



HPSC0023

Evolution in Science and Culture

Syllabus

Session	2022-23
Information	profjoecain.net/0023
Reading List	profjoecain.net/0023read
Moodle site	profjoecain.net/0023moodle
Timetable	profjoecain.net/0023time

Description

Evolution is an idea at the heart of modern society. Everything evolves. This module explores the history of evolution as an idea in science and culture, covering topics from the eighteenth century to the present. Yes, it's about science: Darwin, Darwinism, and evolutionary studies are key. But there is so much more. We explore episodes as diverse as (a) dinosaurs and the origin of life, (b) social Darwinism and corporate capitalism, (c) eugenics, empire, and militarism, (d) the clash in religion between fundamentalism and modernity, and (e) changing views of what it means to be human. We also explore the idea of hero worship and commemoration: for example, why is Darwin buried in Westminster Abbey? In this module, we keep anchored on the life and work of Charles Darwin, but this anchorage provides opportunities to explore far and wide in the history of science and culture.

Key Information

Assessment	100%	essay (3,500 words)
Required texts	readings listed below; also available through ReadingList@UCL	

Module Tutor

Module tutor	Professor Joe Cain
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Web	www.ucl.ac.uk/sts/cain
Office location	22 Gordon Square, room 4.3
Office hours:	Mondays 15:00-17:00 in person at STS; no appointments, drop-in only Tuesday and Thursday afternoons via Teams; book online sessions through < profjoecain.net/booking >

Aims and Objectives

Aims

As an intermediate module, HPSC0023 pursues several kinds of goals. To develop knowledge of content in the history and context of evolutionary studies, this module surveys major themes, actors, and conceptual shifts – in short, what are the big ideas associated with evolution and Darwinism? It seeks to integrate broad historical themes and contexts into this survey.

Primary sources are the foundation of required readings for this module so students may develop skills working with original source materials: their reading, weighting, and critical assessment. To further develop skills in textual analysis and critical assessment, attention will be paid to close reading of secondary materials from different types of sources. This module also asks critical questions about historiography.

The teaching method for this module during contact hours will be lectures and in-class discussions. A schedule of independent reading and research also is set. Module assessment is integrated into this programme.

Objectives

By the end of this module students should be able to:

- demonstrate content knowledge for the module's domain and historiographical insight into relevant scholarly literature
- demonstrate the ability to critically interpret both primary and secondary sources
- demonstrate skill in historical reasoning and comparative analysis
- approach new material in this module's domain from a historical perspective and with a critical historian's eye
- demonstrate an appreciation for principles of historical contingency, myth making, and icon construction

Module Plan

Student responsibilities in this module will revolve around three components: lectures, an independent research project, and independent reading and study.

In-person sessions

We meet in person for two hours per week. Sessions are organised around particular themes,, and they will survey key content and historiography relevant to the chosen themes. Preparatory tasks are set for each session via Moodle. Students are encouraged to come to each session having skimmed and reflected on readings set for that day. Close reading of texts will be more productive following the sessions. Additional readings and Web sites are suggested for continued investigation of module topics.

Some sessions will be preceded with pre-recorded materials so time in the in-person setting can be “flipped” to prefer discussion and engagement. Pre-recorded materials *are not a substitute* for session activities.

Sessions typically have handouts associated with in-class work. These will be posted on Moodle prior to the session. A limited number of paper copies will be available in the room.

Research project

Students are expected to undertake independent research and writing on a topic of their choice within a range of options. Work will be organized into stages, with formative feedback provided to students who submit materials according to prescribed timelines.

Considerable guidance will be available for the research and writing elements of the project. Students also was strongly encouraged to discuss their ideas with peers and to use other support services in the university, such as the Academic Communication Centre.

Independent reading and study

Student frequently sideline the programme’s expectation of independent learning associated with every module. This is a substantial part of our expectation for your knowledge building and skills development. Lecture time is not the only learning you have in the university.

For this module, a superabundance of literature exists, and there is seemingly no end of topics that can be pursued through independent study. This includes making use of London’s extensive cultural assets, such as museums and professional societies. To this, add a consider range of online resources, from scholarly projects to streamed media to podcasts to library recourses.

