Part IB History and Philosophy of Science
Senior Examiner's Report 2007–08

Sixty candidates sat the examination, of which fifty-nine appeared on the final class list: exactly the same numbers as last year. The mark scheme adopted by the NST sets he following ranges: First, 70% and above; II.1, 60–69%; II.2 50–59%; III, 4049%. As in the past few years, the NST Chairman instructed the examiners to distribute the marks so that such that 60% of the candidates were awarded an overall mark of 60% or above.

The results were as follows, expressed both as numbers of candidates and as percentages of the cohort, with last year's figures given for comparison

| | 2008 | | | | | | 2007 | | | | | |
	M	%	F	%	Total	%	M	%	F	%	Total	%
I	2	3.4	5	8.5	7	11.9	9	15.0	7	11.6	16	26.6
II.1	11	18.6	16	27.1	27	45.8	8	14.6	14	23.3	22	36.6
II.2	11	18.6	13	22.0	25	42.4	11	18.3	11	18.3	22	36.6
III	–		–		–		–		–		–	
Fail	–		–		–		–		–		–	
Total	25	42.4	34	57.6	59	100.0	28	46.7	32	53.3	60	100.0

There was a dramatic decrease in the number of firsts this year, particularly amongst the male candidates. The trend for women to outperform men, which I first identified in the 1B Senior Examiner's Report for 2005–07, was even more striking this year and is perhaps even under-represented in the final marks. All six candidates whose marks had to be scaled down from II.1 to II to meet the NST's marks profile turn out to have been female. The loss of high-achieving men at 1B should be a matter of concern; I hope that the existence of the Part III at HPS will help to lure them back.

The top mark awarded in HPS this year — 75 — is in line with three other smaller NST subjects at 1B: Ecology (36 candidates), Neurobiology (64), and Pharmacology (51). However, the lowest mark awarded in HPS — 52 is a class mark higher than every other NST subject: the next lowest was Experimental Psychology with a minimum mark of 46; the others range from the low 40s to the low 20s. We run the risk of being perceived as an easy option for weaker students and a tough one for the strong.

Five examiners — two philosophers, three historians — marked the scripts. (Alex Broadbent had to take emergency sick leave at short notice: I am especially grateful to Paul Dicken and Steve John for so cheerfully bearing the extra load and delighted to report that Alex Broadbent made such a strong recovery that he has declared himself fit to be Senior Examiner next year!) All scripts were blind double-marked with a third examiner or the External Examiner adjudicating disputed marks. All together the External Examiner read twelve scripts: three to settle marks; two each at the top and the bottom of the mark range, and three on the I/II.1 borderline.

Overall, the scripts this year were remarkably consistent, with very few outstanding performances and very few very bad performances. In general, students answered section B questions better than they answered the more general section A questions. In section B questions, however, many students showed a marked tendency to reproduce material from lectures. It should be stressed that the examiners expect to see engagement with the material from the lectures: this need not necessarily involve developing wholly original lines-of-thought, but when a student's repetition goes so far as to use the lecturer's examples, it is very difficult to tell whether or not he or she fully understands the relevant arguments.

History of Science
Section A
In Section A 37 candidates chose to answer question 1 ("on the evidence of history, does science change gradually or through revolution?") . Almost without exception candidates took a gradualist line. The weakest answers simply described a sequence of scientific events that have previously been described as revolutions,

usually ending in the nineteenth century. The strongest gave serious thought to the notion of revolution and drew on materials from philosophy lectures as well as a wide range of examples from across the historical spectrum to aid their explorations. The 23 candidates who answered question 2 ("religion has helped science but science has harmed religion: discuss") were, on the whole, less successful. A common but unproductive strategy was simply to list examples which supported the quote, in which religion was equated with the Christian church in Europe.

Section B

3) Although this topic was new to the course, 14 candidates answered this question. The weakest had a very wobbly grasp of chronology and a misjudged faith in the reliability of the internet; the strongest understood that patrons could be divine and/or institutional as well as individual humans, and that mathematics could have social and political weight as well as utilitarian value.

4) Just five candidates answered this question, which in retrospect was not well put. The best responses rightly included commentary on its rather clumsy wording.

5) Option A was one of the most popular questions in the paper, with 22 answers. While some answers simply listed examples of showmanship and publicity-seeking, better ones found counter-examples to the premise of the question, while the best engaged directly with the meanings of the word 'necessary' and 'success' in the question. Option B was answered by 7 candidates.

6) This question was answered by six candidates.

7) 40 candidates answered this question, in general fairly competently. The least successful answers described French medicine before and after the revolution. Better answers discussed Fourcroy's role in post-revolutionary medical education and/or compared the French situation to a wider range of European countries. The best demonstrated that the quotation was problematic even for France.

8) Option A was both very popular (30 answers) and very successfully answered, despite some examiners' qualms about the candidates' preparedness to answer counterfactual questions. Some candidates argued that others would have filled the Darwin-shaped gap in Victorian science. Others, on the whole more successfully, showed that it was not simply Darwin's knowledge but also his social status and connectedness that enabled the dissemination of his theories, and these were not so replicable. Many usefully framed their answers in a discussion of the need for 'heroes' in the history of science. The 8 answers to Option B were also largely good ones, which questioned the status of discoveries and discoverers and the effects of teleology in the history of science.

