PH218: ASSESSMENT

Assessment on this unit is in two parts:
   i. a 500–750-word critical discussion of a book or paper, to be completed by the beginning of Week 6;
   ii. a 2,250–3,000-word essay to be handed in by the time specified by the Assessment Unit.

Part i. counts for 20% and part ii. for 80% of the assessment.

GENERAL READING

The text set for this course is:

This collection was previously published by Macmillan in 1989. It shouldn’t be confused with Ruse’s monograph of the same name. Copies have been ordered through Waterstones, and should be available at the beginning of the semester.

I’ll give details of the relevant papers in each reading list, together with alternative sources where relevant.

The following books, many of them general or introductory, might be of help through much of the semester:

Monographs

A.F. Chalmers – What Is This Thing Called Science?
D. Gillies – Philosophy of Science in the Twentieth Century
Ian Hacking – Representing and Intervening
Rom Harré – The Philosophies of Science
Carl Hempel – Philosophy of Natural Science
David L. Hull – Philosophy of the Biological Sciences
John Losee – An Historical Introduction to the Philosophy of Science
Ernan McMullin – Evolution and Creation
Ernst Mayr – Towards a New Philosophy of Biology
Ernest Nagel – The Structure of Science
Elliott Sober – Philosophy of Biology
Roger Trigg – Rationality & Science

Collections of Papers and Readings
(Referred to in the reading lists by the editors’ names only)
ABBREVIATIONS USED IN THE READING LISTS

BIPS = British Journal for the Philosophy of Science
BSPS = Boston Studies in the Philosophy of Science
ISPS = International Studies in the Philosophy of Science
JAP = Journal of Applied Philosophy
J.Phil. = Journal of Philosophy
MSPS = Minnesota Studies in Philosophy of Science
Nat.Hist. = Natural History
PAS = Proceedings of the Aristotelian Society
PASS = Aristotelian Society Supplementary Volume
Phil.Sc. = Philosophy of Science
PPA = Philosophy and Public Affairs
PSA = Philosophy of Science Association

Philosophy is like mathematics in that you can’t just set down your answer — you have to show how you got there. A common fault in philosophy essays is that the writer is in such a hurry to get her ideas down — to attack a hated position, to state an attractive theory — that she forgets to argue. Without arguments, all you have is a set of opinions, however interesting; with arguments, you have philosophy.

Structure. But perhaps the most common cause of problems with essays (apart from the amount of work put into them) is poor structure. A badly structured essay doesn’t only make it difficult for the reader to follow what you’re saying — it can make it difficult for you to keep track of what you’re saying, leading to repetition, contradiction, and irrelevance. Make an essay plan before you start writing, and try to stick to it. It shouldn’t be too detailed, otherwise it’ll be too rigid; most, if not all, plans will fall into three parts, including an introduction to and explanation of the problems, a discussion of the main arguments, and some sort of conclusion. Whatever your position, be sure to treat the positions with which you disagree as fully and sympathetically as possible before you start to criticise them; apart from anything else this will help you to avoid knocking down straw men. Don’t strive too hard for originality and new ideas; these will come (if they do) as you think and write about other people’s ideas and arguments. If you do come up with what you think is an original idea or argument, don’t be too protective towards it; be at least as critical of it as you would be of anyone else’s.

Critical apparatus. All quotations should be given references clear and detailed enough to allow the reader to go straight to the original source. This will normally involve author, title, and page number; in the case of original or translated works, you should be sure to give the edition you’re using, and if possible use a standard reference system (often found in the margins or at the top of each page). If you’re unsure, check to see how other authors do it, or ask me. Never use other writers’ words or even ideas without acknowledgment. A separate bibliography is usually helpful.

Language. Clarity and precision often depend upon careful use of language — and this includes spelling and grammar. Don’t underestimate the problems caused by misspelling (the differences between ‘intention’ and ‘intension’, or ‘ingenious’ and ‘ingenuous’, are more important than the single letters involved). This is even more true of grammar and punctuation. Keep your language simple: don’t use three syllables where one will do, or ‘had it not been written by him’ instead of ‘if he hadn’t written it’. Make sure that quotations fit into their new contexts (avoid, for example, ‘Descartes said that “I can be certain”; write either “Descartes said: “I can be certain”’ or ‘Descartes said that he could be certain’).

