative force that solves all the difficult evolutionary problems without a real empirical basis” and lists “researchers and authors who have, in one way or another, expressed their concerns regarding natural selection’s scope...”

A Scientific Dissent From Darwinism

The Third Way

“.... all the central assumptions of the Modern Synthesis (often also called Neo-Darwinism) have been disproved. Moreover, they have been disproved in ways that raise the tantalizing prospect of a totally new synthesis...”



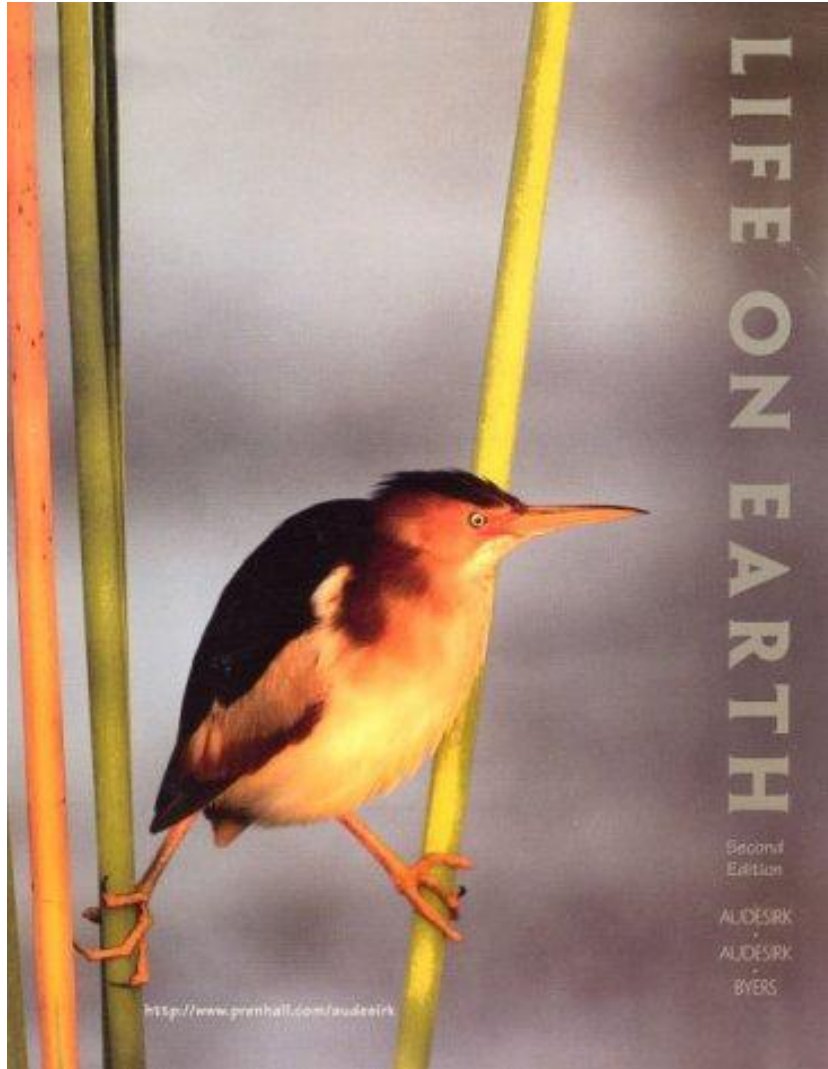
Prof. Denis Noble
University of Oxford

(Physiology is rocking the foundations of evolutionary biology, p.1235)

Problem

Why is there a systematic
pattern of exaggerating
science to convince
students?

