BIRKBECK COLLEGE,
University of London

DARWIN, DARWINISM AND THE MODERN WORLD

Syllabus and Reading List,
Spring Term, 2004

The history of the life sciences and, indeed, of Western civilization can be divided rather neatly into pre-Darwinian and post-Darwinian periods. Charles Darwin's 1859 treatise, *On the Origin of Species*, was not the first work to propose that organisms had descended from other, earlier organisms and the mechanism of evolution it proposed remained controversial for years. Nevertheless, no biologist after 1859 could ignore Darwin's theories and few areas of thought and culture remained immune to their influence. Darwinism was attacked, defended, debated, modified, ridiculed, championed, interpreted, and used not only by biologists but also by philosophers, priests, sociologists, warmongers, cartoonists, robber-barons, psychologists, novelists, and politicians of various stripes. This course will introduce the major themes of Darwin's works and explore their diverse, often contradictory impacts on science and society, concentrating on themes prominent between 1859 and the onset of the Second World War but also highlighting some of the more recent concerns.

The course will be taught on **WEDNESDAYS**, **6-9 PM at CLORE MANAGEMENT CENTRE ROOM 1.04**, commencing on **14 January 2004**. The course will be taught by **Dr Chandak Sengoopta** of the School of History, Classics and Archaeology. He can be reached by e-mail at c.sengoopta@history.bbk.ac.uk

Course Structure and Assessment: Except for the first lecture, the course will be conducted as a seminar and each session will usually be led by a student presentation on one or more of the assigned texts. Presentations will be scheduled at the first meeting. All the required readings and many of the additional readings are either available online or in print versions in the **Birkbeck Library Short Loan Collection. Assessment**: For students from the School of History, Classics and Archaeology, the course is assessed by one 4-5000 word essay. The in-class presentations will not be formally assessed. Assessment for students from other Schools may vary in accordance with the requirements of their School. The topic of the essay should be chosen independently but in consultation with the instructor. **Essays are due by 10 May 2004**: two copies should be submitted to the Postgraduate Administrator, School of History, Classics & Archaeology (Malet Street Building).

NOTE ON ELECTRONIC TEXTS

Readings available online are marked with the symbol and available from the web-sites indicated. *If no specific web-site is mentioned with the reading*, then it is from an electronic journal available on the Birkbeck Library web-site: go to http://www.bbk.ac.uk/lib/ejournal.html and search by journal title. Articles from these e-journals can be downloaded or printed out. Library staff would be pleased to help.
Articles from electronic journals are not available in the Short Loan Collection. Those who cannot/would not use the Internet to obtain these articles, PLEASE SEE ME AS SOON AS POSSIBLE to discuss other options.

Background Readings

- There is no textbook for this course but students seeking a comprehensive introduction to the subject should read Peter Bowler, *Evolution: The History of an Idea* (Berkeley: University of California Press, 3rd edn , 2003; **1989 edition: Birkbeck Library SLC 575.01 BOW**).

- Also recommended are: David Oldroyd's study of the impact of Darwinian biology on contemporary science and society, *Darwinian Impacts: An Introduction to the Darwinian Revolution*, 2nd edn (New South Wales University Press, 1983, unfortunately out of print but available at **Birkbeck Library Short Loan Collection: AKG [Old]**). There are some interesting essays in M J S Hodge and Gregory Radick (eds), *The Cambridge Companion to Darwin* (2003).

- The remarkable essays of evolutionary biologist Stephen Jay Gould, collected in several volumes (*Ever Since Darwin* [1977], *The Panda's Thumb* [1980], *The Flamingo's Smile* [1985; **Birkbeck Library SLC 576.82 GOU**], *Bully for Brontosaurus* [1991] and several others) are invariably stimulating and often address issues of historical importance. Strongly recommended.

- For biographies of Charles Darwin, there is an embarrassment of riches. Janet Browne's magnificent two-volume study – *Charles Darwin: Voyaging* (London: Cape, 1996; **Birkbeck Library SLC 575.0092 DAR/B**) and *Charles Darwin: The Power of Place* (London: Cape, 2002) – is the most recent and probably the most beautifully written; a compact (but rather less readable) alternative is Peter Bowler, *Charles Darwin: The Man and His Influence* (Cambridge: Cambridge University Press, 1996).

