

## NST Part II, History and Philosophy of Science Senior Examiner's Report 2014

This year 40 candidates sat the HPS Part II Examination. One candidate withdrew after submitting Primary Source Essays. The majority (83%) chose to write a dissertation (option A), with only 7 candidates sitting a fourth examination instead of a dissertation (option B). Overall, the final results were very strong. As set out in Table 1, 38% achieved Firsts, 58% Upper Seconds, and two candidates Lower Seconds.

| <i>Year</i> | <i>First</i> | <i>Upper Second</i> | <i>Lower Second</i> | <i>Third</i> | <i>Deserved Honours</i> | <i>Total</i> | <i>A</i> | <i>B</i> |
|-------------|--------------|---------------------|---------------------|--------------|-------------------------|--------------|----------|----------|
| 2014        | 15           | 23                  | 2                   | —            | —                       | 40           | 33       | 7        |
| 2013        | 7            | 29                  | 4                   | —            | —                       | 40           | 27       | 13       |
| 2012        | 16           | 19                  | 1                   | —            | 1                       | 37           | 23       | 14       |
| 2011        | 11           | 25                  | 3                   | —            | —                       | 39           | 28       | 11       |

Table 1. Distribution of HPS Part II marks, 2011-14

The HPS Part II Examiners also mark the papers for BBS candidates, and pass the results to the BBS Examining Board where the candidates are classed. Paper 2 (Early Medicine) was borrowed by 7 candidates as BBS Minor Option 65, and Paper 5 (Modern Medicine) was borrowed by 3 candidates as BBS Minor Option 66. This represents an increase over 2011 (1 P2, 3 P5) and 2012 (2 P2, 1 P5), and a return to the levels in 2010 (7 P2, 2 P5). Performances were spread across the range of marks—4 Firsts, 2 Upper Seconds, 3 Lower Seconds—suggesting that these candidates performed competitively alongside their peers doing the full HPS Part II.

The number of candidates for History and Ethics of Medicine (HEM), BBS Minor Option 45, continued to fall (see Table 2). This year, performances on HEM were bunched in the Second Class range, with fewer Firsts and no Thirds or Fails.

| <i>Year</i> | <i>First</i> | <i>Upper Second</i> | <i>Lower Second</i> | <i>Third</i> | <i>Fail</i> | <i>Total</i> |
|-------------|--------------|---------------------|---------------------|--------------|-------------|--------------|
| 2014        | 2            | 10                  | 3                   | 0            | 0           | 15           |
| 2013        | 7            | 11                  | 2                   | 1            | 1           | 22           |
| 2012        | 5            | 26                  | 2                   | 0            | 0           | 33           |
| 2011        | 7            | 18                  | 5                   | 1            | 0           | 32           |

Table 2. Distribution of HEM marks, 2011-14

Two candidates from Classics borrowed Paper 1 (Science Before 1650), and the examiners passed their marks directly to the Classics Examiners for incorporation into their processes.

### Class and mark distributions

The class and mark distributions for each paper are given in Table 3 below. The numbers of candidates sitting each paper ranged from two (Paper 9) to 26 (Paper 7). In general, there was a good spread of marks across the papers, with a tendency, this year, for the candidates sitting the less popular papers to perform slightly higher than those sitting the more popular papers. The candidates' performances reflect the challenges particular to each paper, as set out in the detailed comments on these in the penultimate section of this report.

