

# Seminars

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## Departmental Seminars

Seminars are held on **Thursdays from 4.30 to 6.00pm in Seminar Room 2**, Department of History and Philosophy of Science, Free School Lane, Cambridge. There is tea beforehand from 4pm in Seminar Room 1.

Organised by Nicky Reeves.

- 28 April **Robbie Williams (University of Leeds)**  
Decision making under indeterminacy
- 5 May **Salim Al-Gailani (HPS, Cambridge)**  
The 'Great Ice Age' of anatomy: learning from frozen sections c. 1900
- 12 May **Emma Spary (Faculty of History, Cambridge)**  
Expertise, endorsement and enlightenment: the trials and tribulations of health foods in late eighteenth-century Paris
- 19 May **Alireza Taheri (HPS, Cambridge)**  
Lacan's conceptualization of the relation between psychoanalysis, science and philosophy
- 26 May ***Sixteenth Annual Hans Rausing Lecture (McCrum Lecture Theatre)***  
**Celina Fox**  
Surveying the scene, engineering the machine: drawing things together in the Age of Enlightenment

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Seminar Programmes are sent out at the start of every term to the names on our mailing list. Please contact the Department if you would like to be added to or removed from the mailing list, or if you change your address.

Seminar information is also available at [www.hps.cam.ac.uk/seminars](http://www.hps.cam.ac.uk/seminars)

Details of the Department's programme of graduate training workshops – for graduate students and postdoctoral researchers – are available at [www.hps.cam.ac.uk/students/training](http://www.hps.cam.ac.uk/students/training) and in the Graduate Handbook.

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# Abstracts

28 April **Robbie Williams (University of Leeds)**

Decision making under indeterminacy

When making a decision, sometimes we know what consequences each course of action will lead to. In other cases, we have to act without being sure whether the action we take secures the outcome we want. Decision theory (à la Ramsey, Savage, Jeffrey) is an attempt to analyze such situations.

But sometimes, we know (under at least one description) what outcome will result from each course of action open to us, but this is not enough to tell us whether what we want will be secured. This situation can be generated when our desires are formulated in terms infected with vagueness, indeterminacy and the like. For example, you might wish to refrain from killing a living being, but judge that there is ‘no fact of the matter’ whether a destructive act counts as such a killing. Or you might want to secure good things for your future self, but judge that it is indeterminate whether the person who benefits from a given action is really *you*.

I will develop a model of rational action under indeterminacy, drawing on work on ‘imprecise probabilities’ (prominent advocates of this as a model of uncertainty include Isaac Levi, Richard Jeffrey and Bas van Fraassen). The story will recommend a certain kind of mixed or randomized action, which fits nicely with a kind of ‘inconstancy’ that Crispin Wright has long argued is characteristic of our judgements in borderline cases of vague predicates. The decision-rule I describe at first glance recommends certain kinds of inconsistent patterns of behaviour over time – I show how it can be implemented to avoid this.

Finally, I’ll apply the machinery developed to a touchstone puzzle of vagueness – the forced march sorites. The nice predictions it delivers here are evidence that the model of the conception of indeterminacy being developed is on the right track.

5 May **Salim Al-Gailani (HPS, Cambridge)**

The ‘Great Ice Age’ of anatomy: learning from frozen sections c. 1900

In the late nineteenth century anatomists claimed a new technique of slicing frozen corpses into sections translated the three-dimensional complexity of the human body into flat, easy-to-read and unprecedentedly accurate images. While histories of anatomical illustration consider frozen sectioning part of a longer trend towards precision in scientific image-making, I use the technique to expand our view of the place of visual aids in nineteenth-century medicine. Traditionally hostile to visual aids, elite anatomists controversially claimed frozen sections had replaced dissection as the ‘true anatomy’. Even more remarkably, obstetricians adopted the technique to challenge anatomists’ authority and reform how clinicians made and used pictures. I show that attempts to introduce frozen-section anatomy into such clinical disciplines as obstetrics and surgery reignited debates over whether medical expertise was constituted from images or through practical experience in the dissecting-room and at the bedside. Studying the making, uses and reception of frozen section anatomy broadens our understanding of the politics of representation in scientific practice.