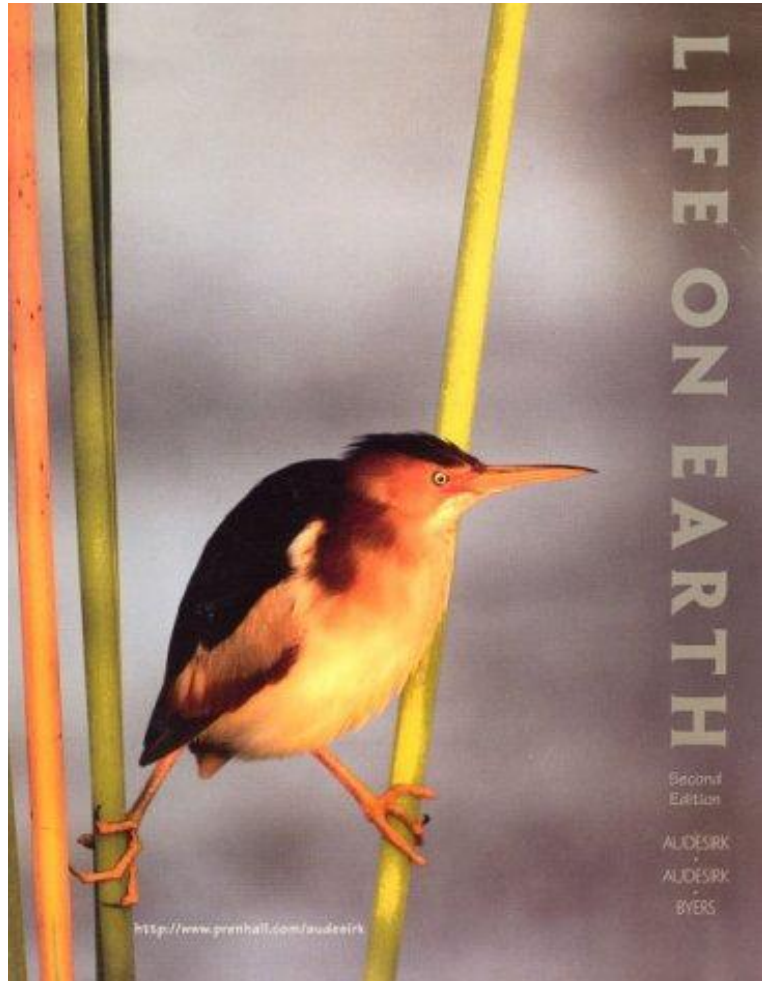
Metaphysical Assumptions of Darwinism



Teresa Audesirk,
Gerald Audesirk &
Bruce E. Byers.
Life on Earth

2th edition (2000)

