

NST1  
Natural Sciences Tripos Part IB

**Paper HPS/1**  
**HISTORY AND PHILOSOPHY OF SCIENCE (1)**  
**History of Science**

You should answer four questions in total. Answer one question from Section A and three questions from Section B. All questions carry equal weighting.

You should spend no more than three hours on answering all the questions, and a word limit is set of no more than 1,500 words per answer.

All your answers for this paper should be submitted in one DOC, DOCX or PDF document. Each answer should be clearly headed with the question number and the question.

Put your Blind Grade Number (BGN) at the start of the document. Do not put your name anywhere in the document.

**SECTION A**

1. Did science and technology underpin state power, or did state power underpin scientific authority?
2. Does history suggest that experiments result in more accurate scientific knowledge?

**SECTION B**

3. “The mechanisation of the world picture”: is this a good description of changes in natural philosophy in seventeenth- and eighteenth-century Europe?
4. What were the sources of support for astronomical inquiry in Europe between 1540 and 1800?
5. Did early modern natural philosophy and natural history threaten established religion?
6. How did early moderns picture the perfect human body?

7. How did the development of new instruments reflect changes in the history of medicine in post-revolutionary France?
8. In 1847, Hermann von Helmholtz wrote, "We cannot create mechanical force, but we may help ourselves from the general storehouse of Nature." Analyse this quote with respect to the history of the physical sciences in the nineteenth century.
9. Was nineteenth-century geology a global science?
10. Who were post-World War II development experts and what was their expertise?
11. How did "nuclear exceptionalism" shape science, politics and industry?
12. What challenges and possibilities did Indigenous experiences and perspectives create for genomic, climate, and/or data sciences in the twenty-first century?

**END OF PAPER**

NST1  
Natural Sciences Tripos Part IB

**Paper HPS/2**  
**HISTORY AND PHILOSOPHY OF SCIENCE (2)**  
**Philosophy of Science**

You should answer four questions in total. Answer one question from Section A and three questions from Section B. All questions carry equal weighting.

You should spend no more than three hours on answering all the questions, and a word limit is set of no more than 1,500 words per answer.

All your answers for this paper should be submitted in one DOC, DOCX or PDF document. Each answer should be clearly headed with the question number and the question.

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**SECTION A**

1. Does the philosophy of science have practical payoffs? If so, what are they?
2. How can science achieve objectivity if it is practised by subjective human beings?

**SECTION B**

3. What conceptions of human nature, if any, are compatible with a proper understanding of evolution?
4. "Science does not rest upon solid bedrock. The bold structure of its theories rises, as it were, above a swamp. It is like a building erected on piles." Does Popper justify this simile?
5. What lessons can we take about the place of social and political values in science from Emily Martin's critique of the common scientific narratives of fertilisation?

6. Can there be productive interactions between incommensurable paradigms?
7. Suppose you have a rare physiological dysfunction which causes no symptoms. Is this a disease?
8. How should scientists respond to problems of inductive risk?
9. What is the best argument for funding unorthodox scientific research?
10. What, if anything, does Newton's bucket experiment prove?
11. Is "imitate natural science" a good piece of advice for social sciences?
12. "Only humans have conscious experiences." Do you agree?

**END OF PAPER**