

## NATURAL SCIENCES TRIPOS Part III

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Questions released at 12 noon on Monday 10 February 2014  
Answers to be submitted by 12 noon on Monday 17 February 2014

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### HISTORY AND PHILOSOPHY OF SCIENCE

#### **Before you begin read these instructions carefully:**

*Students taking Natural Science Tripos Part III **History and Philosophy of Science** should answer **two** questions from the following list of eight questions.*

*The two essays should be submitted in duplicate to the Departmental Office by 12 noon on Monday 17<sup>th</sup> February 2014. Students are also required to upload their examinable work as a .doc or .rtf file to the **closed and confidential** HPS MPhil / Part III site on CamTools. The examiners may use this to check word count or derivative passages.*

*Essays should be marked 1, 2, 3, etc. according to the number of the question attempted. On the top of the first page of each essay include your name and college. The essays should be typed on only **one** side of the paper and each essay should be firmly stapled.*

*When handing in your essays attach a completed coversheet (downloadable from Camtools) to the bundle listing the number of each question attempted. It is essential that you write your name and essay number on the coversheet as well as on each essay.*

### **NST Part III History and Philosophy of Science**

Answer any **two** questions. Answers should not exceed 2,500 words.

1. 'We wish we could think that these speculations were as innocuous as they are unpractical and unscientific, but it is too problematic that if unchecked they might exert a very mischievous influence' (*The Times*, 8 April 1871). Why did Darwin publish the *Descent of Man*?
2. In what ways and to what extent have pharmaceutical technologies and their users been co-constructed?
3. When did observation become an 'epistemic genre', and why?
4. Are infrastructures built or do they grow, and why is this distinction important?
5. 'If one wants to know how scientific research actually works, one must begin with the characterization of an experimental system, its structure and dynamics, rather than address theory, or the relation between theory and experiment...' (Rheinberger, 1992). Assess this claim with reference to examples.
6. Can scientific inference be free of non-epistemic value judgments?
7. Which idealized models, if any, should we be realist about, and why?
8. Why do scientific revolutions pose problems for the idea that science makes progress?

END OF PAPER