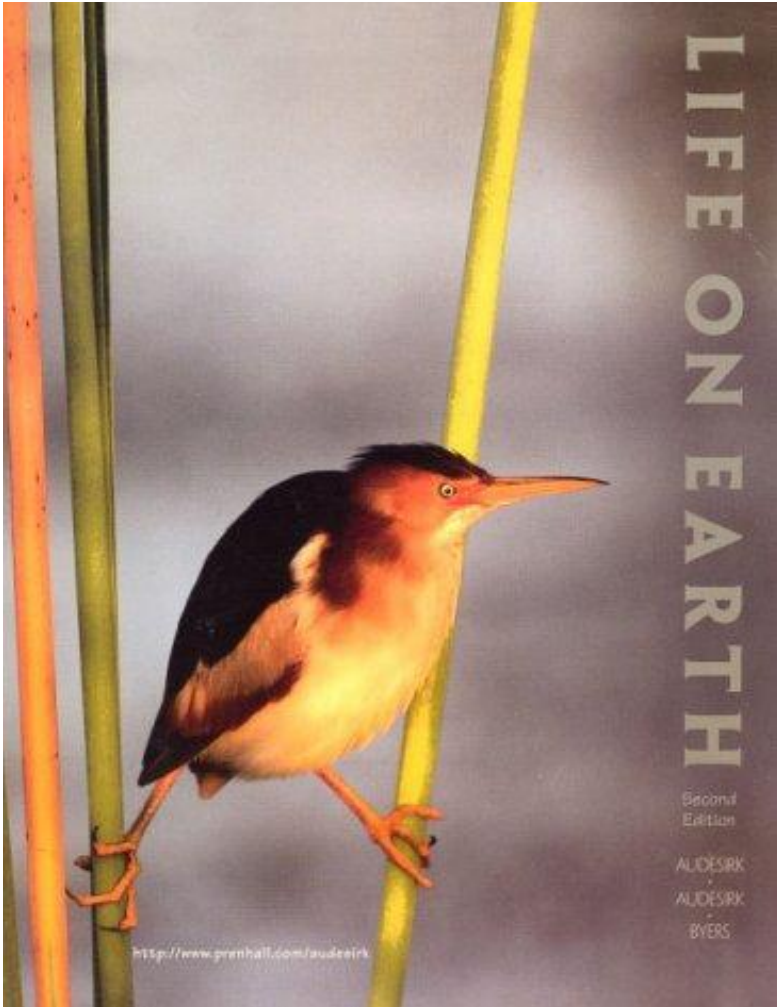
Metaphysical Assumptions of Darwinism



“Over the course of human history, two approaches have been taken to study the life and other natural phenomenon. The first assumes that some events happen through the intervention of supernatural forces beyond our understanding...”

Teresa Audesirk, Gerald Audesirk & Bruce E. Byers. **Life on Earth**. 2th edition (2000). Pp 8–9

Metaphysical Assumptions of Darwinism



“In contrast, science adheres to the principle of natural causality: All events can be traced to natural causes that are potentially within our ability to comprehend”

Teresa Audesirk, Gerald Audesirk & Bruce E. Byers. **Life on Earth**. 2th edition (2000). Pp 8–9

Metaphysical Assumptions of Darwinism

“All events can be traced to natural causes that are potentially within our ability to comprehend.”

Teresa Audesirk, Gerald Audesirk & Bruce E. Byers. **Life on Earth**. 2th edition (2000). Pp 8–9

