

UNIVERSITY OF CAMBRIDGE
DEPARTMENT OF HISTORY AND PHILOSOPHY OF SCIENCE

Seminar Programme

EASTER TERM 2003

Departmental Seminars

Psychoanalysis and the
Humanities

Psy Studies

History of Modern Medicine

Cabinet of Natural History

Epistemology Reading Group

Environmental History
Reading Group

History of Science Workshop

Philosophy Workshop

Science and Literature
Reading Group

Science and the Visual
Reading Group

Medieval Science & Philosophy
Reading Group

EPACTS

Philosophy of Language
Reading Group

Latin Therapy Group

Putting the military back in: the Eighth Annual Hans Rausing Lecture on 22 May

Aristotle and the industries: special seminar on 30 June

Departmental Seminars

Unless otherwise stated, seminars meet at **4.30pm on Thursdays in Seminar Room 2**, Department of History and Philosophy of Science. There is tea beforehand in Seminar Room 1 at 4pm.

Organised by Simon Schaffer

- 24 April **Marina Frasca-Spada (University of Cambridge)**
Belief and animal spirits in Hume's 'Treatise'
- 1 May **Anna-Katherina Mayer (University of Cambridge)**
History of science and 'the end of ideology'
- 8 May **Patrick Curry (Bath Spa University College)**
Astrologia Rediviva
- 15 May **Denis McManus (University of Southampton)**
Heidegger, intelligibility and objectivity

Thursday 22 May at 4.30pm
The Old Labs, Newnham College, Cambridge
Eighth Annual Hans Rausing Lecture
David Edgerton (Imperial College, London)
Putting the military back in:
Warfare states, technology and science in the twentieth century

- 29 May **Matteo Mamelli (London School of Economics)**
Rethinking heredity
- 5 June **James Delbourgo (McGill University)**
How to handle an electric eel: experimental natural history in the Americas
- 12 June **Evelleen Richards (University of Sydney)**
The making of sexual selection, or, a gentleman's guide to choosing a proper mate and breeding a better race
- 30 June, 5pm ***Special Seminar*** (note date and time)
Steven Shapin (University of California, San Diego)
Aristotle and the industries: the scientist and the organization in twentieth-century America

Abstracts

24 April **Marina Frasca-Spada (University of Cambridge)**
Belief and animal spirits in Hume's 'Treatise'

The terminology Hume uses for his descriptions of the sentiments characterising belief – the 'force', 'vivacity' and 'steadiness' of conception – is derived from the contemporary physiology of animal spirits and brain traces in the style of Malebranche. In this paper I show how studying the ways those terms were used within Malebranchean physiology provides a key to Hume's usage. In particular, I suggest that as in the accounts of the motions of animal spirits so too in Hume's descriptions of belief there is a crucial difference between 'force' and 'vivacity', which refer to intensity, and 'steadiness', which is connected with repeated experience and custom. Hume's phenomenological descriptions of belief in terms of force and vivacity are substantiated with vignettes from common life and sociability, and account for the sentimental raw materials of belief on which experience and custom exercise their stabilizing and calibrating action.

1 May **Anna-Katherina Mayer (University of Cambridge)**
History of science and 'the end of ideology'

The Cambridge historian Herbert Butterfield combined a stellar academic career with a broader commitment to a more general educational mission, attempting to shape post-war culture by disseminating his outlook through the airwaves and through bodies like the Historical Association, the leading organization of teachers of history in Britain. One of the very few British historians of his era to take a serious interest in the history of science, he helped secure the field a place on the academic map, and more than that, he worked tirelessly to put it on a much larger map, bringing the history of science to the attention of radio audiences and teachers in secondary schools. History, he assumed, was an ideal conductor for scientific acculturation.

Butterfield's generation of science historians moulded perception of science in highly specific ways. Whereas in the 1930s attempts had been made to explain innovation in socio-economic terms, in post-war historiography the birth of modern science was portrayed as an intellectual revolution. Anti-Marxism formed a defining feature of the process by which this idealist image of scientific work as a disinterested journey of the mind was institutionalized. Nowhere does this silent conversation with Marxism come out more clearly than in the way in which young historians and their potential as teachers of the nation became assessed at this time. I will show on a number of examples that rather than spelling the end of ideology, appointments processes in the early Cold War years reveal disagreement about what science was to be invariably coextensive with dissent about social and political order.