It’s a mistake to think your tutors only want to engage with you during class sessions. Let me strongly encourage you to make use of office hours and drop-in times to talk about your independent learning and skill development. Let me also strongly encourage you to self-organise reading and discussion groups associated with your studies.

Schedule

Week	Date	Topic	Essential Readings	Recommended Readings
0	Before	Darwin in Person	Darwin (1859: 1-6) Huxley (1882)	Jones (1999: 1-22)
6	07/10	Celebrity	Moore (1982) Browne (2005)	
		Darwin's (1859) Origin of Species	Darwin (1859: 60-130) Explore biomorphs	Ruse (1975)
7	14/11	Deep Time	Desmond (1979)	Michel and Witton (2022)
		Comparative Anatomy	Rehbock (1990)	Stott (2012)
8	21/10	Laws of Society: Competition?	Carnegie (1889b, 1889a) Bannister(1979: 3-13)	Moore (1985)
		Laws of Society: Cooperation?	Todes (1987)	Nicolosi (2020)
9	28/10	Bitch - *Lucy Cooke*	Cooke (2022: 182-214, ix-xxi)	Cooke on YouTube
		Choice	Milam (2010: 135-168)	Mitman (1990)
10	04/11	Mind and Morality	Ellegard ([1958] 1990: 293-331)	Hamlin (2021)
		Progress?	Desmond and Moore (2009: 172-198) Stenhouse (2022)	Haller (1971: 203-210)
	07/11	Project proposal due	upload before 17:00	
11		Reading Week	No lectures this week	
12	18/11	White	Bonnet (2008) Searle (1976)	Forthcoming (Adelphi Forum talk)
		Pure	Proctor (1988: 177-222) UNESCO (1950a, 1950b) Anderson (2012)	Farber (2011)
13	25/11	Future	Galton ([1869 and 1892] 1978: 336-362) Pearson (1909)	Elshakry (2013)
		Show	Rydell (1993: 39-71) Qureshi (2011: 1-12, 101-125)	
14	02/12	God	Bryan (1925: 170-182) Cain (2001)	Cain (2009)
		Modernisation	Jiang (2021) Zhu (2020)	
	05/12	Status report due	upload before 17:00	
15	09/12	Cold War North	Lysenko (1949) AtomicScientists (1949)	
		Technoscience	Pellegrino (1985) Monbiot (2013)	Jones (2018)
16	16/12	Rational	Dawkins (1976: 88-108) Gould (: 23-52)	Jablonski (1986)
		War	Kellogg (1913) Ruse (2022)	
	04/01	Final paper due	upload before 17:00	

Assessment: Research Project

Essential information

Your assignment is to produce a research paper of approximately 3,500 words. Base your essay on one of the titles presented below. Choose **one title** in **one** of the options.

The final project is due 04 January 2023, 17:00 London time. Upload this through Moodle.

Three stages

Your work will move through several stages:

Stage 1: Project proposal (before 07 November 2022, 17:00)

Submit a one-page proposal of your project. This is formative assessment. The feedback will be used to guide your research. Instructions will be provided.

Stage 2: Status report (before 5 December 2022, 17:00)

Submit a 5-minute recorded progress report in which you describe your progress to date and highlight any problems or questions you're encountering. This is formative assessment, provided to give you feedback for improving the final paper. Instructions will be provided.

Stage 3: Final paper (before 04 January 2023, 17:00)

Submit your final paper through Moodle. This is summative assessment contributing 100% to the final mark for the module. Your final paper will be structured as follows:

1. **Introduction:** Identify your research question. State your thesis. Be clear about what you see as your contribution to the subject. (estimated length: ~250 words)
2. **Literature review:** Provide a short literature review that identifies standard or major narratives already existing in the subject: what does the existing literature tell us? This draws only on secondary sources and should show your analytical skills. It should not be a detail description of what these works tell us. (~750 words)
3. **Original research:** Undertake research using primary sources related to your topic. This should be the bulk of your essay. (~2000 words)
4. **Conclusions.** Summarise your results in a paragraph designed to tell me what is new and important in your work. This should emphasise the research you undertook with the primary sources. (~500 words)

Follow my style guide <profjoecain.net/style-guide>. I prefer a citation style such as Harvard. Your paper's word count includes footnotes or endnotes; it excludes bibliography and ancillary materials such as figure legends.