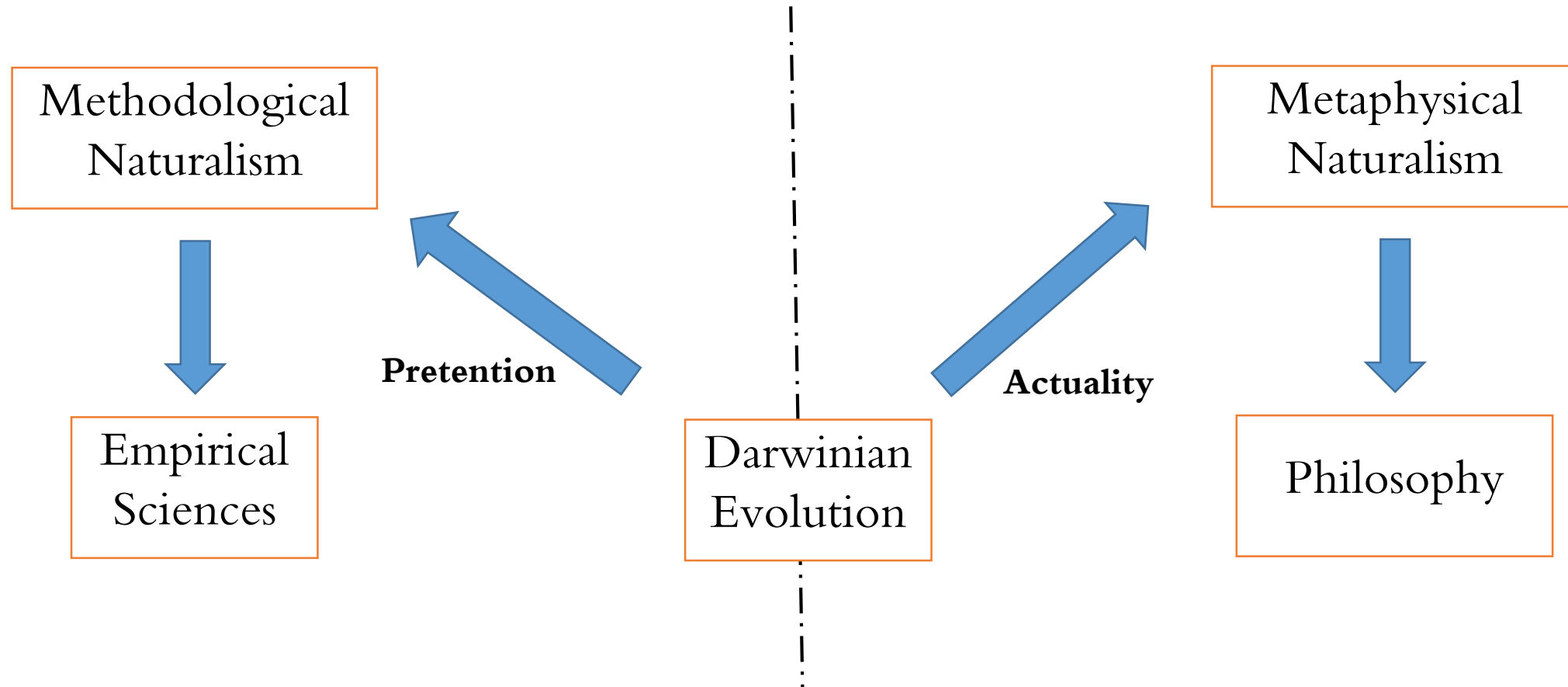
Philosophical Statement

1. It does not say that science is methodologically limited to investigating events to natural causes
2. It does not say that science may not have access to the whole reality

Metaphysical Assumptions of Darwinism

This statement passively makes a much stronger claim which equates “science” with the view that the whole of reality is limited to natural causes.