8 May **Patrick Curry (Bath Spa University College)**
Astrologia Rediviva

The scholarly study of astrology has recently re-entered British universities after an absence of more than three centuries. Patrick Curry will outline how he approaches the subject in that context, principally through the ideas of Max Weber concerning the rationalisation and hence the disenchantment of the world. This starting-point offers a coherent way through which to understand the key historical interactions of astrology with what have long been the dominant discourses of its ideological environment, namely Christianity, natural philosophy and modern science.

15 May **Denis McManus (University of Southampton)**
Heidegger, intelligibility and objectivity

The paper will present a reading of Heidegger's early 'Fundamental Ontology', focusing on the explanatory/descriptive aims of that project. In doing so, I will explore a possible reconceptualisation of the contribution made by human practice to the constitution of objects of scientific study, and of where, when and how an awareness of that contribution may lead us to describe some of these findings as 'artefactual' or, in some sense, 'subjective'. The paper will make some tentative suggestions about how these concerns might relate to Heidegger's discussion of 'authenticity' and 'conscience'.

29 May **Matteo Mamelli (London School of Economics)**
Rethinking heredity

Fifty years ago, in Cambridge, Watson and Crick discovered the double-helical structure of DNA. It was an important discovery, which led to many other successes in molecular genetics. But the combination of that discovery with some powerful and entrenched (but mistaken) folk-hereditarian ideas generated the DNA-based view of heredity. This paper argues that many recent findings from developmental biology and some considerations about the causal role of DNA tell us that we should abandon the DNA-based view of heredity. And it argues that we should abandon it both when we are thinking about the inheritance of traits (i.e. in the context of developmental biology) and when we are thinking about the inheritance of differences (i.e. in the context of natural selection theory). There is more to heredity than DNA transmission. The intergenerational stability of phenotypic traits requires the intergenerational stability of both genetic and nongenetic developmental factors. And the intergenerational stability of phenotypic differences can be due to the intergenerational stability of both genetic and nongenetic differences. This means that many (but not all) nongenetic developmental factors should be conceived of as inherited. By adopting this 'extended' (but not holistic) view of heredity, we can achieve a better understanding of developmental and evolutionary processes and, thereby, a better understanding of life and of ourselves.

5 June **James Delbourgo (McGill University)**
How to handle an electric eel: experimental natural history in the Americas

In the eighteenth century, naturalists struggled, physically and intellectually, to handle an intriguing yet dangerous curiosity that had recently come to their attention: electrical fish. Torporific or numb-eels had been known since antiquity, but their electrical nature was not recognized before the Enlightenment. Rediscovered after 1750, these creatures ultimately provided organic models for the artificial generation of electric current, as established by the invention of the Voltaic Pile in 1800. Rather than recount the history of that well-known research programme, however – one centred around experiments on the Torpedo fish conducted in Europe – this paper investigates the lesser-known history of the Torpedo's American cousin: the electric eel, or *Gymnotus electricus*. Interest in electrical fish in Britain was catalyzed by the work of Edward Bancroft, a Massachusetts physician living in Dutch Guiana, who came to London as a friend of Benjamin Franklin, and became a Fellow of the Royal Society and American political agent (and later a British spy). This paper explores three issues raised by Bancroft's *Natural History of Guiana* (1769): the practice of an 'experimental natural history' using the human body as an instrument simultaneously to construct natural-historical and philosophical knowledge of the eel's electrical nature; the colonial social relations in Dutch Guiana (Surinam) which made this knowledge possible, particularly the role of indigenous expertise; and the circulation of this knowledge around the Atlantic world, from Guiana to the eastern seaboard of British America, and finally to London.

