

**Part IB History and Philosophy of Science
Senior Examiner's Report, 2006-7**

Sixty candidates sat the examination, of which fifty-nine appeared on the final class list. The mark scheme adopted by the NST sets the following ranges: First, 70% and above; II.1, 60-69%; II.2, 50-59%; III, 40-49%. As in the two previous years, the NST chair instructed the examiners to distribute the marks so that at least 60% of the candidates were awarded an overall mark of 60% or above. This latter dividing line needs further attention, as set out in the recommendations at the end of this report.

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:

	2007						2006						
	M	%	F	%	Total	%	M	%	F	%	Total	%	
I	9	15	7	11.6	16	26.6	I	5	19.2	8	18.6	13	18.8
II.1	8	14.6	14	23.3	22	36.6	II.1	9	34.6	20	46.5	29	42.0
II.2	11	18.3	11	18.3	22	36.6	II.2	12	46.2	15	34.9	27	39.0
III	--		--		--		III	--		--		--	
Fail	--		--		--		Fail	--		--		--	
Total	28		32		60		Total	26	37.7	43	63.3	69	100.0

The most significant aspect of these figures is the precipitous decline in numbers. In 2005, 99 students took the examination; this declined to 69 in 2006 and 60 in 2007. This trend, especially if it continues into the future, requires serious consideration about the HPS course and its relation to other NST options.

The decline in numbers in 2005-6 was largely due to a disproportionate reduction in the number of male candidates. The opposite was the case this year, thus leading the course back to something close to gender parity. (Of course, the proportion of women to men in HPS remains above that in the NST generally.)

The quality of the scripts was generally impressive, and the number of firsts (26.6%) was unusually high. In line with previous comments from the external, at every stage more use throughout was made of the higher range of the first class marks, and one candidate obtained an overall mark of 84. Even more than in previous years, there is little evidence that students are disadvantaged by taking HPS over other 1B subjects.

Three historians and three philosophers marked the scripts; all scripts were blind marked by two examiners. There were few if any disagreements about scripts; these were resolved internally by the three examiners for each subject. The external examiner read a substantial sample of scripts from either side of the major class borders and at the top and bottom of the marking range.

Turning specifically to the History of Science paper, there were the usual discrepancies in the numbers answering particular questions. In section A, nearly twice as many candidates (39 to 21) chose to write on the role of theoretical content as an aspect of history of science, rather than on the distinction between natural philosophy and science. This was perhaps not particularly surprising given the nature of the questions. In Section B, the 'one-sex' body question had only two takers, as did (more strikingly) the question on the origins of molecular biology — which may have suffered by being paired with the popular (17 candidates) question on sickle-cell anemia as a molecular disease. The most answered Section B question

(22 candidates) was on science and technology relations in the Manhattan Project, while over half the class (33 candidates) answered one of the two options (8A and 8B) on Darwin and Darwinism. Somewhat alarmingly, many candidates displayed an exaggerated idea of the insignificance of the *Origin of Species*, one comparing it to Richard Dawkins's *The God Delusion*.

It is clearly difficult to avoid the impression that certain history questions are seen as 'mainstream' and others optional; but although the spread could be improved, it is for the most part not a serious issue for concern. Overall, it was felt that close attention by the examiners in setting the questions had paid off.

In the Philosophy of Science paper, answers were generally well-distributed among the questions, with Popper, causation, reliabilism and Moore the most popular. The only question that received fewer than seven answers was the one on the symmetry thesis, which nobody attempted. We suspect this is because this was not a supervision topic, which underlines the importance of coordination of coverage between lectures and supervisions.

The general standard was good in both philosophy sections, with the great majority of answers at least relevant if not original. But both of the Section A questions tended to elicit answers which relied almost exclusively on Popper and Kuhn. Questions that related to more technical material tended to elicit answers which rehearsed that technical material but did not show enough appreciation of the larger philosophical issues. There were also a number of easily avoidable weaknesses of presentation, such as getting the relevant counterfactual standardly linked to causation backwards, failing to signal clearly that the D-N model of explanation treats explanations as deductions and, in one disconcerting case, referring to Putin's use of brains-in-vats. But the most pervasive weakness was an understandable but disappointing tendency to regurgitate lecture notes and material from handouts rather than show more evidence of having properly internalised the issues and arguments.

The examiners concluded by thanking the external examiner for his outstanding service during the past three years.

Recommendations

Although the examining proceeded smoothly and was judged by the external to be fair, it was agreed that potential problems could be avoided in future by taking the following steps.

For the examiners in 2007-8

- The NST rule that 60% of candidates should be awarded a II.1 or above is now an established feature of the IB examination, and needs to be given a more central place in the marking of scripts. Up to the final stage in the process, it is advisable that the examiners should focus their attention on the *rank* of candidates rather than their absolute position on a marking scale—as calibration of a key element of that scale is not under their control.
- A scaling system should be agreed in advance at the Lent meeting at which the exam questions are set. This would avoid the possibility of any discrepancy in methods, particularly between historians and philosophers.
- The need for internal examiners to take and retain notes, even brief ones, as they read through the scripts should be reinforced.

For the HPS Board

- If numbers in HPS 1B remain at their present level, or decline further, the number of internal examiners could be reduced back down to four (two historians and two philosophers).
- It would be worth considering amending the criteria for obtaining a First, adding a reference to the need for 'critical engagement', perhaps especially in relation to the history of science. Students might also be encouraged to give references to secondary authors in their answers. Such language would give a better idea of what can be expected from a 1B student than talk of 'originality'.
- The HPS Board's attention is drawn to the external examiner's continuing concern about the 60% rule. This concern, with which the internal examiners agree, is directed at an inconsistency in the General Board's guidance to the external. The relevant passage of the external's report is as follows:

I would like, therefore to reiterate the point that I have raised in my reports over the last two years. The fourth duty of Moderating External Examiner prescribed in the *Guidance of the General Board* is 'advising on class borderlines'. Yet it is still unclear - despite my previous requests for clarification from the University - what substance that duty can have in relation to the 2:1/2:2 borderline since that is entirely determined by the requirements of the 60/40 distribution. I therefore respectfully request once again that the Board gives its consideration to clarifying the nature of this duty in relation to the 2:1/2:2 borderline, or, if more appropriate, to amend the scope of the Moderating External examiner's duties to exclude any responsibility for advising on this particular threshold.

I do hope that the Board will do me the honour this year of replying to this request for clarification. I should note in closing that it is customary expectation among External Examiners that such queries and criticisms as they raise in their reports should receive an appropriate response. If I do not receive a reply on this third request, I anticipate that it will be necessary for me to draw these concerns to the attention of the Vice-Chancellor.

Prof. J. A. Secord
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