12 May **Emma Spary (Faculty of History, Cambridge)**

Expertise, endorsement and enlightenment: the trials and tribulations of health foods in late eighteenth-century Paris

In this paper I will extend a discussion over expertise that has recently engaged both historians and sociologists of knowledge to a slightly unlikely topic: health foods. Drawing upon the institutional trials of food products marketed in eighteenth-century Paris for their health-giving properties, I will consider how and why producers of these specialised foods laid claim to scientific and medical enlightenment on their own behalf, and why they courted endorsements from the royal, scientific and medical institutions in the French capital. Considering Paris's Société Royale de Médecine (1776–1793) in particular, the paper will explore the ways in which the endorsement process affirmed, but also potentially compromised, the public authority of such institutions. As the Société laid claim to the role of neutral arbiter of natural knowledge, it increasingly needed to distance its official pronouncements about food products from established practices of endorsement. The views of entrepreneurs about the public role of this and other royal institutions, on the other hand, were very different. The construction of scientific and medical expertise within the public domain was thus, as Thomas Broman has shown, a complex process involving several different categories of actors, each of which produced its own configuration of the relationships between institutions, experts, producers and consumers.

19 May **Alireza Taheri (HPS, Cambridge)**

Lacan's conceptualization of the relation between psychoanalysis, science and philosophy

Psychoanalysis has been the subject of controversial critiques from a multitude of perspectives. Prominent among these are Masson's critique of Freud's abandonment of seduction theory, Sokal and Bricmont's critique of Lacan's 'abuse' of scientific and mathematical concepts, Foucault's critique of the 'repressive hypothesis' and psychoanalysis' pretence to universality (rather than seeing itself as merely one among many other 'hermeneutics of self'), Popper's critique of non-falsifiability and so on. Given the controversies surrounding psychoanalysis in general and Lacanian theory in particular, this talk will consider two related questions. The first concerns the scientificity (or lack thereof) of psychoanalysis. The second involves a critique of modern science in light of the Lacanian notion of the subject. Central themes involved in the elaboration of these two questions will be 1. the role of linguistics in Lacanian theory, 2. the importance accorded to mathematical formalization in Lacan's understanding of the scientific revolution (can psychoanalysis aspire to such formalization?), 3. the notion of the 'divided subject', 4. Lacan's attempt to rigorously demarcate psychoanalysis, distinguishing it from science, religion and magic, and finally 5. Lacan's equation of the 'subject of science' with the psychoanalytic notion of the 'subject of the unconscious' in light of the Cartesian *Cogito*.

# Cabinet of Natural History

This research seminar is concerned with all aspects of the history of natural history and the field and environmental sciences. The regular programme of papers and discussions takes place over lunch on Mondays. In addition, the Cabinet organises a beginning-of-year fungus hunt and occasional expeditions to sites of historical and natural historical interest, and holds an end-of-year garden party.

Seminars are held on **Mondays at 1pm in Seminar Room 1**. You are welcome to bring your lunch with you.

Organised by Caitlin Wylie.

9 May **Expedition:** We'll travel to Sutton Hoo, a National Trust Anglo Saxon archeological site, with **Claire Wallace** of the Whipple Museum as our guide. We'll leave from HPS at noon. Drivers needed! More information and a sign-up sheet to follow.

16 May **Melanie Keene (Homerton College, Cambridge)**  
The fairy-tales of science

23 May **Donald Opitz (DePaul University, Chicago)**  
Victoria's secret: science and the monarchy

6 June **Sandra Knapp (Natural History Museum, London)**  
The gilded canopy: the botanical ceilings of the Natural History Museum

Friday 10 June **Garden Party:** Talk by **Vanessa Heggie (HPS, Cambridge)**, 'Why isn't exploration a science?'. Meet in Christ's College garden, 12–2pm. Snacks and drinks provided.

