



Arts & Humanities
Research Council

FURTHER DETAILS FOR APPLICANTS

PhD PROJECT:

The Working Life of Evolutionary Biologists: Exploring the Culture of Scientific Research through the Personal Archive of John Maynard Smith (1920-2004)

1. THE PROJECT IN BRIEF

This project will research the working life of John Maynard Smith (JMS), whose extensive personal archive, held by the British Library, offers rich resources for a reinterpretation of post-war British scientific culture. Based at UCL and then Sussex, JMS was one of the most eminent and publicly visible British evolutionary biologists of the post-war generation, famed especially for his pioneer applications of mathematical techniques, in particular game theory, to the study of animal behaviour; his contributions to signalling theory, sociobiology and the understanding of macro-evolutionary transitions; his early Communist sympathies; and his lucid lectures, broadcasts and prolific writings (including a popular paperback on evolutionary theory) for a general audience. An archivally based, contextually embedded reconstruction of his working life thus promises to illuminate topics of general relevance to the cultural history of modern science, including the history of science communication and scientists' political engagements.

Research Questions

- (1) What relation was there between JMS' various research, teaching and publicly orientated activities? How might a closer study enable us better to understand the working lives of scientists in post-war Britain?
- (2) How can these different aspects of JMS' working life contribute to our understanding of the significance of, and developments in, Darwinism in Britain during the second half of the twentieth century?
- (3) How did JMS navigate questions of scientific priority and the contributions and legacies of his predecessors over the course of his career? What controversies was he involved in, and in what ways were they resolved?
- (4) What can the career of a politically engaged scientist like JMS, who moved away from affiliation with the Communist party but remained active in politics at an institutional level throughout his career, tell us about the shifting relations between science and politics during the second half of the twentieth century?

Once appointed, the successful candidate will contribute to the refinement and development of the agreed research topic.

2. SOURCES AND RESEARCH METHODS

Proposed methodology:

- (1) The use of archival sources will allow the student to analyse the ways in which material privately circulated but not retained in the public record contributes to the development of a working scientific culture. To ensure that such sources are available to a wider audience of historians, biologists and the public, part of the research will involve identifying key documents in relation to the research interests of the project, be they working notes, drafts of important papers or original correspondence, to be digitised. With permission from the copyright holder, these can be then be used for blog posts and other promotional/ educational activities. In addition, the student will work together with the British Library's Digital Preservation section to conduct a brief survey of the as-yet unknown born-digital element of JMS' archive, exploring how notes, manuscripts and data stored in digital form might contribute to the historical approaches outlined here, with a view towards adding these materials to the existing catalogue.
- (2) Also represented in the archive are scientists who are still alive, and who may have key insights to offer into the contributions and controversies of JMS' working life. One strand of the student's project will be to conduct interviews with them, adding perspectives from oral history to the material in the written archive and deepening the holdings of the British Library's "Oral Histories of British Science" on evolutionary topics. To this end, the distinguished evolutionary biologists John Turner (Leeds) and Anthony Edwards (Cambridge), both of whom are represented within the archive, and neither of whom has been interviewed so far, will serve on an advisory board for the project, together with the historian of evolutionary biology Jonathan Hodge (Leeds).
- (3) Standard histories present JMS as a key figure in the development of evolutionary theory during this period because, alongside WD Hamilton and George Price, he introduced kin selection arguments which contributed to an evolutionary perspective based on the gene (Kingsland 1997). Both Hamilton and Price have recently been the subjects of detailed biographical studies (Harman 2010, Segerstrale 2013, Swenson 2015), but JMS' position is not understood in the same detail. In particular, his relationship with Hamilton was extremely acrimonious, because of a prolonged dispute concerning the priority of ideas about kin selection (Segerstrale 2013, 173-187). The British Library also holds Hamilton's and Price's papers, making it possible to explore issues of scientific priority across all three scientists' archives. These questions will be explored in the light of recent work in the history of science on how debates around priority contribute to both public narratives and the academic prestige of specific scientific projects (MacLeod and Radick 2013).
- (4) Alongside his scientific work, JMS was heavily involved in curating the legacy of his scientific and political mentor, the Communist Darwinian JBS Haldane: writing his obituary, editing his popular writings, continuing aspects of his research, and even naming his own memoir "In Haldane's Footsteps." The JMS archive contains abundant material for studying the role of such scientific commemoration in the politically contentious evolutionary biology of this period. The significance of both mentor-student relationships and of scientific commemorations has been stressed in a number of recent works in the history of science, particularly in relation to the ways they help secure legitimacy. The project will draw on this

scholarship (e.g. Bensaude-Vincent 1996) to reconsider how JMS made use of the work he continued from, and the stories he told about, his illustrious mentor.

References

- Bensaude-Vincent, B., 1996, "Between History and Memory: Centennial and bicentennial images of Lavoisier", *Isis*, 1996, 87: 481-499.
- Harman, O., 2010, *The Price of Altruism* (Norton).
- Kingsland, S., 1997, "Neo-Darwinism and Natural History," in John Krige and Dominique Pestre, eds., *Science in the Twentieth Century* (Cambridge).
- Macleod, C. and Radick, G., 2013, "Claiming Ownership in the Technosciences: Patents, Priority and Productivity." *Studies in History and Philosophy of Science Part A*, 2013, 44: 188-201.
- Seegerstrale, U., 2013, *Nature's Oracle: The Life and Work of W.D. Hamilton* (Oxford).
- Swenson, S., 2015, *A Gene's Eye View: W.D. Hamilton, the Science of Society, and the New Biology of Enlightened Self-Interest, 1950-1990* (Oxford DPhil thesis).