| <i>Paper</i>   | <i>First</i> | <i>Upper<br/>Second</i> | <i>Lower<br/>Second</i> | <i>Third</i> | <i>Fail</i> | <i>Total</i> | <i>Max</i> | <i>Min</i> | <i>Mean</i> | <i>Median</i> |
|--|--------------|-------------------------|-------------------------|--------------|-------------|--------------|------------|------------|-------------|---------------|
| PS Essays (combined mark)                                  | 20           | 19                      | 1                       | 0            | 0           | 40           | 78         | 61         | 71          | 68            |
| Dissertation   | 19           | 11                      | 2                       | 1            | 0           | 33           | 85         | 45         | 70          | 70            |
| P1 Science Before 1650                                     | 3            | 0                       | 0                       | 0            | 0           | 3            | 72         | 70         | 71          | 72            |
| P2 Early Medicine  | 6            | 4                       | 0                       | 0            | 0           | 10           | 88         | 61         | 71          | 69.5          |
| P3 Renaissance to Enlightenment                            | 4            | 1                       | 1                       | 0            | 0           | 6            | 78         | 59         | 70.5        | 73            |
| P4 Science, Industry and Empire                            | 6            | 14                      | 0                       | 0            | 0           | 20           | 76         | 64         | 68          | 69            |
| P5 Modern Medicine and Biomedical Sciences                 | 6            | 11                      | 2                       | 0            | 0           | 19           | 73         | 58         | 66          | 68            |
| P6 Metaphysics, Epistemology and the Sciences              | 4            | 0                       | 3                       | 0            | 0           | 7            | 76         | 54         | 66          | 72            |
| P7 Ethics and Politics of Science, Medicine and Technology | 6            | 17                      | 3                       | 0            | 0           | 26           | 76         | 58         | 66          | 65            |
| P8 History and Philosophy of the Physical Sciences         | 3            | 6                       | 2                       | 0            | 0           | 11           | 75         | 59         | 66          | 68            |
| P9 History of Philosophy of Science                        | 2            | 2                       | 0                       | 0            | 0           | 4            | 77         | 67         | 71          | 70            |
| P11 Science and Technology Since 1900                      | 8            | 13                      | 0                       | 0            | 0           | 21           | 73         | 62         | 68          | 67            |

*Table 3.* Class distributions per paper. Note: BBS candidates sitting P2 (7) and P5 (3) and Classics candidates sitting P1 (2) are not represented here.

Since the Department introduced Option B, a fourth examination paper instead of a dissertation, examiners have noted the tendency for students who have written a dissertation to perform better than those who have not. This year a minority of candidates (7/40) chose not to write a dissertation. Of these, the majority (4) achieved Firsts.

In terms of gender distributions, this year men and women candidates performed equally well. As detailed in Table 4, more women than men (22/18) took HPS Part II, and their marks are distributed in roughly equal proportions across the classes. However, a more fine-grained analysis of their marks indicates that men performed less well overall. The mean mark for the full cohort is 69, with the mean for women at 69 and for men at 68.

|      | <i>Firsts</i> |   | <i>Upper Seconds</i> |             | <i>Lower Seconds</i> |           | <i>Total</i> |    | <i>Total candidates</i> |
|------|---------------|---|----------------------|-------------|----------------------|-----------|--------------|----|-------------------------|
|      | M             | F | M                    | F           | M                    | F         | M            | F  |                         |
| 2014 | 7             | 8 | 10                   | 13          | 1                    | 1         | 18           | 22 | 40                      |
| 2013 | 6             | 1 | 12                   | 17          | 1                    | 3         | 19           | 21 | 40                      |
| 2012 | 8             | 8 | 8 or<br>9            | 11 or<br>12 | 0 or<br>1            | 0 or<br>1 | 20           | 17 | 37                      |

*Table 4.* Distribution of class marks by gender. Note: the 2012 Senior Examiner’s Report does not record gender data for Upper Seconds and Lower Seconds.

The 2013 Senior Examiner noted that men’s performance has been more stable than women’s in recent years, and queried whether this is a matter of small sample fluctuation or represents an underlying trend. The results this year suggest that gender distributions, success of candidates writing dissertations, variable performances across papers, and clustering of marks at the First/Upper Second border should continue to be monitored.

