

Charles Darwin and His Big Idea

Pre-Darwin World

- Natural theology and “great chain of being”
- Species as permanent, separate, divine creations
- Victorian concept of perfectly designed world
- A pre-Beagle Darwin had bought into this



The Early Years

- 1809--(February 12) born to Robert Waring Darwin and Susannah, nee Wedgwood
- 1818-1825--boards at Samuel Butler's school
- 1825--registers for medical curriculum at University of Edinburgh
- 1827--quits medical school and begins religious studies at Christ College at Cambridge

Cambridge Years

- The man who walks with Henslow
- Introduction to geology with Adam Sedgwick
- Influence of Charles Lyell
- Pursuit of religious studies
- Receipt of BA degree in spring of 1831



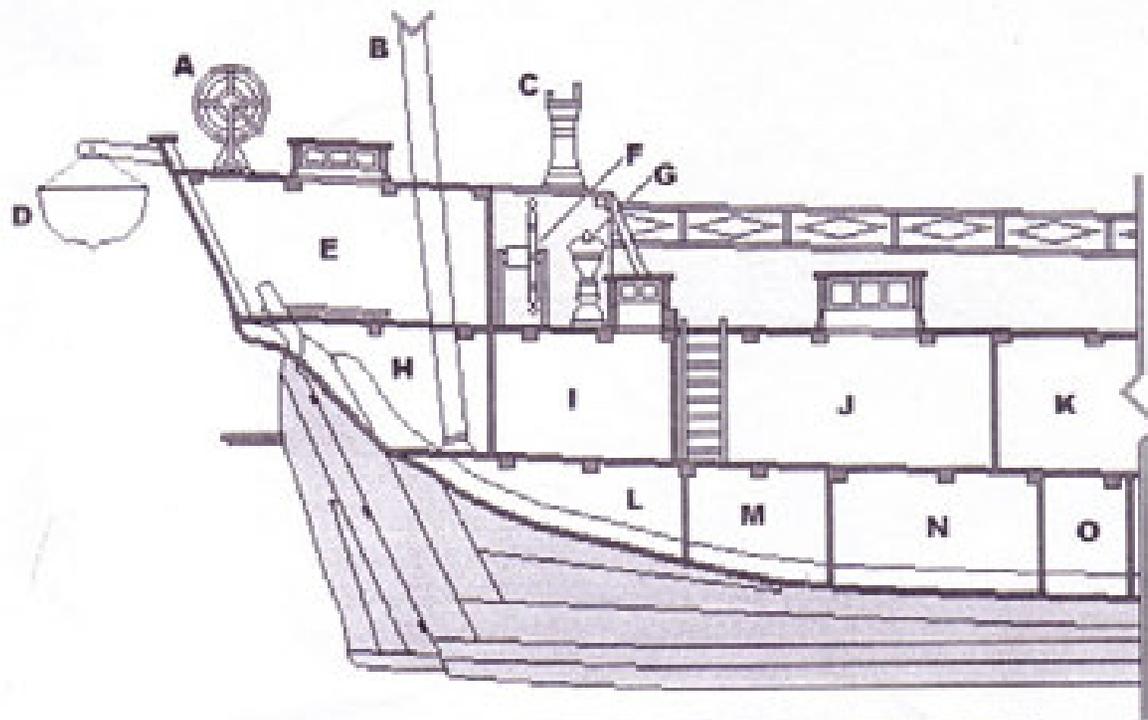




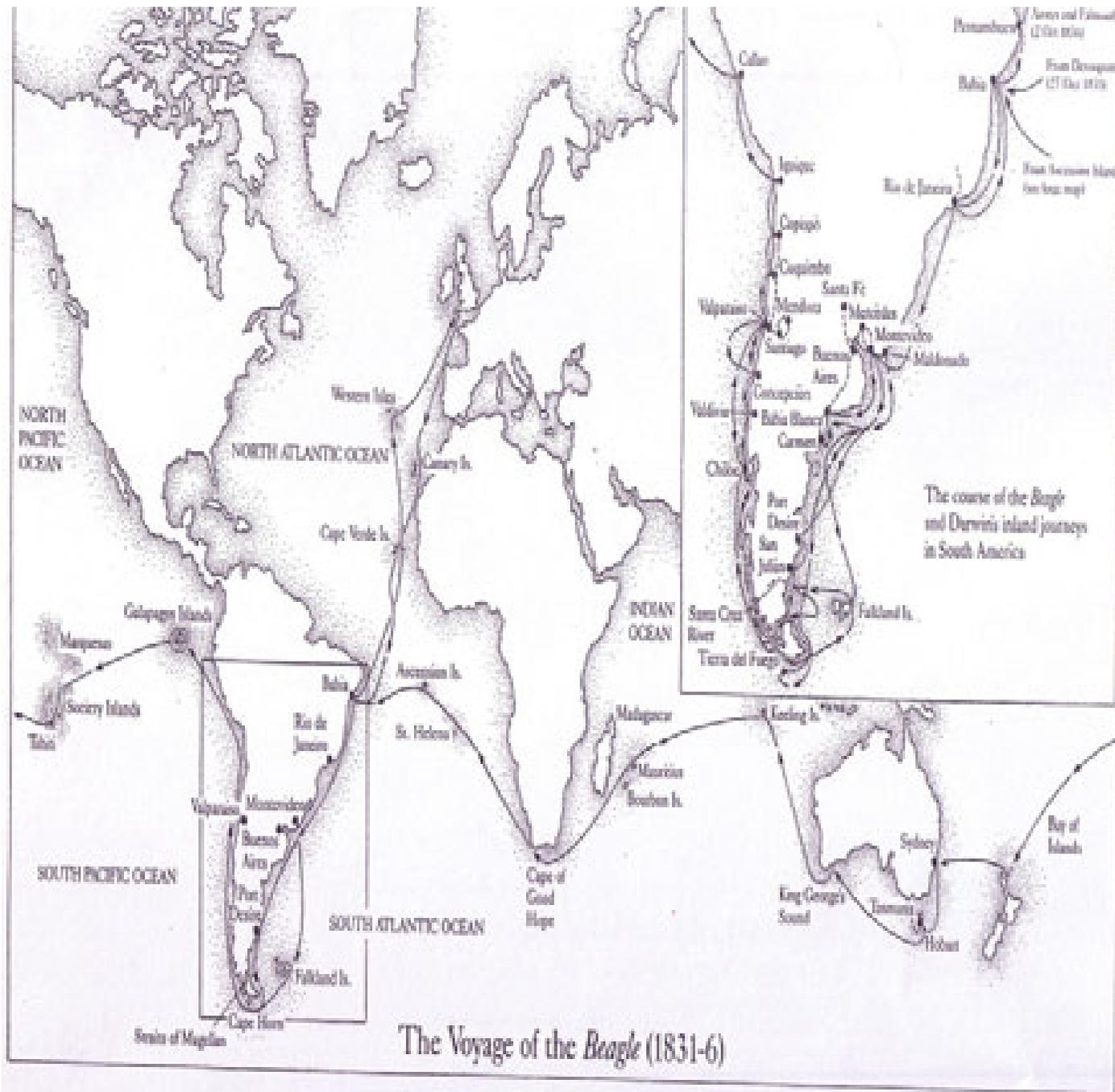


H.M.S. Beagle Voyage

- Robert FitzRoy re-appointed commander of the Beagle
- Wanted--well educated naturalist and gentleman companion
- A change in mind by Dr. Darwin
- Preparation for and mission of the Beagle
- Darwin's quarters
- Depart Plymouth, England on December 27, 1831



- | | |
|---------------------------------|----------------------------|
| A - Sounding winch | I - FitzRoy's cabin |
| B - Mizzenmast | J - Mess room |
| C - Azimuth Compass | K - Lower deck |
| D - Dinghy | L - Bread room |
| E - Chart Room* | M - Mess room store |
| F - Steering Wheel | N - Weapons storage |
| G - Compass | O - Spirit room |
| H - FitzRoy's store room | + - Darwin's cabin |



The route of the voyage of the *Beagle*, 1831-1836

Marry

Children – (if it Please God)
– Constant companion, (& friend in old age) who will feel interested in one, – object to be beloved & played with. – better than a dog anyhow. – Home, & someone to take care of house – Charms of music & female chit-chat. – These things good for one's health. – *but terrible loss of time.* –

My God, it is intolerable to think of spending ones whole life, like a neuter bee, working, working, & nothing after all. – No, no won't do. – Imagine living all one's day solitarily in smoky dirty London House. – Only picture to yourself a nice soft wife on a sofa with good fire, & books & music perhaps – Compare this vision with the dingy reality of Grt. Marlbro' St.

Marry \rightarrow Mary – Marry Q.E.D.

