1858 was not “marked by any of those striking discoveries which at once revolutionize, so to speak, the department of science on which they bear.”

Presidential Address, Linnaean Society
When the ideas advanced by me in this volume, or when analogous views on the origin of species are generally admitted, we can dimly foresee that there will be a considerable revolution in natural history.

Revolution in Science, 1985, p. 285

You are the greatest Revolutionist in natural history this century, if not of all centuries.

Letter to CD, 21st Nov '59

I think Darwin's idea of natural selection is the best idea anybody ever had, ahead of Newton, ahead of Einstein.

Evolution (PBS, 2001)

The detection of intelligent design is so unambiguous and so significant that it must be ranked as one of the greatest achievements in the history of science. The discovery rivals those of Newton & Einstein, Lavoisier & Schrödinger, Pasteur & Darwin.

Darwin's Black Box, 1996, p. 233.

Darwin’s theory of evolution by natural selection is arguably the most powerful idea ever to occur to a human mind.

New Encyclopedia of Unbelief (2007, p. 231)
“Evolution had become respectable. No revolution took place, no pyrotechnics, just a quiet change at the top – a palace coup. Society would never be the same.”


“Descent with modification through natural selection”

- Transmutation of Species
- Heredity
- ‘Struggle’ with biosphere & other organisms
- Natural Selection
- Sexual Selection

“Descent with modification through natural selection”

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- Sexual Selection

What happened?

- What was before?
- What was after?
- How quickly did the change happen?

What was before?

- Transmutation of Species
- ‘Struggle’ with biosphere & other organisms
- Natural Selection

What was after?

- What happened?
- How quickly did the change happen?

How quickly did the change happen?

- What was before?
- What was after?
- What happened?

What was before?

- Transmutation of Species
- ‘Struggle’ with biosphere & other organisms
- Natural Selection

What was after?

- What happened?
- How quickly did the change happen?

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What was after?

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- How quickly did the change happen?

How quickly did the change happen?
If there are variations, and if these are inherited, and if one variant is more suited to some task that the others, and if that task directly affects survival and therefore reproduction, then selection will result in evolutionary change.

Darwin wrote "in this paper he [Wells] distinctly recognizes the principle of natural selection, and this is the first recognition which has been indicated..." (4th edition, 1866)
Patrick Matthew (1831)

- Appendix to *Naval Timber and Arboriculture*
- Claims priority in 1860 letter to *Gardeners Chronicle*
- Darwin acknowledges this.

Edward Blyth (1835)

- "An Attempt to Classify the ‘Varieties’ of Animals, with Observations on the Marked Seasonal and Other Changes Which Naturally Take Place in Various British Species, and Which Do Not Constitute Varieties" *Magazine of Natural History*
- Natural selection working to *preserve type and essence*, i.e., selection as a negative force.

Thinking About A Revolution

- What was before?
- What happened?
  - Accumulation of evidence
  - Consilience of inductions
- What was after?
  - How quickly did the change happen?

What was Darwin’s Direct Evidence for Natural Selection?

- Instinct
- Classification
- Fossil Record
- Embryology
- Morphology
- Geographic Distribution
- Evolution
I.B. Cohen’s Stages of Revolution

1. The “intellectual revolution” or “revolution-in-itself” (private)
2. Written commitment to the new method, concept or theory (private)
3. Dissemination of the ideas (public)
4. Adoption by a critical mass of individuals or groups (public)

Evolution not Revolution

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1831</td>
<td>Voyage of the Beagle</td>
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<td>1837</td>
<td>Notebooks</td>
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<tr>
<td>1842</td>
<td>Pencil Sketch</td>
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<td>1856</td>
<td>Natural Selection</td>
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<td>1858</td>
<td>Linnean Society paper</td>
</tr>
<tr>
<td>1859</td>
<td>Origin of Species</td>
</tr>
</tbody>
</table>

Thinking About A Revolution

- What was before?
- What happened?
- What was after?
  - Increased acceptance of evolution but rejection of natural selection
  - Acceptance of naturalistic mechanism
- How quickly did the change happen?

Ernst Haeckel
A Hundred Year Revolution

1859  Origin of Species
1870's  Rise of Neo-Lamarckianism
1899  Bumpus’ evidence for natural selection
1900  Re-discovery of Mendel
1901  Wheldon’s evidence for nat. seln.
1930's  “The Modern Synthesis”
1953  Crick & Watson’s Nature paper begins the “Genetic Revolution”

Thinking About A Revolution

- What was before?
- What happened?
- What was after?
- How quickly did the change happen?
  - Not very!

Darwinism is extinct.
Darwinists do not exist.
Evolution ≠ Natural Selection
We have a professional, natural-selection-based discipline and an entirely convincing, naturalistic explanation of the design-like appearance of the natural world.
There is grandeur in this view of life, with its several powers, having originally been breathed into a few forms or into one, and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.

 Origin
Darwin “caused a greater upheaval in man’s thinking than any other scientific advance since the rebirth of science in the Renaissance.” (1972, p. 987).