

UNIVERSITY OF LONDON
M PHIL EXAMINATIONS 2004
for internal students

PHILOSOPHY OF SCIENCE

Candidates should answer THREE of the following questions. Please avoid overlap in your answers.

1. What bearing do Ramsey sentences have on the thesis that scientific theories are incommensurable ?
2. 'Since Bayesian confirmation theory places no constraint on prior probability functions aside from coherence, it cannot explicate our everyday notion of confirmation.' Discuss.
3. What exactly is the thesis of the underdetermination of theory by evidence and how strong an argument does it provide against scientific realism?
4. Is quantum mechanics consistent with special relativity?
5. What are the units of natural selection?
6. 'All laws of nature are *ceteris paribus* laws.' Discuss.
7. 'Scientists often conjoin well-confirmed theories about unobservables in drawing conclusions. While a conjunction of true theories is bound to be true, there is no reason to expect a conjunction of empirically adequate theories to be empirically adequate. So science treats theories as not just empirically adequate but true.' Is there a cogent constructive empiricist response to this?
8. 'Explanation is unification.' Discuss
9. What does the fact that throughout science we use idealized mathematical models to obtain testable predictions tell us about the aims of science?
10. Is conventionalism about the geometry of space-time a defensible view?
11. Why might the use of double dissociations in cognitive neuroscience be thought methodologically suspect? Is the charge justified?
12. Data are almost never totally theory-neutral. Can the problem that this poses for the epistemology of science be overcome?

END OF PAPER