- The major works of Charles Darwin are all available in inexpensive paperback editions. Some (*The Voyage of the Beagle*; *The Origin of Species* (two different editions) and *The Descent of Man*) are also available online at http://www.literature.org/authors/darwin-charles/

- For a comprehensive history of modern biology, see Peter Bowler, *The Earth Encompassed: A History of the Environmental Sciences* (New York: Norton, 1992; **Birkbeck Library SLC 363.7009 BOW**). Ernst Mayr, *The Growth of Biological Thought* (Cambridge, Mass.: Harvard University Press, 1982) is very useful as a reference tool. William Coleman, *Biology in the Nineteenth Century* and Garland Allen, *Life Science in the Twentieth Century* (both Cambridge University Press, 1977 and 1979 respectively) are excellent, if a little dated compact texts, but both are out of print.

- Students new to the Victorian period might find the following overviews helpful: David Newsome, *The Victorian World Picture* (London: John Murray, 1997; paperback, London: Fontana Press, 1998; **Birkbeck Library SLC 941.081 NEW**); and K Theodore Hoppen, *The Mid-Victorian Generation 1846-1886* (Oxford: Oxford University Press, 1998).

1. 14 January
Introductory Lecture
Charles Darwin: The Man, His Science and their Background

Suggested Reading:
Charles Darwin, *The Voyage of the Beagle*, Chapter 17. Online:
http://www.literature.org/authors/darwin-charles/the-voyage-of-the-beagle/chapter-17.html
[Abridged version in Mark Ridley (ed.), *A Darwin Selection* (1994), pp. 54-83. **Birkbeck Library SLC**]

Charles Darwin, *On the Origin of Species*, Chapters 3-4 and 14. Online:
http://www.literature.org/authors/darwin-charles/the-origin-of-species/
[Abridged version in Mark Ridley (ed.), *A Darwin Selection*, (1994), pp. 84-135.
Birkbeck Library SLC]

2. 21 January
The Deep Background: Biology and Social Thought before Darwin

Readings:
Robert M Young, 'Malthus and the Evolutionists: The Common Context of Biological and Social Theory', *Past and Present*, 43 (1969): 109-145.
[Also available in **Birkbeck Library SLC P/C 7317**]

Thomas Malthus, *An Essay on the Principle of Population* (1798), Chapters 1 and 3.
Available online: http://www.ecn.bris.ac.uk/het/malthus/popu.txt
[Also available in **Birkbeck Library SLC**]

M J S Hodge, 'Origins and Species before and after Darwin', in R C Olby, G N Cantor, J R R Christie and M J S Hodge (eds), *Companion to the History of Modern Science* (1990), pp. 374-95.
Birkbeck Library SLC AK3 [Olb]

Other Readings:
Peter Bowler, *Evolution: The History of an Idea*, Chapters 4-5.

Edmund N Santurri, 'Theodicy and Social Policy in Malthus' Thought', *Journal of the History of Ideas*, 43 (1982): 315-30.

Brian Dolan (ed.), *Malthus, Medicine and Morality: 'Malthusianism' after 1798* (2000).

James A Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of 'Vestiges of the Natural History of Creation'* (2000).
Birkbeck Library SLC 576.80941 SEC

3. 28 January

Darwin on Man

Reading:

Robert Young, 'The Historiographical and Ideological Context of the Nineteenth-Century Debate on Man's Place in Nature', in Mikuláš Teich and Robert Young (eds), *Changing Perspectives in the History of Science: Essays in honour of Joseph Needham* (1973), pp. 344-438. Available in **Birkbeck Library SLC AK3 [Tei].** [The essay is also available at http://human-nature.com/dm/chap6.html]

Charles Darwin, *The Descent of Man* (1871), Chapters 1-4 (any edition, or online: http://www.literature.org/authors/darwin-charles/the-descent-of-man/).