Not Marry

Freedom to go where one liked – choice of Society & *little of it.* – Conversation of clever men at clubs – Not forced to visit relatives, & to bend in every trifle. – to have the expense & anxiety of children – perhaps quarelling – Loss of time. – cannot read in the Evenings – fatness & idleness – Anxiety & responsibility – less money for books &c – if many children forced to gain one's bread. – (But then it is very bad for ones health to work too much)

Perhaps my wife wont like London; then the sentence is banishment & degradation into indolent, idle fool.



Post Beagle Timeline

- 1836--(October 2) returns to England
- 1839--marries Emma
- 1839--publishes his Beagle journal
- 1844--develops a 35 page outline of his theory
- 1846--publishes “Geological Observations on South America” and begins 8 year work on barnacles
- 1859--(November) publishes “ On the Origin of Species”
- 1868--publishes “ The Variation of Animals and Plants Under Domestication”

Post Beagle Timeline

- 1871--publishes “ The Descent of Man “
- 1882--April 19, Darwin dies and is buried at Westminster Abbey

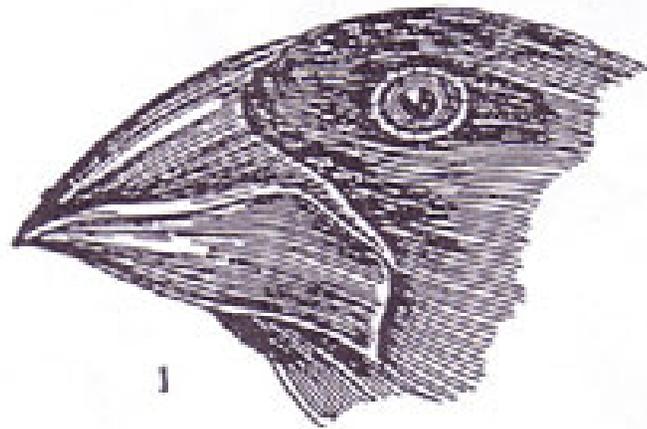
Darwin the Scientist

- Collector and fact finder
- Correspondent
- Experimenter
- Use of inductive reasoning
- Daily routine

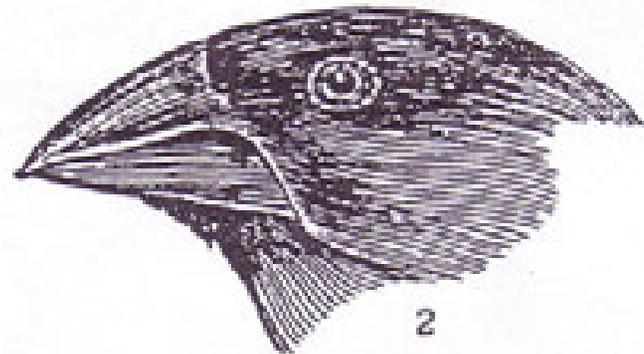


Darwin's Big Idea

- As early as September 1835 Darwin was speculating about speciation but did not have a mechanism in mind
- By July of 1837, Darwin had firmly accepted evolution by common descent
- In 1837 John Gould informs Darwin that three mockingbirds given him are in fact distinct species as are the finches
- An epiphany moment? Darwin reads Malthus