# Twentieth Century Think Tank

The Think Tank offers broad coverage of 20th-century and contemporary topics in the history and philosophy of science.

For Easter Term 2011, the Think Tank will not be running seminars, and will instead host three film evenings curated by members of the Department, details of which TBC. Films will be shown at 6.30pm in the Queen's Building, Emmanuel College, on the following dates:

26 April  
10 May  
24 May

For more information email [hps-think-tank@lists.cam.ac.uk](mailto:hps-think-tank@lists.cam.ac.uk)

# Graduate workshops

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## HPS History Workshop

The HPS History Workshop is a seminar group devoted to peer discussion of work in progress in all areas of the history of science, medicine and technology. All HPS postgraduate students with an interest in history are welcome to present draft MPhil essays, PhD chapters, conference papers, etc. The workshop encourages friendly and constructive feedback while providing a fortnightly point of contact for postgraduate historians at HPS.

Sessions will be held on alternate **Wednesdays in Seminar Room 1, 1pm–2pm**.

Organised by Alexandra Bacopoulos-Viau.

4 May **Jiri Hudecek (HPS, Cambridge)**

Ancient Chinese mathematics in action: Wu Wen-Tsun's ethnic historicism after the Cultural Revolution

18 May **Michael Bycroft (HPS, Cambridge)**

Did wonders ever cease? The singular, shining and spectacular in Charles Dufay's 'Mémoires sur l'électricité' (1733–7)

1 June Special joint session: **Joeri Witteveen (HPS, Cambridge)** and **Pierre-Olivier Méthot (University of Exeter)**

History and philosophy of biology: new perspectives?

## HPS Philosophy Workshop

The HPS Philosophy Workshop is a fortnightly seminar devoted to the discussion of on-going work by researchers in philosophy. Papers are invited from all graduate students and post-docs: it is a great format for getting some constructive and informal feedback on an essay, PhD chapter or potential article. Papers are circulated by email one week in advance of each meeting – the author will then give a brief synopsis on the day followed by roughly 45 minutes of Q&A.

Meetings take place **every other Wednesday from 1–2pm in Seminar Room 1**. The meeting dates are as follows:

11 May

25 May

8 June

If you would like to present, or have any questions, please contact Emily McTernan.

# Reading and discussion groups

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## AD HOC

AD HOC is a history of chemistry reading group based in Cambridge and London. While our main focus is historical, we also consider the philosophical, sociological, public and educational dimensions of chemistry. This term's theme is 'Chemistry and Education'.

The group meets four times per term, on **Wednesdays, 5pm–6.30pm in Seminar Room 1**. Readings are available from the Whipple Library, and also circulated via our mailing list. A parallel series of meetings is held in London. For details visit our website, [www.hps.cam.ac.uk/adhoc](http://www.hps.cam.ac.uk/adhoc).

Organised by Hasok Chang and Jenny Rampling.

11 May 'Chemistry in the curriculum'

Introduced by **Keith Taber (Faculty of Education, Cambridge)**

K. S. Taber, 'The atom in the chemistry curriculum: fundamental concept, teaching model or epistemological obstacle?' *Foundations of Chemistry* 5(1) (2003): 43–84.

K. S. Taber, 'A common core to chemical conceptions: learners' conceptions of chemical stability, change and bonding' (draft chapter).

18 May 'Learning chemistry from books'

Introduced by **Hasok Chang and Jenny Rampling (HPS, Cambridge)**

Ch. 3, Bruce Moran, *Andreas Libavius and the Transformation of Alchemy: Separating Chemical Cultures with Polemical Fire* (Sagamore Beach, MA: Science History Publications, 2007), pp. 31–52.

Brian Dolan, 'The language of experiment in chemical textbooks: some examples from early nineteenth-century Britain', in Anders Lundgren & Bernadette Bensaude-Vincent (eds.), *Communicating Chemistry: Textbooks and Their Audiences 1789–1939* (Canton, MA: Science History Publications, 2000), pp. 141–164.

