
Monday 4 June 2001

9-12

HISTORY AND PHILOSOPHY OF SCIENCE (1)

History of Science

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

SECTION A

- 1 Have the sciences always been at war with religion?

SECTION B

- 2 How did existing and novel institutions affect the pursuit of **either** astronomy **or** anatomy between 1550 and 1700?
- 3 'Mechanical philosophers applied military principles to the whole of nature.' Discuss.
- 4 Why did Newton entitle his work *Philosophiæ naturalis principia mathematica* ('Mathematical principles of natural philosophy')?
- 5 **Either** (a) Compare the development of experimental natural philosophy in France and Britain in the eighteenth century
Or (b) Was there a chemical revolution in the eighteenth century?
- 6 **Either** (a) Discuss the transformation of the 'natural philosopher' of the late eighteenth century into the professional 'scientist' of the late nineteenth century.
Or (b) How did the place of the sciences in university education change during the mid- and late-nineteenth century?
- 7 Why, when first published in 1859, was *On the Origin of Species* a significant book?
- 8 **Either** (a) Did Freudianism become a secular religion?
Or (b) 'During the second half of the nineteenth century the study of heredity moved from the garden to the laboratory.' Discuss.
- 9 What did physicists around 1900 expect of the future development of their theories? Had these expectations been achieved by the middle of the twentieth century?
- 10 **Either** (a) To what extent and by what means were biology and medicine 'molecularized' in the second half of the twentieth century?
Or (b) Was the proposal of the double helical structure of DNA a clever piece of puzzle solving, an act of intellectual theft, or a profound and unexpected insight?

END OF PAPER

Tuesday 5th June 2001

9-12

HISTORY AND PHILOSOPHY OF SCIENCE (2)

Philosophy of Science

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

SECTION A

1 How, in your view, should the history and/or sociology of science inform philosophical accounts of science?

SECTION B

2 **Either** (a) 'The scepticism of Descartes admits of no answer and serves no purpose.' Discuss.

Or (b) What is the problem of induction? Does it rest on a misguided notion of justification?

3 **Either** (a) What is the difference between idealism and scepticism?

Or (b) Is there a sense in which colours are in the mind and shapes are not?

4 Why aren't all correlations laws?

5 Has Kripke established the possibility of knowledge that is both necessary and *a posteriori*?

6 **Either** (a) What does explanation have to do with deduction?

Or (b) Describe and defend a solution to the Paradox of the Ravens.

7 **Either** (a) What is right in Karl Popper's philosophy of science?

Or (b) How does Kuhn distinguish between normal and revolutionary science? Is this distinction a matter of degree?

8 'If social interests shaped the content of science, then scientists could never arrive at true theories.' Discuss.

9 **Either** (a) How can Schrödinger's Cat Paradox be resolved?

Or (b) How can philosophy of science help to determine who should fund scientific research?

END OF PAPER