Choice of titles for research paper

Option 1: I want to know more about Darwin

Biography is an essential part of historical research. In this option, you will investigate one dimension of Darwin's life and work.

- Darwin and his family
- Darwin's life in London or at Down House
- Darwin's social life
- Darwin's assistants, tutors, or collaborators
- Darwin on *HMS Beagle*
- Darwin as a correspondent

- Darwin and his publisher
- Darwin and reviewers of his work
- Darwin's views on [something]

Darwin wrote on many topics, and he wrote many books and papers. You could investigate Darwin's thinking on one specific subject by collecting work into a coherent research programme or set of experiences. Or, you can investigate one element of his life, as noted above.

All of Darwin's works are available online
darwin-online.org.uk

All known Darwin correspondence is available online, too:
darwinproject.ac.uk

Option 2: I want to know more about Darwinism

Many people claim to be a true Darwinian. Investigate one person or one linked group of people who fall into this category. Investigate their claim to being Darwinian. Choices are:

1. Cooke, Lucy
2. Dawkins, Richard
3. Gould, Stephen Jay
4. Hamilton, William
5. Hooker, Joseph
6. Huxley, Thomas Henry
7. Jones, Steve
8. Margulis, Lynn
9. Morgan, Elaine
10. Ruse, Michael
11. Wilson, E.O.

I'm willing to consider another "Darwinian" working after 1980. Discuss this with me if you have a particular suggestion.

Option 3: I want to investigate something else

Select one of the following titles to investigate.

1. Wallace and Darwin were rivals. Or, were they?
2. The *Vestiges of the Natural History of Creation* (1844) promoted evolution long before Darwin's *Origin of Species*.
3. Humans were put on display widely in the 19th and early 20th century. Investigate how this related to Darwinism.
4. What were Darwin's views on slavery and how did he act regarding enslavement during his own lifetime?
5. Evolutionary psychology is an unviable research programme.
6. What was important about the 1860 Oxford debate about the *Origin of Species*?
7. Was Galtonian anthropometrics a racist research agenda?
8. Simple Mendelism embeds racist thinking.
9. What was really at stake in the 1925 Scopes Monkey Trial?
10. What was the relationship between Lysenko and Darwinism?
11. Investigate the response to the 1950 UNESCO Statement of Race.

Additional information

I encourage you to discuss your essay with me well in advance of the due date.

I provide a style guide <profjoecain.net/style-guide>, and I prefer the Harvard system for citations. (Details: <library-guides.ucl.ac.uk/Harvard>.)

Criteria for assessment are discussed on the 0023 Moodle page. Basically, essays will be assessed on the following terms:

- the depth of scholarship and use of resources beyond those in lecture and required reading
- the ability to identify both major and subtle points of the subject
- the extent of your critical assessment
- the evidence you provide for having reflected on and extended module content and themes
- the general scholarly presentation of the work performed

My most common criticisms on student essays relate to:

- too much description/summary of readings and not enough analysis
- not developing your own argument
- no evidence of independent research
- poor organisation and poor referencing techniques
- use of only one source or poor choice of sources (such as *Encyclopaedia Britannica* or *Wikipedia*)

Reading List

This is a complete list of *essential* readings. All these readings and module lectures are fair game for examination. Substitutions may be made during term. All readings are linked on Moodle. Some volumes also are available in the DMS Watson short loan collection.

ANDERSON, W. 2012. Hybridity, Race, and Science: The Voyage of the Zaca, 1934–1935. *Isis*, 103, 229-253.

ATOMICSCIENTISTS 1949. Scientific Truth and Freedom in Our Time: The Russian Purge of Genetics [articles by Sewall Wright, L.C. Dunn, Karl Sax, Theodosius Dobzhansky, M.B. Crane, and Richard Goldschmidt]. *Bulletin of the Atomic Scientists*, 5, 130-156.