Plagiarism. Your essays must be your own work. The reading is there to guide you, to suggest avenues of thought, to offer explanations of difficult arguments or ideas; it is not there to be repeated parrot-fashion. If you need to quote from another writer, mark the quotation clearly (see above, under Critical apparatus) — but again, don’t overdo it.

Practical matters. N.B.: occasionally I give more than one essay question; these are alternatives, so choose one. Don’t read too much (or, of course, too little); three or four items from the relevant reading list is usually about right (one introductory or general work, and two or three others). If you want to (or have to) go outside the reading I suggest, talk to me about it; too often I find that essays have suffered because students have read what are frankly bad and misleading books. I strongly advise having a tutorial (which I’ll offer in the latter half of the semester); it will almost certainly improve your mark, often significantly. If you use a word-processor (and I’d advise you to), use the spell-checker; don’t bother with grammar-checkers — I’ve yet to see one that works.
**Darwin**

Critically discuss the scientific credentials of the Darwinian Theory of Evolution.

RUSE: papers 3–9

Charles Darwin – The Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life — extracts in RUSE 4; the whole text can be found on the Web at: <URL:http://www.human-nature.com/download/darwin.html>
Richard Dawkins – *The Blind Watchmaker* — extract in RUSE 6
Michael Denton – *Evolution: A Theory in Crisis* — esp. chapter 13 (extract in RUSE 5)
Theodosius Dobzhansky, *et al.* – *Evolution* — papers 1–4 & 16
Antony Flew – *Evolutionary Ethics* — chapter 2
Stephen Jay Gould – *Wonderful Life* — chapters 1 & 5
— – ‘Darwin’s untimely burial’ *(Nat.Hist.* 85:8; in RUSE 9)
Hull & Ruse — part 1
Arthur Koestler & Smythies [edd] – *Beyond Reductionism* — papers by Waddington and Bertalanffy
Ernan McMullin – ‘Evolution and creation’ (introduction to McMullin; see also other relevant papers in the collection)
Alexander Rosenberg – *Structure of Biological Science* — chapters 5–6
Steven Rose – *Lifelines* — esp. chapter 7
Michael Ruse – *Philosophy of Biology Today* — chapters 1–2
Elliott Sober – *Philosophy of Biology* — chapter 1 & 3
D. Stove – ‘So you think you are a Darwinian?’ *(Philosophy* 69, 1994)
N. Tennant & von Schlicker – *Philosophy, Evolution, and Human Nature* — §18
Roger Teichmann – ‘The Chicken and the Egg’ *(Mind* 100, 1991)

**Species**

Critically examine the philosophical issues concerning the notion of a *species*.

RUSE: papers 12–15

Arthur L. Caplan – ‘Have species become déclassé?’ *(PSA* 1, 1980; in RUSE 14)
Theodosius Dobzhansky, *et al.* – *Evolution* — paper 6
Marjorie Grene – *The Understanding of Nature* — chapter 6
David L. Hull – ‘The ontological status of species as evolutionary units’ (in Butts & Hintikka; in RUSE 13)
Hull & Ruse — part 5
Philip Kitcher – ‘Species’ *(Phil.Sci.* 51, 1984)
Ernst Mayr – *The Growth of Biological Thought* — chapter 6
— – *Populations, Species, and Evolution* — chapter 2 (extract in RUSE 12)
Mark Ridley – *The Problems of Evolution* — extract in RUSE 15
Michael Ruse – *The Darwinian Paradigm* — chapter 4
— – *Philosophy of Biology Today* — chapter 6
Sober — chapters 28–33
Roger Trigg – *The Shaping of Man* — chapter 5
Ends

Must biologists use teleological explanations?