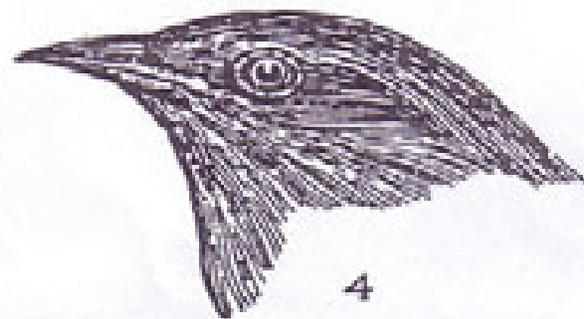
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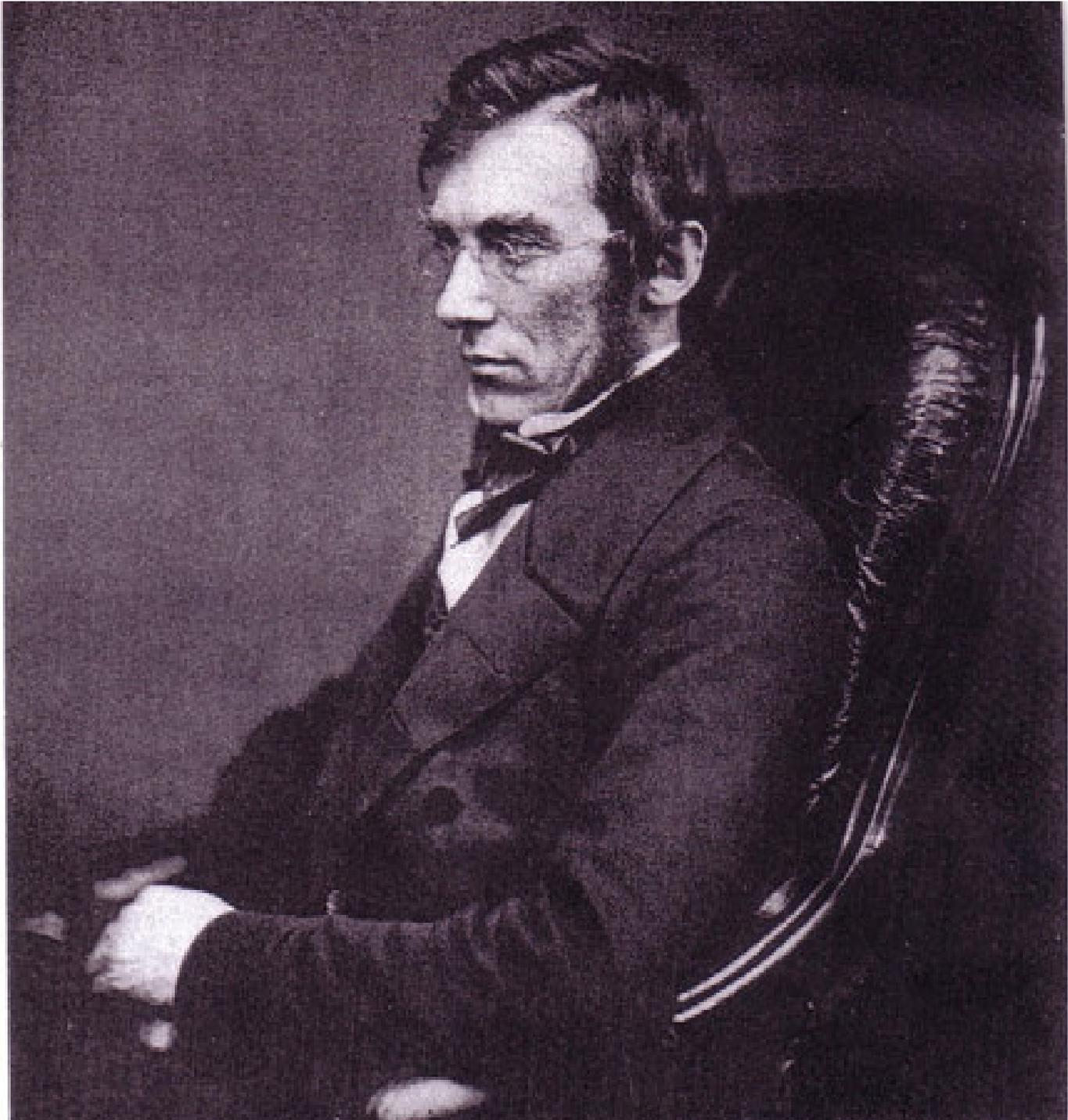
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Darwin's Gap