### **Examining Practice**

Examination questions were set at the examiners’ meeting in Lent Term, following consultation with supervisors, lecturers and paper managers. We followed the recommendations set out in last year’s Senior Examiner’s report:

- 1) Paper managers were asked not to solicit lecture-specific or supervision-specific questions, and instead to suggest questions that synthesized material and themes from across the paper.
- 2) We maintained a fixed number of questions (3 Section B, 8 Section A) across the papers and did not set any disjunctive questions.

The External Examiner—Staffan Müller-Wille, serving in his third and final year—also provided comments on the draft papers.

All elements of the course were blind double-marked. Where examiners struggled to agree marks, a third examiner was asked to guide them to a decision. This occurred with 5 primary source essays and 3 dissertations. In all cases of divergent marks, the External was asked to scrutinize the piece of work. The Senior Examiner also selected examination scripts on which there was a 10+ point discrepancy between examiners; the highest and lowest performance for each paper, dissertation and primary source essay; marks on boundaries between classes; and cases where candidates had performed unevenly across the examinations. The External was asked especially to scrutinize the large number of cases of overall marks falling on the First/Upper Second boundary.

To streamline the procedure, Examiners were not asked to submit written comments on Dissertations or Primary Source Essays, but where marks diverged, the terms of the discussion were set out in notes for the examiner who guided them to an agreement and these were also sent to the External. A single Assessor was appointed, as his expertise was necessary but he was not available to attend the final Examiners’ Meeting. The Examiners, Assessor and External Examiner were models of efficiency and good judgment, and should be congratulated on their work.

All of the examiners were grateful for the administrative support of Tamara Hug and David Thompson in ensuring that procedures ran smoothly. We recommend that a more fully formatted mark book be circulated prior to the unseen examinations next year to simplify the collation of marks.

## **Examination Administration**

There were a number of irregularities in the ways in which the University administered the examinations.

- 1) Several batches of scripts arrived without yellow cover sheets and/or without a copy of the examination paper. This made the work of the Examiners more difficult.
- 2) There was disruption to the start of the examinations for Papers 1, 3 and 9 on the morning of 28 May. These were taking place in the Arts School. One candidate became distressed when she could not find her seat. The board listed the examinations as taking place in room C, but her seat was in room B, away from the rest of her cohort. More crucially, the examination for Paper 9 was missing. There was no copy on site. Waiting for the paper to arrive caused a delay for the whole room of 15 minutes. The disruption was compounded when an alarm sounded in the middle of the examination. The examination finished 30 minutes late, thus reducing the break from 1.5 to 1 hour for the students sitting Paper 4 in the afternoon. I informed Nick Holmes, Chair of NST Examiners, of these problems, and he advised me to mark and class the scripts as usual, then to consider whether there were signs of impeded performances. I reported on this at the Final Examiners' Meeting, and we judged that there were no irregularities in the performances on Papers 1, 3, 9 and 4.

The Examiners wish to underline the importance of the procedures for administering examinations. The disruptions this year were an unacceptable breach of practice and we urge the Board of Examinations to take the necessary steps to ensure that this does not happen again.

## **Comments on performance**

### *Dissertations*

As noted above, a majority of candidates chose to write dissertations this year. Performances ranged across the classes, with marks from 85 to 45, though the mean mark was 70. For a bit more than half the students who wrote dissertations, this mark raised their average; but for just under half the students the dissertation carried their overall mark down. In general, the Examiners were impressed with the high quality and originality of the dissertations. The best ones combined a balance of focused analysis with a demonstration of a broad understanding of the subject. Examiners were worried by the cases in which candidates arrogantly dismissed secondary literature rather than acknowledging its virtues and moving beyond its shortcomings. Formatting and bibliographies were irregular and we echo last year's Senior Examiners' recommendation that the students be given clear guidance about how to present their work and cite the relevant evidence.