9) Just 5 candidates tackled this question, on the whole not well. The better answers not only talked about opportunities for nineteenth-century women to engage in science but also tackled the ways in which women have been written out of the history of science.

10) One candidate chose to answer Option A, while 20 chose Option B. Weaker responses rehearsed the basic facts of the Manhattan Project and ended the narrative with the immediate emotional reactions to the Bomb. Stronger candidates explored the personal, institutional, and political aftermath well into the Cold War and even to the present day.

11) Eight candidates chose Option A, but rarely moved beyond description to tackle the 'why' part of the question. Option B was generally better answered, by 14 candidates, the best of whom were able to situate the narrower medical story into a wider social context to talk about constructions of race, and about patient activism.

Philosophy of Science
Section A
The split between the two section A questions was fairly even: 31 candidates wrote on question 1 ("what should the philosopher of science learn from the scientist?") and 28 wrote on question 2 (on the relationship between the history and the philosophy of the science). In response to question 1 many students failed to differentiate between what the philosopher of science could learn about science from studying scientists more closely and what the philosopher of science could learn about doing philosophy from her study of, or engagement with, working scientists. The best answers to this question differentiated these two issues. The examiners were rather surprised by the answers to question 2: many candidates failed to differentiate between "the history of science" as a series of past events and "the history of science" as an academic

discipline which studies those events. In turn, this led many to claim that the history of science does show philosophy to be a waste of time because (allegedly) past scientists were not worried by philosophical problems. In general, then, answers to both section A questions would often be improved by a more careful discussion of the terms employed in the question.

Section B

3) This was the most popular section B question (40 answers). Unfortunately, a large proportion of these answers all came to the same conclusion via exactly the same route, employing exactly the same examples. Again, lecture regurgitation should be avoided. A notable proportion of students also seemed to use the question as an excuse to tell the examiners everything they know about induction, rather than sticking to the task of solving the problem of induction. Students should be aware that this is a bad strategy.

4) Fifteen candidates answered this question. In general, answers were of a good quality, and many students showed a good grasp of some technical material.

5) Again, a very popular question (37 candidates), and, again, many students were over-reliant on the handout. A particular problem in this question was that many students provided a formalisation of the sceptical and anti-sceptical argument without ever defining their terms. The best answers to this question displayed an insight into both Wright's and Malcolm's discussion of Moorean anti-scepticism. The worst spent a long time setting out the exact nature of evil scientists and/or demons.

6) Only three candidates took this question.

7) 8 candidates. The material required to answer the question was technical and well-handled, but very few students noted that Bayesian theory concerns degrees of belief.

8) 7 candidates answered this question; most of the answers were decent. However, several candidates took the question as an excuse to talk about explanation in a very general sense, without focussing (as the question required) on particular features of scientific explanation.

9) 19 candidates wrote on 9a and 8 wrote on 9b. Some of the best answers in response to 9a focussed on analysing the term "mob psychology", although too great an interest in this question did sometimes leave little space for discussion of Popper and Kuhn. Answers to 9b tended to follow a pattern, with most students claiming that Kuhn shows Popper's theory to be empirically false, before suggesting that Popper's theory is normative not empirical, but failing to consider whether normative theories might also be refuted.

10) 9 candidates answered this question, with some really excellent answers. One problem, however, was that a small minority of candidates did not relate their answers to constructive empiricism and wrote essays which included random pieces of work from across the syllabus.

11) 7 candidates answered this question. Most of the answers were decent, but many candidates again took the opportunity to write down everything they knew about laws of nature, rather than to answer the specific question.

12) Three candidates wrote on 12a, and five wrote on 12b. One problem with 12b was that candidates often seemed to run out of steam after explaining that the argument seemed to commit the naturalistic fallacy.

13) 16 candidates wrote on this question. In general, these answers tended to suffer from two flaws: first, many of them spent a long time discussing the history of science funding, rather than the normative question posed; second, few students seemed aware that funding industrial science might not necessarily run contrary to the goal of promoting social welfare.

Recommendations to the HPS Board and Degree Committee

1. Despite the recommendation of last year's Senior Examiner, this year's examiners chose not to use a pre-determined scaling formula. Indeed, the provisional scaling was adjusted in the final examiners' meeting due to objections about marking down candidates with raw II.1 marks. While that felt like natural justice at the time, in retrospect I am concerned that cohorts should be treated equally year on year. Given that the 60% rule is here to stay I strongly suggest that the Degree Committee adopts a single scaling formula, which is applied consistently from year to year and that acts across the whole

scale. We should not be wary of scaling down as well as up; other NST subjects do so. Indeed, other NST subjects should be looked to for useful scaling formulae.

2. The university's Guidelines for External Examiners still needs amending to state clearly that External Examiner in the NST 1B has power to fix or move all class boundaries *except* this one. This needs taking up directly with the Board of Examinations.

Recommendations to 1B supervisors

1. Now that the historical scope of 1B has increased significantly, students need more support in getting to grips with the basic chronological and geographical schema. A discussion of the strengths and pitfalls of the internet as a historical resource is also essential.

2. In philosophy, students should be encouraged to develop their own pertinent examples and illustrations, rather than simply reproducing those given in the lectures.

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