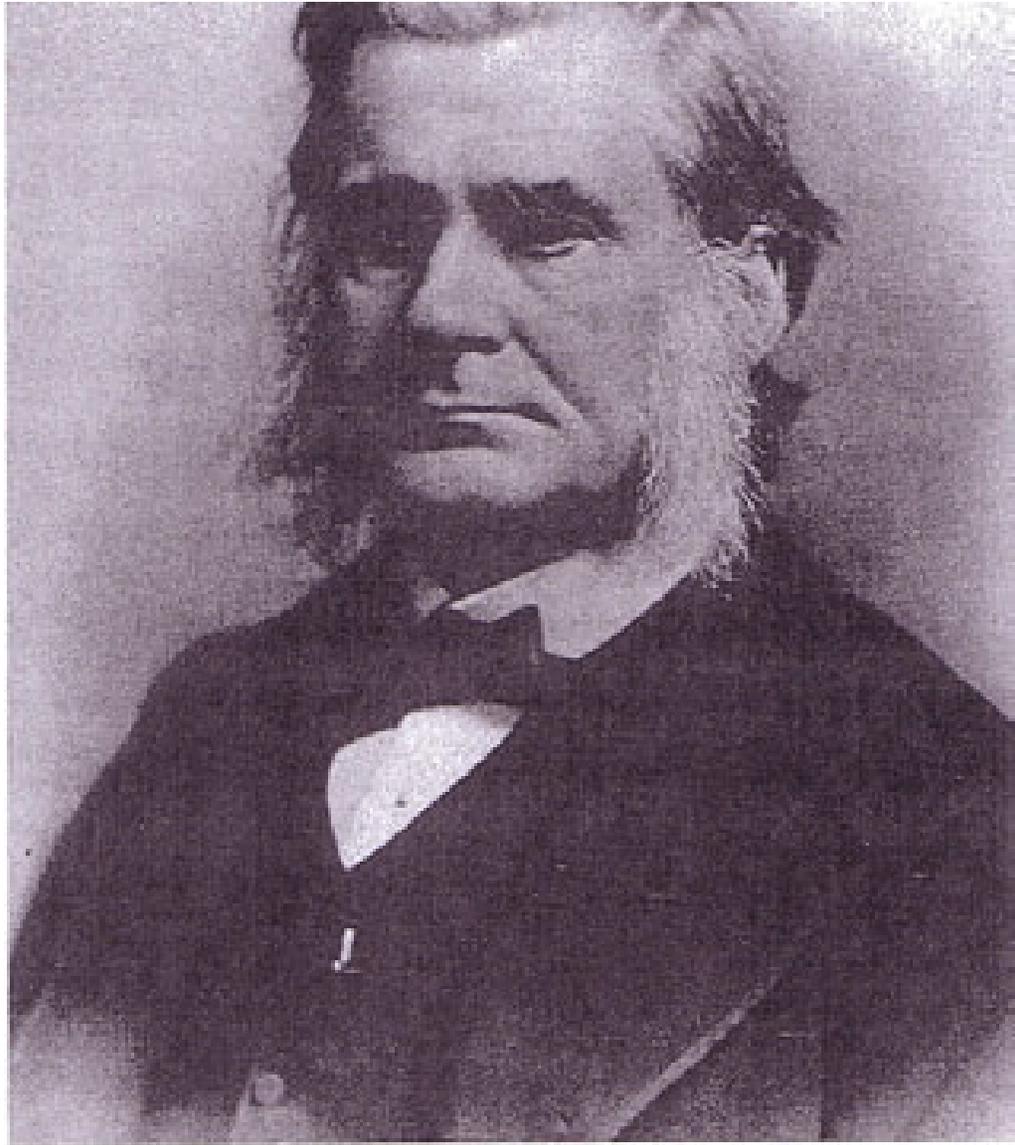
- Period from 1838 to 1859, roughly twenty years
- Joseph Hooker's comments and an eight year barnacle diversion
- Darwin's concern over the reception of his theory, Robert Chamber's book
- Desire for a well documented and reasoned argument
- Darwin's health and family demands
- Confides theory to Huxley and Charles Lyell and begins work on "big book"



Darwin's Gap

- Alfred Russell Wallace letter accelerates Darwin's efforts
- Other Darwin publications
- Origin of Species published November 1859

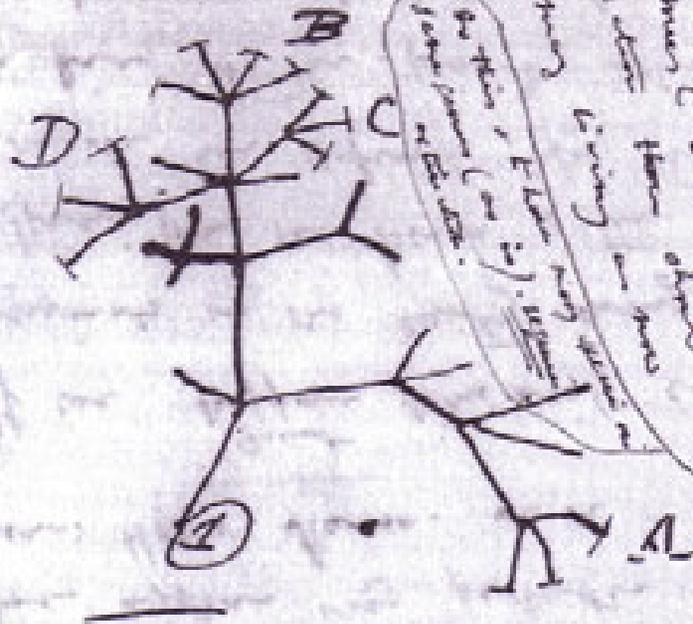




Origin of Species

- One long argument in a 502 page “abstract”
- Inductive reasoning, use of analogy and circumstantial evidence
- Chap. 1-5: outlines Theory of natural selection
- Chap. 6-9: objections raised against his theory
- Chap. 10-14: theory’s power of explanation