RUSE: papers 16–18

Francisco J. Ayala — ‘Teleological explanation in evolutionary biology’ (Phil. Sci. 37, 1970)
— — ‘Teleological explanations’ (in Dobzhansky, et al., Evolution; extract in RUSE 18)
C. Berenda — ‘On emergence and perception’ (J.Phil. 1953)
C. Boorse — ‘Wright on functions’ (in Sober)
E. Goldsmith — ‘Evolution, neo-Darwinism, and the paradigm of science’ (The Ecologist 20, 1990)
Marjorie Grene — The Understanding of Nature — chapters 9 & 13
Errol Harris — Cosmos and Anthropos — chapter 2
Carl Hempel — Aspects of Scientific Explanation — chapter
Paul J. Kramer — ‘Misuse of the term strategy’ (Bioscience 34, 1984; extract in RUSE 17)
J.S. Mill — A System of Logic — Book 3, chapter 6
Jean Monod — Chance and Necessity — chapters 1–4
Ernest Nagel — The Structure of Science — chapters 11:4–5, 12:2
— — ‘Teleology revisited’ (J.Phil. 74, 1977; also in his Teleology Revisited and Other Essays)
Alexander Rosenberg — Structure of Biological Science — chapters 2–4
Michael Ruse — — — The Darwinian Paradigm — chapter 6
— — — The Philosophy of Biology Today — chapter 5
Phillip R. Sloan — ‘The question of natural purpose’ (in McMullin)
George C. Williams — Adaptation and Natural Selection — extract in RUSE 16
Andrew Woodfield — Teleology
Larry Wright — Teleological Explanations
— — ‘Functions, (in Sober)

Mereology

Evaluate the claim that biological wholes are greater than the sum of their parts

RUSE: papers 19–20

Morton Beckner — ‘Reduction, hierarchies, and organismic’ (in Ayala & Dobzhansky)
C. Berenda — ‘On emergence and perception’ (J.Phil. 1953)
Theodosius Dobzhansky et al. — Evolution — chapter 8
E. Goldsmith — ‘Evolution, neo-Darwinism, and the paradigm of science’ (The Ecologist 20, 1990)
Marjorie Grene — Understanding Nature — chapters 3–4
Errol Harris — Cosmos and Anthropos — chapters 2 & 5
John Locke — An Essay Concerning Human Understanding — chapter 27
E. Lowe — Kinds of Being — chapter 7
J.S. Mill — A System of Logic — book 3, chapter 6
Jean Monod — Chance and Necessity — chapters 1–4
Ernest Nagel — The Structure of Science — chapters 11 §§4–5, 12 §2
Michael Polanyi — Personal Knowledge — chapter 13 §§4–7
Stephen Rose — Lifelines — esp. chapters 4 & 10
Alexander Rosenberg — Structure of Biological Science — chapters 2–4
Michael Ruse — Philosophy of Biology Today — chapter 3
**Ethics in Biology**

a) What exactly is the *moral* problem with genetic manipulation and cloning?

b) Is it ever morally acceptable to harm animals in the cause of scientific research?

RUSE: papers 21–22

- A. Dyson & J. Harris [edd] — *Experiments on Embryos*
- J. Goodfield — *Playing God*
- J. Harris — *Clones, Genes, and Immortality*
- A. Holland — ‘A fortnight of my life is missing’ (*JAP* & 1990)

*Hull & Ruse — part 8*

Hugh LaFollette & Niall Shanks — *Brute Science: Dilemmas of animal experimentation*


F. Macrina — *Scientific Integrity*

Peter Medawar — *The Hope of Progress* — chapters ‘The Genetic Improvement of Man’ and ‘Science and the Sanctity of Life’

C. Munro — ‘Genetic technology and scientific integrity’ (in Macrina)

M. Prokopijevic — ‘Surrogate motherhood’ (*JAP* 7, 1990)

David B. Resnick — *The Ethics of Science*

Peter Singer *et al.* [edd] — *Embryo Experimentation*

Stephen P. Stich — ‘The recombinant DNA debate’ (*PPA* 7, 1977; also in Ruse)

P. Swerdlow — ‘Use of humans in biomedical experimentation’ (in Macrina)

Mary Warnock — *Report on Surrogate Motherhood, etc.*

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**Ethics and Biology**

‘Ethics, to be practical and useful, should recognise our biological nature and potential.’ Is this true and, if so, in what sense?