3. DISSEMINATION OF THE PROJECT'S FINDINGS AND ASSOCIATED TRAINING OPPORTUNITIES

- i) The project student will give regular talks to academic and non-academic communities throughout the duration of the project. The University of Leeds and the British Library offer various routes for the dissemination of students' research results. The student will attend annual conferences and events that attract scholars from a wide range of backgrounds, e.g., the annual British Society for the History of Science conference, the biennial summer meetings for The International Society for the History, Philosophy, and Social Studies of Biology (ISHPSSB), and so on.
- ii) Before the end of the project the student will have submitted at least one research paper to a high-quality journal.
- iii) Through public lectures and the creation of web-based materials the student will engage as wide an audience as possible with their research.

The staff expertise, collections, and environment of the British Library provide students with a unique doctoral research and training experience. As a public-facing, culturally-active, research institute, the Library is able to provide a broad range of professional development opportunities for students, including interpretation research for major public exhibitions, delivery of high-profile public events, project placements, and scope for contributions to the Library's online resources for arts, cultural and historical research. The Library's collaborative doctoral students benefit from a range of training workshops, networking events and shared working facilities to enable them to develop together as a cohort, rather than lone scholars. At the same time, the Library continues to work with its collaborative research partners in universities, museums, galleries, libraries and archives across the UK to maintain a track record of excellence in postgraduate training and research on a national scale.

4. FINANCIAL ARRANGEMENTS AND FACILITIES

Applicants must be either UK residents (full studentship) or EU nationals (fees only). They should normally have, or expect soon to be awarded, a Masters degree in a relevant discipline (history of science, technology and/or medicine; history), though exceptions can be made for applicants with strong undergraduate records and relevant experience. The studentship supports three years' full-time work, but can be taken up on either a full-time or a part-time basis. Standard tuition fees and maintenance grants will be paid by the AHRC to the nominated student. In the 2016/ 2017 academic year, full-time awards will provide a maintenance grant payment of £14,296.00. In addition to these amounts, the AHRC will make an additional, one-off maintenance payment to cover the special costs of working at two sites. The student may also have access to an additional pot of AHRC funding (held by the HEI) which is equivalent to an extra 6 months of funding. This is available (if required) to enable the student to undertake high-cost training or professional development opportunities that are relevant to their research. Students may also be eligible for UK study visits and one overseas study visit as well as one overseas conference for the duration of the award.

The British Library will provide up to £1,000 per year, to be paid directly to the student against receipts for agreed research-related costs, including travel. Additional monetary benefits to the student include: a British Library staff pass that entitles them to free admission to many national and regional museums; staff discount in the Library's bookshop, and significantly reduced prices for food in the staff restaurant; and Library-wide training courses for free, including a Digital Scholarship programme which equates to a waived fee of £800 per course.

The University of Leeds and the British Library will supply appropriate facilities to support the research project and limited additional funds for archive visits and conferences.

5. THE COLLABORATING PARTNER INSTITUTIONS

The **Centre for History and Philosophy of Science** at the University of Leeds is one of the leading international centres in the field. Currently it has nine academic staff, over twenty-five PhD students, and an increasingly large group of postdocs working in history of science, technology & medicine, and in philosophy of science. The history and philosophy of biology is especially vibrant, and due to be strengthened further still with the arrival in January 2017 of the philosopher of biology Dr Ellen Clarke, currently a Fellow of All Souls College at Oxford University. There are a wide range of seminars and reading groups, with individual staff and students regularly presenting papers for discussion at a weekly work-in-progress workshop. The Centre works in close collaboration with the Leeds Centre for Medical Humanities, the Thackray Museum, the Leeds City Museum, and other groupings and

institutions, local and national. A recent innovation has been the founding of the University of Leeds Museum of the History of Science, Technology and Medicine, which is the focus of a new two-year free public lecture series, "HPS in 20 Objects," featuring lectures by members of staff in collaboration with students.

The main contact and supervisor for this project is **Professor Gregory Radick**, email: G.M.Radick@leeds.ac.uk

Further information at <http://www.hps.leeds.ac.uk/>

The British Library is the national library of the United Kingdom and one of the world's greatest research libraries. It provides world-class information services to the academic, business, research and scientific communities and offers unparalleled access to the world's largest and most comprehensive research collection. The Library's collection has developed over 250 years and exceeds 150 million separate items representing every age of written civilisation and includes books, journals, manuscripts, maps, stamps, music, patents, photographs, newspapers and sound recordings in all written and spoken languages. Up to 10 million people visit the British Library website - www.bl.uk - every year, where they can view up to 4 million digitised collection items and over 40 million pages.

The main contact and supervisor for this project is **Mr Jonathan Pledge**, email: Jonathan.Pledge@bl.uk

Further information is available at www.bl.uk