12 June

Evelleen Richards (University of Sydney)

The making of sexual selection, or, a gentleman's guide to choosing a proper mate and breeding a better race

Charles Darwin's concept of sexual selection played a vital, if subsidiary role in his theory of evolution. It was crucial to his defence of his primary mechanism of natural selection against the established theory of special creation, and, even more importantly to his interpretation of human biological and social evolution. In his 'Descent of Man; or Selection in Relation to Sex' of 1871, Darwin argued that sexual selection was primarily responsible for human racial and sexual differences, not just physical differences, but what he called differences in the 'mental powers', i.e. emotional, intellectual and moral differences. It was this insistence by Darwin on the biological basis of these presumed intellectual and moral differences as the raw material on which natural and sexual selection might operate that made his work so vulnerable to the play of political and ideological forces. Darwinism was central to the scientific racism that dominated late-Victorian anthropological and social theory, and it also played a leading role in subverting the liberal egalitarian roots and aspirations of nineteenth century middle-class feminism. Darwin himself made specific contributions to this scientific ratification of Victorian assumptions of white, middle-class male supremacy.

This paper retraces Darwin's path to sexual selection from his notebook references and constructions of the 1830s and 40s, and analyses his major sources in the contexts of the democratic politics and doctrines of self-development of the radical anatomists of the early nineteenth century; of contemporary attitudes to relations between the sexes, to female sexuality and educability and to issues of class and racial progress, and to the activities and interests of animal breeders or 'improvers'.

30 June, 5pm **Steven Shapin (University of California, San Diego)**

Aristotle and the industries: the scientist and the organization in twentieth-century America

William H. Whyte's 'The organization man' (1956) was one of the more influential post-World War II condemnations of the effects that large-scale organization, and especially industrial organization, was having on the possibilities of American scientific creativity and technological innovation. Whyte was a journalist, but the sentiments of his book resonated with Robert Merton's identification of 'the scientific ethos' and related academic appreciations of the nature of science and the social conditions required for its successful prosecution. I want to compare these sentiments with views of organized science emerging from commentators closer to 'shop-floor' realities, especially from American industrial research managers in the period from circa 1900 to circa 1960. What did they mean when they said that scientific work could and should be organized into 'teams', that it could and should be planned, and that the industrial scientist ought to display the social virtues? What did they think science was, such that it could be so planned and organized? And who did they think the scientist was, such that he ought to be a 'team player'. What's at issue here is, inter alia, contrasting views of the nature of knowledge, the knower, and the means by which knowers make knowledge in late modernity.

Psychoanalysis and the Humanities

Seminars take place on **alternate Wednesdays at 5pm in Seminar Room 1**. Tea is served from 4.40pm. All welcome.

Organised by Mary Jacobus and David Hillman

- 30 April **Michael Brearley (British Psychoanalytic Society)**
The psychoanalyst's neutrality: cold or containing?
- 14 May **Victor Burgin (Goldsmith's College, University of London)**
Mies in Maurelia
- 28 May **Victoria Stevens (Los Angeles Psychoanalytic Institute)**
What is the speed of dark: schooling the unconscious imagination
-

Psy Studies

History of Psychiatry, Psychology, Psychoanalysis and Allied Sciences

Wednesday 21 May at 5pm in Seminar Room 1 (with tea served from 4.40pm)

Ruth Harris (New College, Oxford)
Unconscious and Catholicism in France, 1860-1910

Organised by John Forrester and Deborah Thom

History of Modern Medicine

Tuesday 20 May, 1-2pm in Seminar Room 1

Laura Chazaro (HPS and El Colegio de Michoacan)
Making room for medical instruments: pelvimeters and forceps in nineteenth-century Mexico

This session will differ slightly from our usual format. The paper will be available one week beforehand (contact Sarah Hodges) and Dr Chazaro will kick off the hour with a few words situating the paper within her larger project. We will then spend the remainder of the hour discussing the pre-circulated text. All welcome.

Cabinet of Natural History

The seminar will meet on **Mondays at 1pm in Seminar Room 1**. You are most welcome to bring your lunch with you!

For further information contact Sujit Sivasundaram.