Other Readings:

John C. Greene, *The Death of Adam: Evolution and its Impact on Western Thought* (1959). **Birkbeck Library SLC**

Sandra Harding, 'The Place of Man in the Development of Darwin's Theory of Transmutation, Part I, to July 1837', *Journal of the History of Biology*, 7 (1974): 217-58; 'The Place of Man in the Development of Darwin's Theory of Transmutation, Part II', *Journal of the History of Biology*, 10 (1977): 155-227. **Birkbeck Library SLC**

4. 4 February
The Victorian Response to Darwin

Readings:

Robert M Young, 'The Impact of Darwin on Conventional Thought', in Anthony Symondson (ed.), *The Victorian Crisis of Faith* (1970), pp. 13-36. [Reprinted in Young, *Darwin's Metaphor* (1985), available online at http://human-nature.com/dm/chap1.html]

Alvar Ellegård, *Darwin and the General Reader: The Reception of Darwin's Theory of Evolution in the British Periodical Press, 1859-1872* (1958; repr. 1990), Chapters 3 and 14 ('The Press on the Progress of Darwinism', pp. 39-61; and 'The Descent of Man', pp. 293-331.) **Birkbeck Library SLC**

Sheridan Gilley, 'The Huxley-Wilberforce Debate: A Reconsideration', in Keith Robbins (ed.), *Religion and Humanism* (Studies in Church History 17 [1981]), pp. 325-40. **Birkbeck Library SLC**

Other Readings:

David Hull (ed.), *Darwin and His Critics: The Reception of Darwin's Theory of Evolution by the Scientific Community* (1973).

J Vernon Jensen, 'Return to the Wilberforce-Huxley Debate', *British Journal for the History of Science*, 21 (1988): 161-79. **Birkbeck Library SLC**

James R. Moore, *The Post-Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870-1900* (1979). **Birkbeck Library SLC EOJ [Moo]**

Peter Vorzimmer, *Charles Darwin: The Years of Controversy* (1972), Chapter 10. **Birkbeck Library SLC EOJ [Vor]**

5. 11 February
Darwin's Achilles' Heel: Variations and their Inheritance

Readings:
Darwin, 'Provisional Hypothesis of Pangenesis', excerpt from *Variation of Animals and Plants under Domestication*, in Ridley (ed.), *Darwin Selection*, pp. 142-74. **Birkbeck Library SLC**

Herbert Spencer, 'The Inadequacy of Natural Selection', *Contemporary Review*, 63 (1893): 153-66; 439-56.

Rasmus G Winther, 'Darwin on Variation and Heredity', *Journal of the History of Biology*, 33 (2000): 425-55. **Birkbeck Library SLC**

Other Readings:
August Weismann, 'The All-Sufficiency of Natural Selection', *Contemporary Review*, 64 (1893): 309-338; 596-610.

Gerald Geison, 'Darwin and Heredity: The Evolution of his Hypothesis of Pangenesis', *Journal of the History of Medicine and Allied Sciences*, 24 (1969): 375-411. **Birkbeck Library SLC**

Peter Bowler, *The Mendelian Revolution: The Emergence of Hereditarian Concepts in Modern Science and Society* (1989), Chapters 1-6.

6. 18 February
Evolution and Ethics: Debates and Dissonances

Readings:
Thomas Henry Huxley, 'Evolution and Ethics' (1893), in T H Huxley, *Collected Essays*, vol. 9 (1895 and many subsequent reprints). Available online:
http://aleph0.clarku.edu/huxley/CE9/E-E.html or
http://onlinebooks.library.upenn.edu/webbin/gutbook/lookup?num=2940

M S Helfand, 'T H Huxley's "Evolution and Ethics": The Politics of Evolution and the Evolution of Politics', *Victorian Studies*, 20 (1977): 159-77.

Michael Freeden, 'Biological and Evolutionary Roots of New Liberalism in England', *Political Theory*, 4 (1976): 471-90.

Other Readings:
Paul Lawrence Farber, *The Temptations of Evolutionary Ethics* (1994; paperback, 1998), Chapters 1-4.

Peter Kropotkin, *Mutual Aid: A Factor in Evolution* (1902; repr. 1972, 1987). Online: http://www.calresco.org/texts/mutaid.htm

Leslie Stephen, 'Ethics and the Struggle for Existence', *Contemporary Review*, 64 (1893): 157-70.

Daniel P. Todes, 'Darwin's Malthusian Metaphor and Russian Evolutionary Thought, 1859-1917', *Isis*, 78 (1987): 537-51.

Peter Weingart, 'Struggle for Existence: Selection and Retention of a Metaphor', in Sabine Maasen, Everett Mendelsohn and Peter Weingart (eds), *Biology as Society, Society as Biology: Metaphors* (1995), pp. 127-51.

7. 25 February
'Social Darwinism': The Survival of the Fittest – and the Richest?