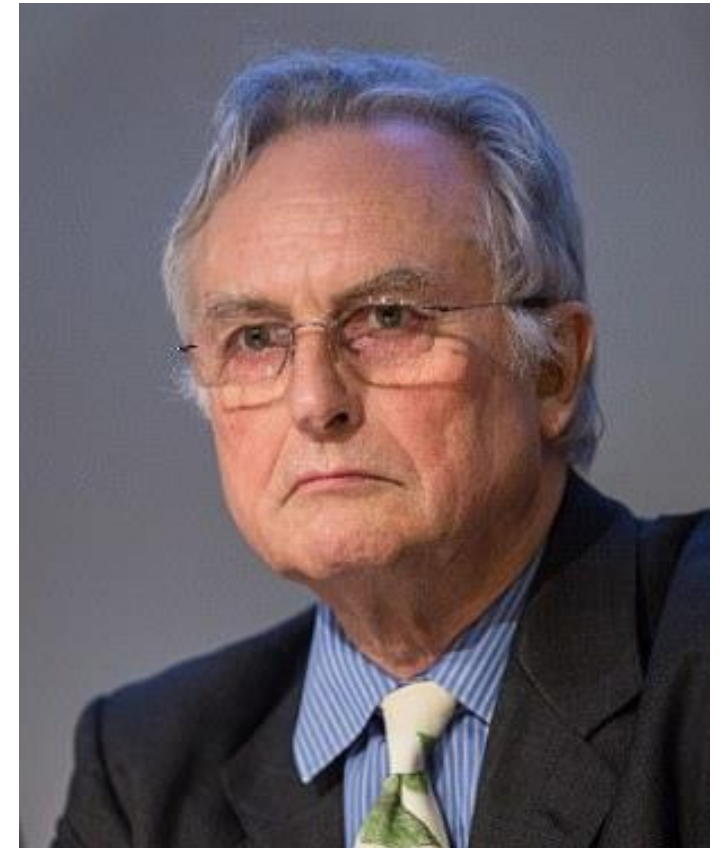
Metaphysical Assumptions of Darwinism



Metaphysical Assumptions of Darwinism

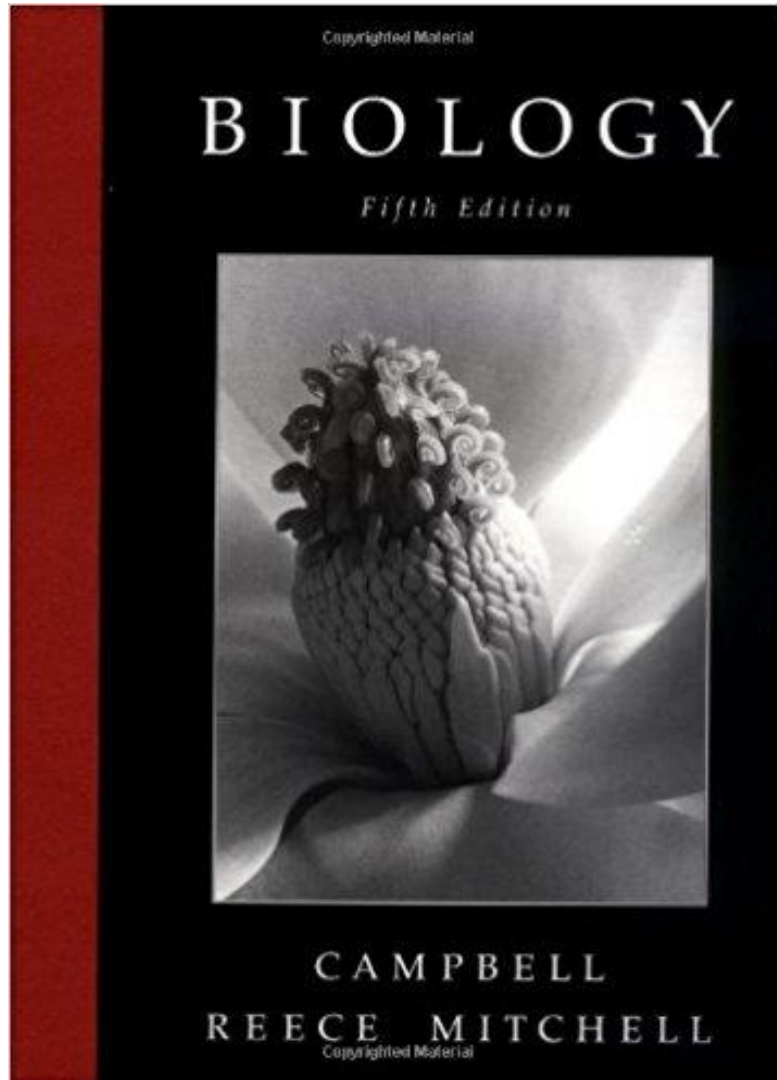
“Darwin made it possible
to be an intellectually
fulfilled atheist.”

Dawkins. *The Blind Watchmaker*. New
York: Norton. (1986), p 6



Richard Dawkins

Metaphysical Assumptions of Darwinism

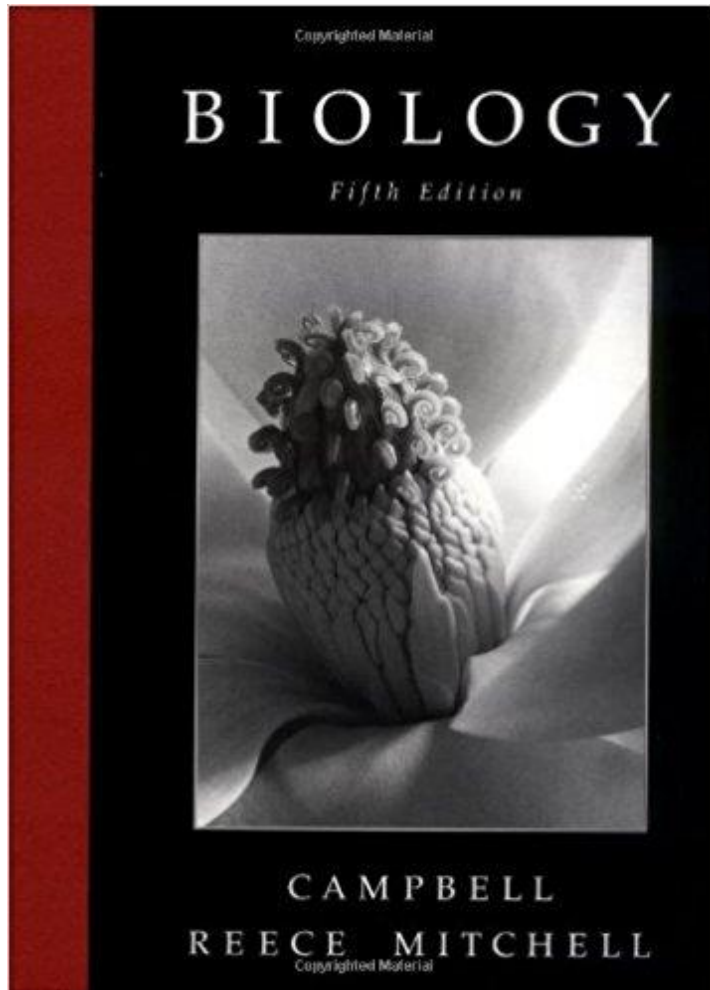


Neil A. Campbell,
Jane B. Reece &
Lawrence G. Mitchell.