- 28 April **Chien-Hui Li (Wolfson College, Cambridge)**
Mobilizing religion in the anti-vivisection movement in Britain, 1875-1914
- 12 May **Julia Voss (Max Planck Institute for the History of Science, Berlin)**
Darwin the formalist: the sequence of the Argus pheasant's feather in
Descent of Man
- 19 May **Jonathan Topham (University of Leeds)**
Taking scissors and paste to nature: the 'Mirror of Literature' (1822-49) and
the invention of popular science
- 26 May **Liba Taub (HPS, Cambridge)**
Out of the hands of Zeus: characterising ancient meteorology
- 2 June **Judith Green (King's College, Cambridge)**
Collecting China: types and taxonomies
- 9 June **CABINET GARDEN PARTY**
12noon in King's College Fellows' Garden, Queens' Road; with a short talk:
Sujit Sivasundaram (Gonville and Caius College, Cambridge)
Captive elephants, the East India Company's army and anthropomorphism

Seminar programmes are sent out at the start of each term to the names on our mailing list. Please contact us if you would like to be added to or removed from the mailing list, or if you change your address. This seminar programme is also available on the Department's website at **www.hps.cam.ac.uk**

Department of History and Philosophy of Science, University of Cambridge
Free School Lane, Cambridge CB2 3RH

Telephone: 01223 334500 Fax: 01223 334554

E-mail: hps-admin@lists.cam.ac.uk

Epistemology Reading Group

We will be reading Hilary Putnam's *Reason, Truth and History* (CUP, 1981). The book is available in paperback from the CUP bookshop, and two copies are on reserve in the Whipple Library. Each meeting of the group will focus on one chapter, with a member of the group offering a preliminary evaluation, followed by a general discussion.

Meetings will take place on **Thursdays at 2pm in Seminar Room 1** (except the meeting on 8 May, which will be in Seminar Room 2) and are open to all.

Organised by Peter Lipton

24 April	'Brains in a Vat'
1 May	'A Problem about Reference'
8 May	'Two Philosophical Perspectives'
15 May	'Mind and Body'
22 May	'Two Conceptions of Rationality'
29 May	'Fact and Value'
5 June	'Reason and History'
12 June	'The Impact of Science on Modern Conceptions of Rationality'
19 June	'Values, Facts and Cognition'

Environmental History Reading Group

The Environmental History Reading Group meets on **Tuesdays at 3.00pm in Seminar Room 2**. Copies of readings are available in the Whipple Library. Everyone is welcome. Organised by Edmund Russell.

This term we are featuring two works that won prizes in 2003 from the American Society for Environmental History.

29 April	John Soluri, 'Accounting for Taste: Export Bananas, Mass Markets, and Panama Disease', <i>Environmental History</i> (July 2002): Winner of the Leopold-Hidy Prize for Best Article in <i>Environmental History</i>
13 May	William Boyd, 'Making Meat: Science, Technology, and American Poultry Production', <i>Technology and Culture</i> 42 (October 2001): 631-664. Winner of the Alice Hamilton Prize for Best Article outside <i>Environmental History</i>
3 June	Timo Myllyntaus and Mikko Saikku, <i>Encountering the Past in Nature: Essays in Environmental History</i> (Athens: Ohio University Press, 2001). Selected portion will be placed on reserve at Whipple when our ordered copy of the book arrives

History of Science Workshop

The History of Science Workshop is a seminar group devoted to peer discussion of 'work in progress' on the history and historiography of science; for example PhD chapters, dissertations, or articles intended for publication. The seminar aims to provide an informal arena for the exchange of ideas among students of the history of science in HPS and elsewhere.

We meet on **alternate Wednesdays at 1pm in Seminar Room 1**. Papers are circulated by e-mail before each meeting, and a copy is left in Box File 30 in the Whipple Library. Please contact Katherine Angel if you would like to give a paper or add your name to the e-mail list.