### *Primary Source Essays*

Performances on the Primary Source Essays ranged from high Firsts to low Upper Seconds (see Table 3 above). The Essays carry a single, combined mark, and the spread of marks for individual essays was broader, from 80 to 56. The number of candidates writing on a source ranged from 1 to 19 (see Table 5).

|                | <i>Firsts</i> | <i>Upper Seconds</i> | <i>Lower Seconds</i> | <i>Total</i> |
|----------------|---------------|----------------------|----------------------|--------------|
| 1 Chaucer      | 2             | 2                    |                      | 4            |
| 2 Casebooks    | 5             | 2                    |                      | 7            |
| 3 Longitude    | 3             | 7                    |                      | 10           |
| 4 Mach         |               |                      | 1                    | 1            |
| 5 IVF          | 3             | 4                    | 1                    | 8*           |
| 6 Stanford     | 2             | 2                    |                      | 4*           |
| 7 IPCC         | 6             | 7                    | 1                    | 14           |
| 8 Galileo      | 6             | 2                    | 2                    | 10           |
| 9 Locke &c.    | 1             | 2                    |                      | 3            |
| 11 Blue Marble | 10            | 9                    |                      | 19           |

Table 5. Primary Source Essay Distributions

\* A candidate withdrew after writing essays on these sources. The marks for these are not represented here.

As with the Dissertations, the Primary Source Essays took various approaches. Some were focused on the content of the source, others situated it in broader evidence and arguments. Some sources solicited diverse topics (e.g. 2, 8), others more standard discussions (e.g. 3, 5). The level of presentation—formatting, citations, bibliography—was highly variable. The Examiners had their perennial conversation about what it means to engage with the source and whether this is an exercise in assessing evidence or making arguments. We concluded that breadth of our discipline and the nature of the exercise mean that an overly prescriptive approach would be counter productive.

#### *Unseen papers*

Performances on unseen examinations were strong, ranging from high Firsts through Lower Seconds. There were no Thirds or Fails.

The examiners noted that the quality of handwriting continues to decline, and that many candidates would benefit from more practice with writing in advance of the examinations. We also suggest that they be given consistent guidance about whether to write on every other line, a paragraph per page, and/or on both sides of the paper.

#### **Comments on specific papers**

Please read in conjunction with the question papers and alongside Table 3 above.

#### *Paper 1*

All 3 candidates received Firsts. Essays on this paper were generally strong, with most students demonstrating a clear grasp of and engaging with relevant historical writing. They all answered questions 9 and 10; no one attempted questions 6 or 7. Question 10 elicited answers of a general sort that would have been better suited to Section A.

#### *Paper 2*

Performances included 6 Firsts and 4 Upper Seconds. One script was outstanding: intelligent, well informed and witty. Answers were spread across the questions: 6 and 7 were the most popular, 8 received only one answer, and 9 and 11 only two. The best performances used specific material from across the paper, making reference to primary and secondary materials. Some candidates repeated examples in multiple answers, others seemed confused about the

chronological scope of the paper, e.g. medieval comes before and is distinct from early modern.

#### *Paper 3*

Performances on this paper were spread from a high First to a Lower Second. The majority of candidates answered questions 2, 5, 9 and 10. No one answered questions 3, 4, 6 or 11, with only one answer for questions 1 and 8. In some cases, answers were marred by a presumption that the early modern period began in 1650.

#### *Paper 4*

This was a popular paper, and performances were consistently strong: 6 Firsts, 14 Upper Seconds. The best scripts drew on examples from across the full course. In general, the theme of the course came through clearly in the examinations, with different dimensions of empire playing an important explanatory role in many answers. No one attempted question 3, and in general there was a tendency to focus on social groups rather than scientific techniques.

#### *Paper 5*

Performances ranged from solid Firsts to Lower Seconds. Candidates answered a good balance of questions. Some Section A answers listed major changes rather than critically engaging with the question. Questions 8 and 9 were especially popular, and solicited answers that drew from across the lectures. There was a general tendency to favour narrative over analysis.