BANNISTER, R. C. 1979. *Social Darwinism: Science and Myth in Anglo-American Social Thought*, Philadelphia, PA, Temple University Press.

BONNET, A. 2008. Whiteness and the West. In: DWYER, C. & BRESSEY, C. (eds.) *New Geographies of Race and Racism*. Aldershot: Ashgate.

BROWNE, J. 2005. Presidential Address: Commemorating Darwin. *British Journal for the History of Science*, 38, 251-274.

BRYAN, W. J. 1925. [Speech Delivered at Scopes Trial]. In: SCOPESTRIAL (ed.) *The World's Most Famous Court Trial: Tennessee Evolution Case*. Dayton, TN: Rhea County Historical Society.

CAIN, J. 2001. *Scopes Trial and Fundamentalism in the United States* [Online]. London: Macmillan Publishers Ltd, Nature Publishing Group. Available: <https://doi.org/10.1038/npg.els.0003358> [Accessed].

CAIN, J. (ed.) 2009. *William Jennings Bryan's Last Message: a reprint of his famous closing arguments for the 1925 Scopes Monkey Trial, undelivered and posthumously published*, London: Euston Grove Press.

CARNEGIE, A. 1889a. The Best Fields for Philanthropy. *North American Review and Miscellaneous Journal*, 149, 682-698.

CARNEGIE, A. 1889b. Wealth. *North American Review and Miscellaneous Journal*, 148, 653-664.

COOKE, L. 2022. *Bitch: A Revolutionary Guide to Sex, Evolution and the Female Animal*, London, Doubleday.

DARWIN, C. 1859. *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, London, John Murray.

DAWKINS, R. 1976. *The Selfish Gene*, Oxford, Oxford University Press.

- DESMOND, A. 1979. Designing the Dinosaur: Richard Owen's Response to Robert Edmond Grant. *Isis*, 70, 224-234.
- DESMOND, A. & MOORE, J. 2009. *Darwin's Sacred Cause: Race, Slavery and the Quest for Human Origins*, London, Allen Lane.
- ELLEGARD, A. [1958] 1990. *Darwin and the General Reader: The Reception of Darwin's Theory of Evolution in the British Periodical Press, 1859-1872*, Chicago, University of Chicago Press.
- ELSHAKRY, M. 2013. *Reading Darwin in Arabic, 1860-1950*, Chicago, University of Chicago Press.
- FARBER, P. 2011. *Mixing Races: From Scientific Racism to Modern Evolutionary Ideas*, Baltimore, MD, Johns Hopkins University Press.
- GALTON, F. [1869 and 1892] 1978. *Hereditary Genius: An Inquiry into Its Laws and Consequences*, London, Friedmann.
- GOULD, S. J. 1989. *Wonderful Life: The Burgess Shale and the Nature of History*, New York, W. W. Norton.
- HALLER, J. 1971. *Outcasts from Evolution: Scientific Attitudes of Racial Inferiority, 1859-1900*, Carbondale, IL, Southern Illinois University Press.
- HAMLIN, K. A. 2021. Darwin's bawdy: The popular, gendered and radical reception of the Descent of Man in the US, 1871–1910. *BJHS Themes*, 6, 115-131.
- HUXLEY, T. H. 1882. Charles Darwin [notice of death]. *Nature*, 25, 597.
- JABLONSKI, D. 1986. Background and mass extinctions: the alternation of macroevolutionary regimes. *Science*, 231, 129-133.
- JIANG, L. 2021. The late ascent of Darwin's Descent: exploring human evolution and women's role for a new China, 1927–1965. *BJHS Themes*, 6, 201-220.
- JONES, E. D. 2018. Ancient DNA: a history of the science before Jurassic Park. *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*, 68-69, 1-12.
- JONES, S. 1999. *Almost like a whale: the Origin of Species updated*, London, Doubleday.
- KELLOGG, V. 1913. Eugenics and Militarism. *Atlantic Monthly*, 112, 99-108.
- LYSENKO, T. D. 1949. On the Situation in Biological Science. In: LENINACADEMYOFAGRICULTURALSCIENCE (ed.) *The Situation in Biological Science: Proceedings of the Lenin Academy of Agricultural Sciences of the U.S.S.R, Session July 31 - August 7, 1948 Verbatim Report*. Moscow: Foreign Languages Publishing House.
- MICHEL, E. & WITTON, M. 2022. *Art and science of the Crystal Palace dinosaurs*, Ramsbury, UK, Crowood Press.
- MILAM, E. 2010. *Looking for a Few Good Males: Female Choice in Evolutionary Biology*, Baltimore, MD, Johns Hopkins University Press.
- MITMAN, G. 1990. Dominance, Leadership, and Aggression: Animal Behavior Studies During the Second World War. *J Hist Beh Sci*, 26, 3-16.
- MONBIOT, G. 2013. *A Manifesto for Rewilding the World* [Online]. Available: <http://www.monbiot.com/2013/05/27/a-manifesto-for-rewilding-the-world/> [Accessed 30 September 2015].
- MOORE, J. 1982. Charles Darwin Lies in Westminster Abbey. *Biological Journal of the Linnean Society*, 17, 97-113.
- MOORE, J. 1985. Herbert Spencer's Henchmen: The Evolution of Protestant Liberals in Late Nineteenth-Century America. In: DURANT, J. (ed.) *Darwinism and Divinity: Essays on Evolution and Religious Belief*. Oxford: Basil Blackwell.
- NICOLOSI, R. 2020. The Darwinian Rhetoric of Science in Petr Kropotkin's *Mutual Aid: A Factor of Evolution* (1902). *Berichte zur Wissenschaftsgeschichte [History of Sciences and*