- 14 May **Susan Gamble:** The lure of the illusion: Gabriel Lippmann's 'Virtual Reality' of 1908
- 28 May **Ayesha Nathoo:** Negotiating the transplantable heart: medical communication in Britain, 1968
- 11 June **Katie Eagleton and Matthew Spencer:** Using science to do history: making manuscript stemmas using methods from evolutionary biology
-

Philosophy Workshop

The PW is a fortnightly peer group seminar devoted to the discussion of on-going work by researchers in philosophy. Short papers will normally be circulated by e-mail one week in advance of each meeting, where the author will give a brief synopsis. The aim of the seminar is to provide a forum for informal, constructive interaction amongst those currently engaged in philosophical research.

Meetings take place **every other Wednesday at 1pm in Seminar Room 1**, and are open to all researchers. For more information or to add your name to the list of e-mail recipients, contact Tim Lewens.

- 7 May **Thomas Forster:** TBA
- 21 May **Peter Lipton:** The empirical stance
- 4 June **Martin Kusch:** Kripkenstein and SSK
- 18 June **Axel Gelfert:** Empiricism and the function of testimony

Science and Literature Reading Group

The group will continue to meet fortnightly, but we are changing the day and time to **Wednesday evenings at 7.30pm**, in the upstairs seminar room at Darwin College. After the meetings we usually go for a drink in the college bar. Everyone is welcome. Organised by Jim Endersby

This term we will be reading a series of critical essays that deal with some of the more theoretical aspects of reading and writing science and literature. A collection of these – for which there will be a small charge – will be available from Jim Endersby at the start of term. NB: University Library catalogue numbers are given in [brackets], Whipple library catalogue numbers are in {curly braces}. Some college and departmental libraries may also have copies.

- 30 April Douglas Chambers, 'Introduction: Methodically Digested', from *The reinvention of the world: English writing 1650–1750*. 1996. [UL 730:2.c.95.268]
Robert Darnton 'Philosophers Trim', in *The great cat massacre and other episodes in French cultural history* (1985) [Uc.7.9629] {D.28}
Richard Yeo 'From commonplace books to encyclopaedias', in *Encyclopaedic Visions* (2001). [760:1.b.200.10] {C.589}
- 14 May Helen Small, 'A pulse of 124: Charles Dickens and a pathology of the mid-Victorian reading public'. In *The Practice and Representation of Reading in England*, Raven, Small and Tadmor (eds.). [700:1.c.95.1463] {F.383}
Gillian Beer 'Forging the Missing Link: Interdisciplinary Stories', chapter six of her collection *Open Fields: Science in Cultural Encounter* (1999). [730:4.c.95.384] {E.715}
- 28 May Jonathan Smith 'Une Fleur du Mal? Swinburne's "The Sundew" and Darwin's Insectivorous Plants', special issue of *Victorian Poetry* (forthcoming).
Peter Kemp, 'The Slave Goddess: Wells and Sex' in *H.G. Wells and the Culminating Ape: biological imperatives and imaginative obsession* (1996). [730:4.c.95.454]
- 11 June Jeff Wallace, "'The World Before Eyes": Calvino, Barthes and Science', in *The Third Culture: Literature and Science* (ed.) Elinor S. Shaffer (1998). [700:1.c.95.1664] {E.866}
Lisa Steinman, 'Marianne Moore: The Anaconda-Like Curves of Central Bearings', in *Made in America: Science, Technology and American Modernist Poets* (1987), pp. 113-132. Plus Moore's poem 'The Student'. [721:29.c.95.354]
-

Science and the Visual Reading Group

This term we discuss 'Science and Cinema'. Meetings are **every other Friday**, starting 25 April, at **1pm in Seminar Room 1**. See www.hps.cam.ac.uk/dept/seminars.html for the full list of readings, which are available for photocopying in the Science and the Visual Reading Group box in the Whipple Library. We'll also have a special screening of Fritz Lang's *Metropolis* on Sunday 1 June at 5.30pm in the Anthony Low Building, Clare Hall.

All are welcome. Feel free to bring your lunch. Organised by Michael Bresalier, Tatjana Buklijas and Ayako Sakurai.

Medieval Science & Philosophy Reading Group

We will be reading selections from *The Cambridge Translations of Medieval Philosophical Texts Volume Three: Mind and Knowledge*. This book is available in paperback from the CUP shop, and there is a copy on reserve in the Whipple Library. The selections are concerned primarily with the nature of the objects of knowledge.