Readings:
Herbert Spencer, 'The Social Organism' (1860), in H Spencer, *The Man versus the State with Six Essays on Government, Society, and Freedom* (1981), pp. 383-434. **Birkbeck Library SLC RAGE [Spe]**

William Graham Sumner, 'The Concentration of Wealth', in Stow Persons (ed.), *Social Darwinism: Selected Essays of William Graham Sumner* (1963), pp. 150-157. **Birkbeck Library SLC**

Paul Crook, 'Social Darwinism: The Concept', *History of European Ideas*, 22 (1996): 261-74.

Other Readings:
F H Bradley, 'Some Remarks on Punishment', *International Journal of Ethics*, 4 (1894): 269-84.

Gregory Claeys, 'The "Survival of the Fittest" and the Origins of Social Darwinism', *Journal of the History of Ideas*, 61 (2000): 223-240.

James Elwick, 'Herbert Spencer and the Disunity of the Social Organism', *History of Science*, 41 (2003): 35-72.

Robert Garson, ‘Social Darwinism and the Liberal Tradition: The Case of William Graham Sumner’, *South Atlantic Quarterly*, 80 (1981): 61-76.

John C Greene, ‘Darwin as Social Evolutionist’, *Journal of the History of Biology*, 10 (1977): 1-27. [Reprinted in J C Greene, *Science, Ideology, and World View: Essays in the History of Evolutionary Ideas* (1981), pp. 95-127.]

Mike Hawkins, *Social Darwinism in European and American Thought 1860-1945* (1997). **Birkbeck Library SLC 304.09 HAW**

Greta Jones, *Social Darwinism and English Thought: The Interaction between Biological and Social Theory* (1980).

Robert M Young, ‘Darwinism *is* Social’, in David Kohn (ed.), *The Darwinian Heritage* (1985), pp. 609-40. **Birkbeck Library SLC**

8. 3 March
Race, Gender, and Evolution

Readings:
Charles Darwin, ‘Principles of Sexual Selection’, in Ridley (ed.), *Darwin Selection*, pp. 186-204. **Birkbeck Library SLC**

R. Rainger, ‘Race, Politics and Science: The Anthropological Society of London in the 1860s’, *Victorian Studies*, 22 (1978): 51-70.

Evelleen Richards, ‘Darwin and the Descent of Woman’, in David Oldroyd and Ian Langham (eds), *The Wider Domain of Evolutionary Thought* (1983), pp. 57-111. **Birkbeck Library SLC**

Paul Crook, ‘Historical Monkey Business: The Myth of a Darwinized British Imperial Discourse’, *History*, 84 (1999): 633-57.

Other Readings:
Patrick Brantlinger, *Dark Vanishings: Discourse on the Extinction of Primitive Races, 1800-1930* (2003).

J.W.Burrow, ‘Evolution and Anthropology in the 1860s: The Anthropological Society of London’, *Victorian Studies*, 7 (1963): 137-54.

Rosemary Jann, ‘Darwin and the Anthropologists: Sexual Selection and its Discontents’, *Victorian Studies*, 37 (1994): 287-306.

Evelleen Richards, ‘Huxley and Woman’s Place in Science: The “Woman Question” and the Control of Victorian Anthropology’, in J R Moore (ed.), *History, Humanity and Evolution: Essays for John C Greene* (1989), pp. 253-84. **Birkbeck Library SLC**

Nancy Stepan, *The Idea of Race in Science: Great Britain, 1800-1960* (1982). **Birkbeck Library SLC HBR [Ste]**

George W Stocking, Jr., ‘What’s in a Name? The Origins of the Royal Anthropological Institute (1837-71)’, *Man: The Journal of the Royal Anthropological Institute*, 6 (1971): 369-90.

George W Stocking, Jr., *Victorian Anthropology* (1987), Chapter 6 (‘Victorian Cultural Ideology and the Image of Savagery’, pp. 186-237). [Recommended in addition: Chapter 5, ‘The Darwinian Revolution and the Evolution of Human Culture’, pp. 144-85.]
Birkbeck Library SLC KE3ea [Sto]

9. 10 March
Eugenics – A Helping Hand for Evolution

Readings:
Francis Galton, ‘Eugenics: Its Definition, Scope and Aims’, *American Journal of Sociology*, 10 (1904): 1-25.