I think



Can't know E - be
 shown then there
 living in mass
 in heavy living
 Do the thing of E - be
 in same species (or in)
 in E - be.

then between A + B. various
 sort of relation. C + B. The
 first predation, B + D
 rather greater interaction
 then former would be
 formed. - heavy relation

Reception and Neglect

- Evolution concept accepted, mechanism perhaps not
- A symbol of progress ?
- Supporters--Joseph Hooker.and Thomas Huxley
- 1880's and 1890's Darwin's reputation slumps
- Problems for Darwin--laws of heredity and age of earth and solution by early 1900's
- Eclipse of Darwinism by Lamarckism, saltationism and orthogenesis



MR. BERGH TO THE RESCUE.

THE DERIVATION GORILLA. "That Man wants to claim my Pedigree. He says he is one of my Descendants."

MR. BERGH. "Now, Mr. Darwin, how could you touch him so?"

N° 10

12 Cms



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DARWIN



(Voir à la page 2.)

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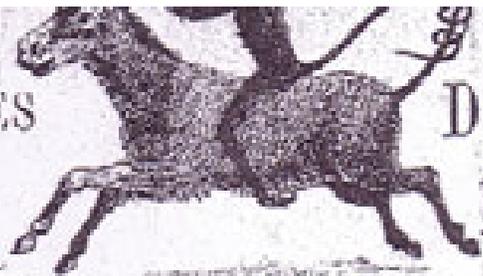
LOCKPORT, N.Y.

JOHN HODGE, Secy



IF I AM DARWIN'S GRANDPAPA,
IT FOLLOWS DON'T YOU SEE,
THAT WHAT IS GOOD FOR MAN AND BEAST,
IS DOUBLY GOOD FOR ME.

ALL THE
ARTICLES
OF THE



DARWIN
FAITH.

QUADRUPED.

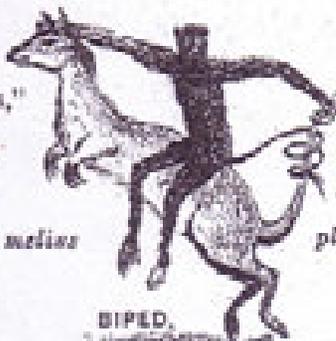
BY THE REV.
F. O. MORRIS, B.A.,



Rector of
Nunburnholme,
Yorkshire.

TRIPED.

Author of
"A History of British Birds,"
dedicated by permission



to her most gracious
Majesty the Queen,
etc., etc.

"Ridiculum acri fortius an melius"

"plerumque acrius est."

HORACE.

BIPED.

Hanno sum!

PRICE



ONE SHILLING.

UNIPED.



Darwin Hijacked

- Social Darwinism and the confusion of a scientific theory with an ethical one
- Problem of definition for social Darwinism and over emphasis
- Herbert Spencer in England and William Sumner, Andrew Carnegie, and John D. Rockefeller in U.S.
- Term short-lived and derisive
- Eugenics and genetic determination
- Sterilization laws and restricted immigration
- Nightmare of Nazi Germany

Darwin Updated and Vindicated

- Rediscovery of genetics and Neo-Darwinism
- The modern synthesis
- Role of Punctuated Equilibrium
- Natural selection remains primary mechanism--
Darwin got it right!

Percentage of respondents who agree or disagree that humans developed from an earlier species of animals



SOURCE: Jon D. Miller, Michigan State University

* In 2001.

Sources

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- Voyage of the Beagle Around the World--Charles Darwin
- The Portable Darwin--Duncan Porter and Peter Graham
- Evolution, the ■ History of an Idea--Peter Bowler
- Charles Darwin, the Man and His Influence--Peter Bowler
- Darwin, the Life and Times of a Tormented Evolutionist--Adrian Desmond and James Moore

Sources Continued

- The Beak of the Finch--Jonathan Weiner