The group will meet in **L1 Great Court, Trinity College at 1pm on Thursdays**, and each session will consist of a discussion of a section of the text, introduced by one member of the group. Everyone is welcome, and welcome to bring their lunch.

Further information is available from David Chart.

- 24 April Peter John Olivi, *The Mental Word*
 - 1 May William Alnwick, *Intelligible Being* pp 152–164
 - 8 May William Alnwick, *Intelligible Being* pp 164–177
 - 15 May William Ockham, *Apparent Being* pp 219–230
 - 22 May William Ockham, *Apparent Being* pp 231–244
 - 29 May Robert Holcot, *Can God Know More Than He Knows?*
 - 5 June Adam Wodeham, *The Objects of Knowledge* pp 318–341
 - 12 June Adam Wodeham, *The Objects of Knowledge* pp 341–351
-

EPACTS

Early Physics, Astronomy, Cosmology and Technology Seminar

This term, EPACTS will be discussing two primary sources. The first of these, Girolamo Cardano's *De Vita Propria Liber (The Book of My Life)*, translated by Jean Stoner, is available in several libraries around Cambridge; a new edition, with an introduction by Anthony Grafton, has recently been published by the New York Review of Books and is available at a reasonable price from both Amazon and Blackwells. The second source is Polydore Vergil's *De Inventoribus Rerum (On Discovery)*, as translated by Brian Copenhaver in the I Tatti Renaissance Library series. This is also available to buy, and hopefully will be in the Whipple by the time we come to read it.

All of the meetings (with the exception of the punt party), will take place **fortnightly on Wednesdays at 6pm in M4 New Court, Trinity College**. Everyone is welcome. Organised by Adam Mosley.

- 30 April Cardano, *The Book of My Life*, Chs. 1-28
- 14 May Cardano, *The Book of My Life*, Chs. 29-41
- 28 May Cardano, *The Book of My Life*, Chs. 42-54
- 11 June Polydore Vergil, *On Discovery*, Bk. I, Chs. 12, 14, 16-24; Bk. II, Chs. 4-11; Bk. III, Ch. 18
- 24 June Annual EPACTS Midsummer Punt Party (Weather Permitting). Details TBA

Philosophy of Language Reading Group

We will be reading papers from Hartry Field's collection *Truth and the Absence of Fact* (Oxford University Press, 2001). Hartry Field has kindly agreed to join the group for a Q&A session at the end of term. His book is available in paperback in the Philosophy section at Heffers, and a copy has been placed on reserve in the Whipple Library (M1341). Some cheap copies have also occasionally been seen in Galloway and Porter. Each meeting of the group will focus on one paper, with a member of the group offering an informal presentation, followed by a general discussion.

Meetings will take place on **Mondays 1-2pm in Seminar Room 2**. All are welcome, and please feel free to bring your lunch.

Organised by Mark Sprevak, Axel Gelfert and Christina McLeish

28 April	Tarski's Theory of Truth
5 May	Deflationist Views on Meaning and Content
12 May	Attributions of Meaning and Content
19 May	Theory Change and the Indeterminacy of Reference
26 May	Quine and the Correspondence Theory
2 June	Disquotational Truth and Factually Defective Discourse
9 June	Some Thoughts on Radical Indeterminacy
16 June	Indeterminacy, Degree of Belief, and Excluded Middle

Latin Therapy Group

We are a group of postgraduate historians of science (and some other disciplines) who have to read Latin sources as part of our research. The aim is general language practice for those whose Latin is rusty (or never got to the stage where it had the chance to rust!), and mutual help with translation of difficult passages. Members take turns to bring short extracts from the texts they are working on to the whole group; these are circulated several days before the meeting so that we can all have a shot at translating them and compare our results.

We meet **4.00-5.30pm on Fridays in Seminar Room 1**, starting on the first Friday of full term (25 April). Coffee, tea and biscuits are provided for refreshment and mental stimulation. No text is too bizarre for us, whether classical, medieval or neo-Latin!

Please contact Jenny Downes if you are interested in joining.