Michael Freeden, ‘Eugenics and Progressive Thought: A Study in Ideological Affinity’, *Historical Journal*, 22 (1979): 645-71; Greta Jones, ‘Eugenics and Social Policy between the Wars’, *Historical Journal*, 25 (1982): 717-28; and Michael Freeden, ‘Eugenics and Ideology’, *Historical Journal*, 26 (1983): 959-962.

Diane B Paul, ‘Eugenics and the Left’, *Journal of the History of Ideas*, 45 (1984): 567-90.

Other Readings:
Mark B. Adams (ed.) *The Wellborn Science: Eugenics in Germany, France, Brazil, and Russia* (1989).

Havelock Ellis, *The Task of Social Hygiene* (1912).

Francis Galton, ‘The Possible Improvement of the Human Breed under the Existing Conditions of Law and Sentiment’, *Nature*, 64 (October 1901): 659-65. **Birkbeck Library SLC**

Daniel Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity* (1985; paperback, 1995). **Birkbeck Library SLC 304.5 KEV**

D King and R Hansen, ‘Experts at Work: State Autonomy, Social Learning and Eugenic Sterilization in 1930s Britain’, *British Journal of Political Science*, 29 (1999): 77-108.

Kevin Repp, '"More Corporeal, More Concrete": Liberal Humanism, Eugenics, and German Progessives at the Last Fin de Siècle', *Journal of Modern History*, 72 (2000): 683-730.

G R Searle, *Eugenics and Politics in Britain: 1900-1914* (1976). **Birkbeck Library SLC**

Richard Weikart, 'The Origins of Social Darwinism in Germany, 1859-1895', *Journal of the History of Ideas*, 54 (1993).

10. 17 March
Evolution, Language and Literature

Readings:
Gillian Beer, 'Darwin and the Growth of Language Theory', in John Christie and Sally Shuttleworth (eds), *Nature Transfigured: Science and Literature, 1700-1900* (1989), pp. 152-70. **Birkbeck Library SLC YGN [Chr]**

Stephen G Alter, *Darwinism and the Linguistic Image: Language, Race, and Natural Theology in the Nineteenth Century* (1999), Chapter 5 ('A Convergence of "Scientific" Disciplines'), pp. 108-145. **Birkbeck Library SLC**

James Eli Adams, 'Woman Red in Tooth and Claw: Nature and the Feminine in Tennyson and Darwin', *Victorian Studies*, 33 (1989): 7-27.

Other Readings:
Gillian Beer, *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot, and Nineteenth-Century Fiction* (1983). **Birkbeck Library SLC**

Sandra M. Den Otter, *British Idealism and Social Explanation: A Study in Late Victorian Thought*, Chapter 3.

Kate Flint, 'Origins, Species and *Great Expectations*', in David Amigoni and Jeff Wallace, *Charles Darwin's* The Origin of Species: *New Interdisciplinary Essays* (1995), pp. 152-73.

Elizabeth Knoll, 'The Science of Language and the Evolution of Mind: Max Müller's Quarrel with Darwinism', *Journal of the History of the Behavioral Sciences*, 22 (1986): 3-22. **Birkbeck Library SLC**

11. 24 March
Evolution, Mind and Behaviour

Readings:
E O Wilson, 'Man: From Sociobiology to Sociology', in Wilson, *Sociobiology: The New Synthesis* (1975). **Birkbeck Library SLC GF [Wil]**

Ullica Segerstrale, *Defenders of the Truth: The Sociobiology Debates* (2001), Chapters 1-2.

Stephen Jay Gould, 'Biological Potentiality vs Biological Determinism', in Gould, *Ever Since Darwin*, pp. 251-59. **Birkbeck Library SLC EOJ [Gou]**

Other Readings:
Carl N. Degler, *In Search of Human Nature: The Decline and Revival of Darwinism in American Social Thought* (1991).

Adam Kuper, *The Chosen Primate: Human Nature and Cultural Diversity* (1994).

Kevin Laland and Gillian Brown, *Sense and Nonsense: Evolutionary Perspectives on Human Behaviour* (2002). **Birkbeck Library SLC**

Steven Rose, Leon Kamin and R C Lewontin, *Not in Our Genes: Biology, Ideology and Human Nature* (1984). **Birkbeck Library SLC IPU [Ros]**