

NST Part II, History and Philosophy of Science Senior Examiner's Report, 2009

The HPS Pt II Examination was sat by 22 students this year. It was the first year in which a choice was offered between option A and option B (the latter including an extra examination paper, but no dissertation). Only 1 out of the 22 candidates chose option B. Three further candidates took Paper 7, and 2 took Paper 8, as part of BBS Pt II. One Classics Tripos student took Paper 1. The final results for the HPS Pt II (amended after authorisation from the Applications Committee) comprised 7 Firsts overall (32%) and 15 Upper Seconds (68%). No candidates were awarded Lower Seconds or Thirds. Overall, then, this was a very fine performance by a strong cohort.

Class and mark distributions

10 out of 21 dissertations were awarded firsts, including some very fine performances. Only 2 dissertations received lower seconds. 8 students were awarded firsts for their combined performance in the primary source essays. Overall, then, performance in coursework was of a particularly high standard. When lower marks (lower seconds and thirds) were awarded within individual examinations papers, this was typically in virtue of very short answers, or missing answers, to single questions, rather than for uniformly mediocre performance across all questions. Candidates should therefore be encouraged to ensure that they have adequate breadth of coverage over the syllabus, and that they divide their time equally between questions.

Examining Practices

Examination questions were set at the examiners' meeting in Lent Term, following consultation with supervisors, lecturers and paper managers. The External Examiner (John Henry) also provided valuable comments on the draft papers.

As is always the case, all elements of the course (dissertations, primary source essays and examination papers) were blind-double-marked. The External Examiner was asked to resolve cases where examiners diverged markedly, and he was also asked to comment on the general calibration of examiners to each other, and to national standards.

The examiners reported some concerns about the ways in which medical and pastoral issues were handled. In some cases college tutors approached the Senior Examiner directly, in other cases representations were made via the Applications Committee. An examination warning was received for one candidate, but it arrived very late.

Finally, the examiners recommend that the Department's *Guidelines for Undergraduate Examinations* are scrutinized. They currently recommend 85 as a top overall mark for a standard year, but it is not clear that this rule has generally been adhered to.

All the examiners—and especially the new external examiner—should be thanked for their extremely efficient and diligent work this year.

General Comments: Coursework

Dissertations largely exhibited an extremely high level of industry by candidates. In many cases this industry was matched by high intelligence. It was pleasing to see that many students had clearly enjoyed researching and writing this component of Pt II.

In the primary source essays, choice of title was central to achieving a high mark: the most successful essays answered tightly-focused questions based on close and direct engagement with the source and with the major secondary literature, and the least successful were general thematic explorations of the field which lacked a solid contextual background. In this sense, finding an original or unexplored aspect of the source was less important than constructing an engaging and original argument around it. A small number of essays sought to use other primary material to illuminate the main primary source: on the whole, these were admirably ambitious but often too wide-ranging to achieve a high mark.

Comments on Specific Examination Papers

Paper 1: Classical Traditions in the Sciences

Seven candidates took the Paper. Scripts were largely solid, with no exceptional performances and no poor performances. There was a good spread of questions tackled, with only one question (12b, on medieval astronomy) being entirely avoided. Question 11, on patronage in the Islamic Middle East, was answered well, as were answers which made use of lectures on genres of Greek science. Some of the stronger performances incorporated methodological reflections from other papers, e.g. the history of the term 'science' as encountered in Paper 3. Only three students chose the primary source for this paper, and their performance was strong.

Paper 2: Natural Philosophies: Renaissance to Enlightenment

Only five candidates took this paper. A good spread of questions was tackled. In Section A, no candidate answered question 2 (on practitioners of natural philosophy and natural history in the 18th century), and in Section B, no candidate answered on Bacon (questions 5a and 5b). Section A questions were seldom above a good to average quality. Excellent answers were given on science in China and on 18th century natural history. Two candidates produced impressively consistent high quality scripts. Only four students chose the primary source for this paper, and the marks awarded were very high.

Paper 3: Science, Industry and Empire

This was a very popular paper, taken by 12 candidates. Some Section A questions were answered poorly, with candidates showing either insufficient breadth of knowledge or lacking an argument. Others, however, used Section A to demonstrate flair and incisive and clever use of standard material. In section B, Question 5 was answered by 10 candidates, and produced engaged, successful and rather similar essays. Most candidates failed to tackle the issue of whether it was *more likely* for historical rather than physical sciences to be shaped by an engagement with empire. Question 9a was answered by 9 candidates. It was noted that this was a question that was hard to do well at, but also hard to do poorly at, with nearly all

answers deemed to be mid 2i standard. Question 11, on Biblical archaeology, produced answers that were both high quality and spirited. Questions on laboratories, race and novels were largely avoided. Several scripts exhibited noticeably bad handwriting.