Humanities], 43, 141-159.

- PEARSON, K. 1909. *The scope and importance to the state of the science of national eugenics*, London, Dulau and Co. for Francis Galton Laboratory for National Eugenics, University of London.
- PELLEGRINO, C. 1985. Dinosaur Capsule. *Omni*, 7, 38-40, 114-115.
- PROCTOR, R. 1988. *Racial Hygiene: Medicine Under the Nazis*, CV Cambridge, MA, Harvard University Press.
- QURESHI, S. 2011. *Peoples on Parade: Exhibitions, Empire, and Anthropology in Nineteenth-Century Britain*, Chicago, University of Chicago Press.
- REHBOCK, P. F. 1990. Transcendental Anatomy. In: CUNNINGHAM, A. & JARDINE, N. (eds.) *Romanticism and the Sciences*. Cambridge: Cambridge University Press.
- RUSE, M. 1975. Darwin's Debt to Philosophy. *Stud Hist Phil Sci*, 6, 159-181.
- RUSE, M. 2022. Why we hate (and whether we can do something about it). *OUPblog*, 2022.
- RYDELL, R. 1993. *World of Fairs: The Century-of-Progress Expositions*, Chicago, University of Chicago Press.
- SEARLE, G. R. 1976. *Eugenics and Politics in Britain, 1900-1914*, Leyden, Noordhoff International Publishing.
- STENHOUSE, J. 2022. Reading Darwin during the New Zealand wars: Science, religion, politics and race, 1835–1900. *Studies in History and Philosophy of Science*, 96, 87-99.
- STOTT, R. 2012. *Darwin's Ghosts: In Search of the First Evolutionists*, London, Bloomsbury.
- TODES, D. 1987. Darwin's Malthusian Metaphor and Russian Evolutionary Thought, 1859-1917. *Isis*, 78, 537-551.
- UNESCO 1950a. The Race Question. In: UNESCO (ed.) *UNESCO and its Programmes, volume 3*. Paris: UNESCO.
- UNESCO 1950b. Statement by Experts on Race Problems. unpublished document dated 20 July 1950, UNESCO/SS/1 Paris.
- ZHU, J., ZHANG, M. & WEISBERG, M. 2020. Why does the Chinese public accept evolution? *Studies in History and Philosophy of Science Part A*, 81, 116.124.