

Draft Syllabus

Philosophy 458: "Sex and Death: An Introduction to the Philosophy of Biology"

Course Description:

In recent decades philosophers have become increasingly interested in a range of questions concerning the theoretical foundations and philosophical implications of research in biology. This course examines a variety of such questions. We begin with an overview of standard approaches in evolutionary theory. We then discuss a series of general issues concerning adaptationism, the units of selection, and the nature of genes and species. Next, we consider the bearing of evolutionary theory on questions about the nature of human mind and behavior. We conclude by considering the longstanding debate between evolutionism and creationism.

Readings:

Students are expected to read the chapters and articles assigned for each class session prior to class.

Books:

- K. Sterelny & P. Griffiths (1999) *Sex And Death, An Introduction to the Philosophy of Biology*
- Richard Dawkins, *The Selfish Gene*.
- Eliot Sober (1995) (ed) *Conceptual Issues in Evolutionary Biology (2nd Edition)*
- David Hull & Michael Ruse (1998) (eds.) *The Philosophy of Biology*.

Additional Reading: Additional readings will be available online via the course homepage.

Course Requirements & Grading:

- (i) *Papers:* You will be required to write TWO papers, each 1,500-2,000 words in length. Further information regarding topics and due dates for the papers will be distributed later in the course.
- (ii) *Exams:* (a) There will be a mid-term exam and (b) a cumulative final exam. Make-up exams will only be given under exceptional circumstances.
- (iii) *Course Grade:* In computing your course grade, each paper will be worth 25%. The Midterm will be worth 20% and the final 30%. Final grades may be adjusted up or down by as much as one half grade to reflect class participation.

Topics & Readings:

- * = Required reading
- = Further reading

Introduction & The “Received View” of Evolutionary Theory.

- * Sterelny & Griffiths *Sex and Death*, ch.2
- David Buller *Adapting Minds*, Ch. 1
- Elliott Sober, *The Nature of Selection*, Ch 1.
- Philip Kitcher, *The Advancement of Science*, Ch. 2

The ‘Units of Selection’ Debate 1: The Gene’s Eye View

- * Kitcher & Sterelny, “The Return of the Gene”
- * Richard Dawkins, *The Selfish Gene*.
- * Sterelny & Griffiths, *Sex and Death*, chap. 3 (4 & 5 also relevant)
- Richard Dawkins, *The Extended Phenotype*.

The ‘Units of Selection’ Debate 2: Group Selection

- * *Sex and Death*, ch. 8
- Sober and Wilson, *Unto Others*, Part I
- K. Sterelny, "The return of the group" in *Philosophy of Science*, Vol. 63, No. 4, Dec., 1996
- G. C. Williams, *Adaptation & Natural Selection* (relevant selections in Sober, *Conceptual Issues in Evolutionary Biology*, 2nd ed.)
- Wilson, D.S. & Sober, E. (1994). Reintroducing group selection to the human behavioral sciences. *Behavioral and Brain Sciences* 17 (4): 585-654. [Online: <http://www.bbsonline.org/Preprints/OldArchive/bbs.wilson.html>]
- Okasha, S. 'The Concept of Group Heritability', *Biology and Philosophy*, 18, 3, 445-461, 2003.

Adaptationism

- * S. J. Gould & R. C. Lewontin: The Spandrels of San Marco and the Panglossian Paradigm: A Critique of the Adaptationist Programme. (in Sober, *Conceptual Issues in Evolutionary Biology*.) (Website: http://www.aaas.org/spp/dser/03_Areas/evolution/perspectives/Gould_Lewontin_1979.shtml)
- * Griffiths and Sterelny, *Sex and Death*, Ch 9 and 10
- * Godfrey-Smith Three Kinds of Adaptationism (Website: http://philrsss.anu.edu.au/~pgs/online_papers.php3)
- Sterelny, K. 1996. Explanatory pluralism in evolutionary biology. *Biology and Philosophy* 11: 193-214.
- Eldredge, *Reinventing Darwin*
- Sober, *Philosophy of Biology*, Ch 5
- Dennett, *Darwin's Dangerous Idea*, Chap. 10.3

What is a biological function?

- * Neander, K. The Teleological Notion of 'Function'. *Australasian Journal of Philosophy*. 69 (4) Dec 1991.
- * Cummins, R. 1975. Functional analysis. *Journal of Philosophy*, 72: 741-764.
- Kitcher, P. "Function and design" in *In Mendel's Mirror*. OUP
- Lewens T. "Function talk and the artefact model", *Studies in History and Philosophy of Science Part C: Biological and Biomedical Sciences*, Volume 31, Number 1, March 2000, pp. 95-111
- Millikan, R. 1989. In defense of proper functions. *Philosophy of Science* 56:188-202.
- Neander, K. 1991. Functions as selected effects: The conceptual analyst's defense. *Philosophy of Science* 58:168-84.
- Wright, L. 1973. Functions. *Philosophical Review*, 82:139-68

What is a species?