#### *Paper 6*

Performances on this paper were polarized: 4 Firsts, one of which was outstanding; 3 Lower Seconds. Questions 1, 7 and 11 were the most popular. No candidates attempted question 3. The disparity in performances is in part explained because three candidates failed to answer a full set of questions. The Examiners discussed how best to assess such pieces of work, i. e. whether to drop the mark by a full 25%. We agreed to recommend that in future years all incomplete scripts should be brought to the attention of the Senior Examiner. It is not clear why the only scripts of this sort occurred in this paper.

#### *Paper 7*

This was the most popular paper of the year, and performances ranged from strong Firsts to Upper Seconds. Each question received some answers, with the majority of candidates answering question 1 in Section A and questions 5, 9 and 10 in Section B. Overall, these scripts were impressive, with many students showing a good grip of relevant material, and several strong answers which brought together historical, sociological and philosophical analysis. Some candidates were slightly too quick to assume that greater democratic participation is always good, and should have adopted a more critical stance. The weakest scripts failed to engage with material from lectures and readings. In general, the scripts would have been even stronger if they had approached the concepts in the questions (e.g. liberated, authority, treatment/enhancement) more critically.

### *Paper 8*

Performances ranged from Firsts to Upper Seconds. Answers tended to be more diffuse than in papers with more focused themes. Section A questions often elicited historical answers; there was a stronger focus on philosophical answers to Section B questions. Every question was answered by at least one candidate. Integrating both perspectives is a particular challenge of the paper. The answers to question 4 were particularly well focused.

### *Paper 9*

This paper attracted a small number of students who performed very well: 2 Firsts, one of which was especially strong, and 2 high Upper Seconds. Candidates answered questions from across the paper.

### *Paper 11*

This was a large paper with performances in the First and Upper Second classes. Overall, candidates demonstrated a pleasing variety of approaches to the questions and demonstrated balanced perspectives on science and technology in the twentieth century. Performances would have been stronger if candidates had taken a less partisan position on the value of focusing on the level of the nation in historical analysis, and been more careful in their use of evidence.

### *HEM*

Marks were spread: 2 Firsts, 10 Upper Seconds, 3 Lower Seconds (see Table 2). Students favoured Ethics (Section B) over History (Section A), with all students opting to answer one History question and three Ethics questions. Numerous candidates answered question 1 (on God and epidemics), but most answers lacked detail, analytic depth and a sense of change over time. In Section B, most candidates answered questions 7, 8 and 10. Strong scripts demonstrating evidence of reading beyond the lecture materials. Weaker scripts listing everything a candidate knew about the topic rather than formulating an answer to the question from relevant evidence. Overall, there were a couple of notably strong scripts, with the majority solid but unimaginative.

### **Summary of recommendations**

- 1) Students should be advised that there is no inherent advantage to writing a dissertation, but that it is an opportunity for in depth study that carries some risk. It is especially important that they work with their Director of Studies and the Part II and Paper Managers to secure a suitable supervisor, who will help them to shape a viable topic.
- 2) The Department should review its expectations (and perhaps marking criteria) for Primary Source Essays.
- 3) The Department should ensure that the students avail themselves of the necessary research methods resources to ensure that their assessed work is appropriately presented and referenced.
- 4) The Department and Director of Studies are encouraged to provide clear guidance on standard examination practice, e.g. whether or not to write on both sides of the paper.
- 5) Next year's examiners are encouraged to have a unified policy about incomplete scripts.

- 6) We recommend that a more fully formatted mark book be circulated prior to the unseen examinations to simplify the collation of marks.
- 7) The Department is urged to continue to monitor gender distributions; success of candidates writing dissertations; variation in performances across papers; and clustering of marks on the First/Upper Second boundary.
- 8) The Board of Examiners is urged make sure that scripts are returned to examiners with yellow cover sheets and a copy of the examination paper, and that there are no foreseeable disruptions in the administration of the examinations.

LK  
17 June 2014