Biology

5th edition (1999)

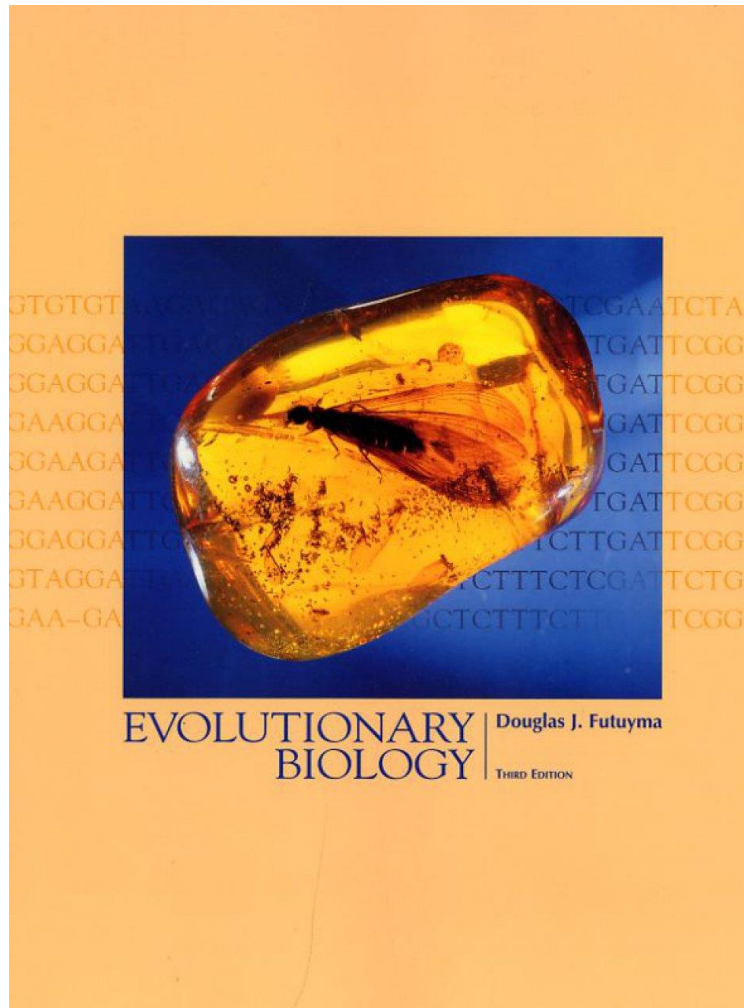
Metaphysical Assumptions of Darwinism



“The blind watchmaker is natural selection. Natural selection is totally blind to the future... . And yet what it explains is the whole of life, the diversity of life, the complexity of life, the apparent design of life”

Richard Dawkins quoted in Neil A. Campbell, Jane B. Reece & Lawrence G. Mitchell. Biology. 5th edition (1999), pp 412–413

Metaphysical Assumptions of Darwinism



Douglas J. Futuyma

Evolutionary Biology

3th edition (1998)

Metaphysical Assumptions of Darwinism

“Darwin made
theological and spiritual
explanations of the
processes **superfluous**”

Douglas J. Futuyma. **Evolutionary
Biology**. 3th edition (1998), p 5



Douglas J. Futuyma 21

Metaphysical Assumptions of Darwinism

Biology and Evolutionary Theory

“Nothing in biology
makes sense except in the
light of evolution.”



Theodosius Dobzhansky
(1900–1975)

Metaphysical Assumptions of Darwinism

Biology and Evidence

“Nothing in biology
makes sense except in the
light of evidence.”



Jonathan Wells

Q&A