- * *Sex and Death*, chap. 9
- * Hull, David. "A Matter of Individuality". Reprinted in E. Sober (ed.) *Conceptual Issues in Evolutionary Biology*, 2nd Edition, MIT, 1994. pp. 193-216.
- Mishler, Brent and Brandon, Robert. "Individuality, Pluralism and The Phylogenetic Species Concept". Reprinted in D. Hull and M. Ruse (eds). *The Philosophy of Biology*, Oxford, 1998. pp. 300-318.
- Marc Ereshefsky "Eliminative Pluralism". Reprinted in D. Hull and M. Ruse (eds). *The Philosophy of Biology*, Oxford, 1998. pp. 348-368

Genes 1: What are genes? Are they reducible to physics?

- * C.K. Waters, "Why the Anti-reductionist Consensus Won't Survive: The Case of Classical Mendelian Genetics", in Sober, *Conceptual Issues in Evolutionary Biology*.
- * P. Kitcher, "1953 and All That: A Tale of Two Sciences," in Sober, *Conceptual Issues in Evolutionary Biology*.
- *Sex and Death*, chaps. 4, 6 & 7

Genes 2: Is there such a thing as genetic information?

- * P. Godfrey-Smith, On the Theoretical Role of "Genetic Coding" in *Philosophy of Science* 67 (2000): 26-44.
- * S. Sarkar, "How Genes Encode Information for Phenotypic Traits"

Evolution and the Mind 1: Sociobiology

- * Wilson, E.O. (1975). *Sociobiology: The New Synthesis*. Chapter 27
- * Kim Sterelny and Paul Griffiths, *Sex and Death*, Chapter 13

Evolution and the Mind 2: Evolutionary Psychology

- * L. Cosmides & J. Tooby *Evolutionary Psychology: A Primer* [Online:<http://www.psych.ucsb.edu/research/cep/primer.html>]
- * L. Cosmides and J. Tooby, 'Origins of Domain Specificity' in Hirschfeld and Gelman (eds.), *Mapping the Mind* (Cambridge, 1994)
- R. Samuels "Massively Modular Minds: Evolutionary Psychology and Cognitive Architecture". In P. Carruthers (ed.) *Evolution and the Human Mind*. (Cambridge 2000)

God and Evolution: The Design Argument

- * Paley, W. *Natural Theology*, Rivington 1805, chaps 1 & 2 (<http://darwin-online.org.uk/content/frameset?itemID=A142&viewtype=text&pageseq=1>)
- * Sober, E. The Design Argument in W. Mann (ed.), *The Blackwell Companion to Philosophy of Religion* (<http://philosophy.wisc.edu/sober/design%20argument%2011%202004.pdf>)
- Sober, E. "What Is Wrong with Intelligent Design?" *Quarterly Review of Biology*, 2007, 82: 3-8. (<http://philosophy.wisc.edu/sober/what's%20wrong%20with%20id%20qrb%202007.pdf>)
- Dembski, W. "In Defense of Intelligent Design" *Oxford Handbook of Religion and Science*, edited by Philip Clayton (http://www.designinference.com/documents/2005.06.Defense_of_ID.pdf)

Academic Misconduct

The University understands academic misconduct to include “any activity which tends to compromise the academic integrity of the institution, subvert the educational process” (“Procedures of the Committee on Academic Misconduct”, Sept. 1989). With respect to this course, examples include, but are not limited to, such actions as cheating on exams and submitting a term paper written by another. No one should be unclear about whether *these* are wrong, but students are sometimes not clear about what constitutes plagiarism. ‘Plagiarism’ is defined by the University to be “the representation of another’s works or ideas as one’s own; it includes the unacknowledged word for word use and/or paraphrase of another person’s work, and/or the inappropriate unacknowledged use of another person’s ideas”. There should be no misunderstanding about word for word transcriptions or simple paraphrases—these *must* be acknowledged through proper citations. It is sometimes not clear, though, when simply *using* the ideas of another requires citation. This is especially true in the context of a course, in which one is, presumably acquiring fundamental ideas of a subject matter from the text or the instructor. Certain ideas are “in the public domain”, so to speak; they are ideas used by everyone working in the field, and do not require citation. Other ideas are such that their origin needs to be acknowledged. It is sometimes difficult for beginning students to distinguish these. It is helpful to remember that what is at issue is whether the failure to acknowledge a source would tend to misrepresent the idea as your own. The failure to acknowledge your source for a distinction between recklessness and negligence, for example, would not tend to misrepresent the distinction as your own since it is a distinction that anyone working in the field will draw in some way or other. To offer a *specific* account of

this distinction that is offered by another without citing the source could easily tend to misrepresent the account as your own. It is clearly better to err on the side of over-acknowledgment in cases in which one is in doubt.

I view academic misconduct of any sort as a *very* serious violation of University requirements. University rules provide for extremely serious sanctions for academic misconduct, and I will, as I am required to do, forward any cases of suspected misconduct to the Committee on Academic Misconduct.

Disability Services:

Students with disabilities that have been certified by the Office of Disability Services will be appropriately accommodated. They should inform me as soon as possible of their needs. The Office of Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>