
Monday 2 June 2003

9-12

HISTORY AND PHILOSOPHY OF SCIENCE (1)

History of Science

Before you begin read these instructions carefully:

*Answer **question one** from **Section A** and **three** questions chosen from **Section B***

Begin each answer on a separate sheet.

*Write legibly and on only **one** side of the paper.*

Answers must be tied up in separate bundles, marked 1, 2, 3, etc. according to the number of the question.

*Attach a completed coversheet to each bundle and complete a master coversheet listing all questions attempted. It is essential that you write your examination number and **not** your name on the coversheet and on **each** bundle.*

<p>You may not start to read the questions printed on the subsequent pages of this question paper until instructed that you may do so by the Invigilator</p>
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HISTORY AND PHILOSOPHY OF SCIENCE (1)

History of Science

SECTION A

- 1 Does the history of science show that science has progressed?

SECTION B

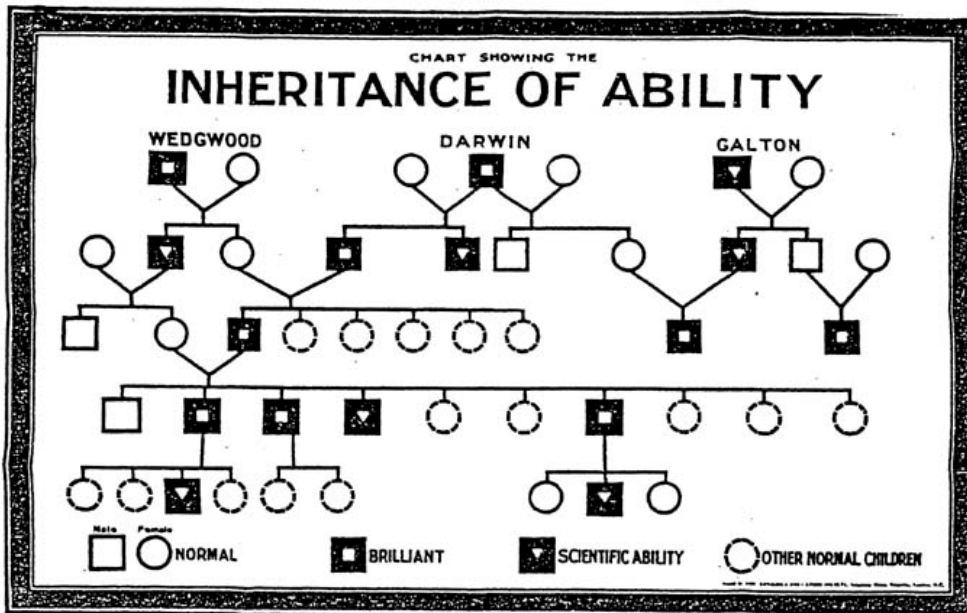
- 2 “Medical ideas changed, medical practices stayed the same”. Is this true of European medicine between 1500 and 1700?
- 3 How did early modern natural philosophers justify their methods of inquiry?
- 4 **Either** (a) Is magic the foundation of modern science?
Or (b) “Thus much concerning God, to discourse of whom does certainly belong to natural philosophy” (ISAAC NEWTON, 1713). Could a Newtonian also be an atheist?
- 5 **Either** (a) Was there a revolution in electricity in the eighteenth century?
Or (b) How do you explain the changes in British science and medicine in the decades around 1800?
- 6 How, when and why did the sciences become a significant part of the modern university curriculum?
- 7 **Either** (a) Compare the importance of the laboratory and of the museum in the development of European sciences between 1650 and 1850.
Or (b) What is the difference between ‘hospital medicine’ and ‘laboratory medicine’?
- 8 Would Charles Darwin have called himself a professional scientist?
- 9 **Either** (a) Why did nineteenth century physicists stress the need for precision measurement?
Or (b) Was Einstein’s relativity theory a response to a crisis?
- 10 ‘I am become death, destroyer of worlds’ (J. ROBERT OPPENHEIMER, 1945). How did physics, and the idea of being a physicist, change as a result of the making and use of the atomic bomb?

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11 **Either** (a) 'Psychoanalysis was cobbled together out of the received scientific and medical ideas of the late nineteenth century'. Was it?

Or (b) 'Rather than believe that Watson and Crick made the DNA structure, I would rather stress that the structure made Watson and Crick' (FRANCIS CRICK). Do you agree?

12 Discuss, with reference to the history of eugenics:



END OF PAPER

Tuesday 3 June 2003

9-12

HISTORY AND PHILOSOPHY OF SCIENCE (2)

Philosophy of Science

Before you begin read these instructions carefully:

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HISTORY AND PHILOSOPHY OF SCIENCE (2)

Philosophy of Science

SECTION A

1 'The sole aim and purpose of science is to discover the truth'. Discuss.

SECTION B

2 Has Descartes shown that the senses cannot be a source of knowledge?

3 **Either** (a) Are primary qualities more real than secondary qualities?

Or (b) Can Berkeley's idealism be refuted?

4 **Either** (a) Do causes make their effects happen?

Or (b) Are laws of nature anything more than regularities?

5 How could the past fail to be a guide to the future?

6 **Either** (a) Are explanations arguments?

Or (b) Does the observation of a white shoe give any support to the hypothesis that all ravens are black?

7 **Either** (a) Is there anything right about Popper's philosophy of science?

Or (b) Does Kuhn show that scientific change is irrational?

8 'There is no solution to the problem of natural order without a solution to the problem of social order' (STEVEN SHAPIN). Discuss, with reference to a specific case study in the sociology of scientific knowledge.

9 'The only ethical issues that concern the scientist, as a scientist, are issues of scientific conduct'. Discuss.

10 'It could only be useful to describe a chess-playing computer as planning its moves if it really is. We know that it is not really planning its moves, so it is not useful to describe it as doing so'. Discuss.

END OF PAPER