RUSE: papers 28–31

- William H. Austin — ‘Evolutionary explanations of religion and morality: explaining religion away?’ (in McMullin)
- L. Bell — *Rethinking Ethics in the Midst of Violence* — chapter 3
- C. Broad — *Five Types of Ethical Theory* — chapter 3
- J. Brown — *Smoke and Mirrors: How Science Reflects Reality* — chapter 4
- P. Crook — *Darwinism, War, and History*
- B. Easlea — *Science and Sexual Oppression* — chapter 5
- Antony Flew — *Evolutionary Ethics*
- Stephen Jay Gould — *Wonderful Life* — chapter 1
- Marjorie Grene — *The Understanding of Nature* — chapter 12, 15, & 19
- David L. Hull — ‘On human nature’ (in Hull & Ruse)
- G. Jones — *Social Darwinism and English Thought*
- J.L. Mackie — *Persons and Values* — chapter 9
- James Rachels — *Created from Animals: the Moral Implications of Darwinism*
- Michael Ruse — *The Darwinian Paradigm* — chapters 2 & 10
- — *Taking Darwin Seriously* — chapters 3 & 6
- — ‘The evolution of ethics’ (*New Scientist* 17, 1985; extract in RUSE 31)
- G.S. Stent [ed.] — *Morality as a Biological Phenomenon*
- N. Stepan — *The Idea of Race in Science* — chapter 3
- H. Spencer — *The Principles of Ethics*
- Peter Singer — *The Expanding Circle* — chapter 3
- R. Sperry — *Science and Moral Priority*
- N. Tennant — ‘Evolutionary versus evolved ethics’ (*Philosophy* 58, 1983)
- Roger Trigg — *The Shaping of Man* — chapter 8
- C. Waddington — *Science and Ethics* — see especially pp 8–9 and §§6a & 6b
- E. Wilson — *Sociobiology* — chapters 1 & 27
Sociobiology

‘Human sociobiology is committed to the thesis that all peoples are locked blindly into their rôles and statuses by their biology, with no possibility of ever changing things.’ Is this a fair comment?

RUSE: papers 23–25

R. Axelrod – The Evolution of Cooperation — chapter 5
Charles Darwin – Darwinism, War, and History
Richard Dawkins – The Selfish Gene
R. de Sousa – ‘The sociology of sociobiology’ (ISPS 4, 1990)
S. Gould – Hens’ Teeth and Horses’ Toes — chapter 18
J. & M. Gribbin – The 1% Advantage: The Sociobiology of Being Human
A. Johnson – ‘Sociobiology and concern for the future’ (JAP 6, 1989)
Phillip Kitcher – Psychology Exposed or The Emperor’s New Clothes — chap. 7
P. Kline – Vaulting Ambition
Richard Lewontin, Steven Rose, & Leo Kamin – Not in Our Genes
H. Longino – Science as Special Knowledge — chapter 7
C. Lumsden & E. Wilson – Genes, Mind, and Culture (reviewed by J. Maynard Smith in Games, Sex, and Evolution)
J. Miles – ‘Unnatural selection’ (Philosophy 73, 1998)
A. Montagu [ed.] – Sociobiology Examined
Mary Midgley – ‘Selfish genes and social Darwinism’ (Philosophy 58, 1983) — you might also follow up the references in n.1

— – Beast and Man
Anthony O’Hear – The Element of Fire — chapter 4
Janet Radcliffe Richards – The Sceptical Feminist — chapter 2
Steven Rose – Lifelines
Michael Ruse – Sociobiology: Sense or Nonsense
— – Philosophy of Biology Today — chapter 7
— – The Darwinian Paradigm — chapters 2 & 7
J. Sayers – Biological Politics
M. Sahlins – Use and Abuse of Biology
Peter Singer – The Expanding Circle
— – ‘Ethics and sociobiology’ (PPA 11, 1982)
D. Stove – ‘So you think you are a Darwinian?’ (Philosophy 69, 1994)
Roger Trigg – The Shaping of Man — chapters 5–9
— – ‘The sociobiological view of man’ (in [ed.], Objectivity and Cultural Divergence — Royal Institute of Philosophy Lectures vol.17)
Edward O. Wilson – Sociobiology
— – On Human Nature