The primary source (Darwin's correspondence) was predictably popular in this anniversary year. Most of the essays were solid: more sophisticated essays usually engaged with a larger number of letters, enabling candidates to produce more imaginative and nuanced work. It was noted that candidates seldom tackled the technicalities of Darwinian (and other evolutionary) theories.

Paper 4: Metaphysics, Epistemology and the Sciences

7 candidates sat this paper. The responses to questions were solid, although there were few outstanding answers to questions, in part because responses rarely ventured beyond material covered in lectures. The two questions on induction were particularly popular, and they were answered well. Poor performance on individual questions was often due to the production of irrelevant material, even though the material in question would have been an excellent response had the question been different.

Performance on the primary source (van Fraassen's *The Scientific Image*) was somewhat disappointing. No students were awarded firsts, and some essays showed significant misunderstandings of van Fraassen's position.

Paper 5: Science and Technology Studies

5 Candidates sat this paper, and performance was generally good. All 5 candidates answered the same Section A question ('Does society shape technology or vice-versa?') and all gave similar, intelligent answers. In Section B no candidates answered question 5 ('Scientific facts are like trains'), or question 9b (on Medawar's comments on the scientific paper). Otherwise the distribution of responses was hearteningly broad.

No one chose the primary source for paper 5.

Paper 6: History and Philosophy of Mind

This paper was comparatively popular, with nine students choosing it. Performance was quite mixed, with only one candidate getting a first on the paper, and three lower seconds. Responses to section A questions sometimes featured large amounts of irrelevant material, and they were penalised accordingly. In Section B question six (on 'extended cognition') was especially popular, and it was answered well. No one answered question seven (on the 1960s anti-psychiatry movement and its impacts), but the breadth of responses was otherwise good. Performance on the Freud primary source was strong.

Paper 7: Medicine from Antiquity to the Enlightenment

12 candidates took this paper, making it one of the most popular. In the exam, answers to section A questions were widely spread in terms of quality and choice: five out of eleven Part II candidates attempted question 1, and three each attempted questions 2 and 3. Answers ranged in quality from high 2ii to mid 1, with most candidates revealing a good degree of knowledge and a generally impressive ability to construct an argument. Section B answers

were heavily skewed towards two questions: nine candidates attempted question 6 (on Hippocratic & temple medicine), and six attempted question 10 (on medical communication). In both cases, some of the answers showed an impressive degree of flair in addressing both historical and historiographical sources, and most answers to these questions were of high 2i standard or above. No candidates chose to attempt question 12, and only one answered question 11b. Overall, the quality of work was hearteningly, if not excitingly, high. Three BBS candidates took Paper 7, and chose to attempt a wide range of Section B questions. Their answers were all of 2i standard or above, and some reflected an impressive capacity for historical thought. The examination itself seems to have been poorly administered: no yellow coversheets were made available to the candidates, and this made the process of marking rather more time-consuming. The primary source (Helkiah Crooke) was also very popular, and produced some impressive performances.

Paper 8: Modern Medicine and Biomedical Sciences

7 candidates sat this examination. Section A answers showed a marked bias towards question 3, with four candidates attempting this question. Most produced solid, well-structured answers, though one was disappointing in its lack of breadth. In general, Section A answers were competent rather than impressive, somewhat lacking in flair and ambition. Section B answers were, on the whole, more impressive. Four out of seven Part II candidates answered question 9, but none chose to attempt questions 7a or 7b (on the NHS and molecular medicine respectively). Candidates attempting questions 4, 5, 8 and 9 produced generally strong answers, ranging from mid 2i to mid 1, but answers to question 12 were all deemed to be around mid 2i standard. Two BBS candidates took Paper 8, and both chose to answer questions 4, 5 and 6 (on tuberculosis, surgery and the visual respectively). Their answers ranged in quality from mid 2ii to low 1, and tended to reflect a good degree of knowledge and engagement, but rather less skill in constructing an argument. The primary source for this paper was also popular, and produced a decent range of essays in the high 2i to low first class range.

Paper 9: Images of the Sciences

Only 4 students sat this paper, and performance was a little disappointing, with all candidates gaining 2is, and none awarded firsts. In Section A all but one of the candidates chose to answer question 3 (on scientists' uses of history of science). In Section B the spread of responses to questions was decent, although neither question on Kant and the sciences was answered. Questions 11 and 12 (on social interest theory and actor network theory, and on the problems posed by large-scale accounts of the development of the sciences) also went unanswered. The primary source (the Two Cultures Debate) was only chosen by a handful of candidates, and performance was variable.

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