1 June 'Chemistry courses in the Enlightenment and beyond'

Introduced by **Robert Anderson (Clare Hall, Cambridge)** and **John Perkins (Oxford Brookes University)**

John Perkins, 'Chemistry courses, the Parisian chemical world and the chemical revolution, 1770–1790', *Ambix* 57(1) (2010): 27–47.

Robert G. W. Anderson, 'Chemistry beyond the academy: diversity in Scotland in the early nineteenth century', *Ambix* 57(1) (2010): 84–103.

8 June 'Chemistry in Cambridge'

Introduced by **Simon Schaffer (HPS, Cambridge)**

Simon Schaffer and Larry Stewart, 'Vignani and after: chemical enterprise in Cambridge 1680–1780', in Mary Archer & Christopher Haley (eds.), *The 1702 Chair of Chemistry at Cambridge: Transformation and Change* (Cambridge: CUP, 2005), pp. 31–56.

## Philosophy of Science Reading Group

This term we will be looking at a selection of readings on classical and contemporary pragmatism. Meetings will involve a short presentation by a member of the group followed by a general discussion.

Meetings will take place on **Thursdays at 2pm in Seminar Room 1** and are open to all. Organised by Jonathan Birch and Hasok Chang.

- 28 April Hilary Putnam, 'Introductory Remarks' and 'The Permanence of William James', chapter 1 of *Pragmatism: An Open Question* (1995, Blackwell).
- 5 May Hilary Putnam, 'Was Wittgenstein a Pragmatist?', chapter 2 of *Pragmatism: An Open Question*.
- 12 May Hilary Putnam, 'Pragmatism and the Contemporary Debate', chapter 3 of *Pragmatism: An Open Question*.
- 19 May Richard Rorty, 'Privileged Representations', chapter IV of *Philosophy and the Mirror of Nature* (1979, Princeton University Press).

## Philosophy of Biology Reading Group

This term we will be reading *Signals: Evolution, Learning, and Information* by Brian Skyrms.

Meetings will take place on **Fridays at 2pm in the Lodge Seminar Room** and are open to all. Organised by Jonathan Birch and Joeri Witteveen.

The schedule for the first four weeks is as follows:

- 29 April Introduction, ch. 1 'Signals'
- 6 May Ch. 2 'Signals in Nature' and ch. 3 'Information'
- 13 May Ch. 4 'Evolution' and ch. 5 'Evolution in Lewis Signaling Games'
- 20 May Ch. 6 'Deception' and ch. 7 'Learning'

## Generation to Reproduction Reading Group

This group discusses pre-circulated papers, classics as well as our own work, in the area of our Wellcome Trust strategic award in the history of medicine ([www.reproduction.group.cam.ac.uk](http://www.reproduction.group.cam.ac.uk)). We also hold work-in-progress sessions.

This term's meetings will be at **5–7pm** (tea from 4.50) on **Tuesdays 10 and 24 May in Seminar Room 1**. To join the group, please email [generate@hermes.cam.ac.uk](mailto:generate@hermes.cam.ac.uk)

# Twentieth-Century Biology Reading Group

The group will discuss papers relating to the history, philosophy and historiography of twentieth-century biology. Articles will be placed well in advance in a box in the Whipple Library. Meetings are **every other Tuesday from 1–2pm in the Lodge Seminar Room**.

Organised by Dmitriy Myelnikov.

3 May Historiographic reflections on biological disciplines

Introduced by **Dmitriy Myelnikov**

Caron, Joseph A. “‘Biology’ in the Life Sciences: A Historiographical Contribution”, *History of Science* 26 (1988): 223–68.

Powell, Alexander, Maureen A. O’Malley, Staffan Müller-Wille, Jane Calvert, and John Dupré. ‘Disciplinary Baptisms: A Comparison of the Naming Stories of Genetics, Molecular Biology, Genomics, and Systems Biology’, *History and Philosophy of the Life Sciences* 29, no. 1 (2007): 5–32.

17 May Human genetics in the Third Reich

Introduced by **Jenny Bangham**

Weiss, Sheila Faith. *The Nazi Symbiosis: Human Genetics and Politics in the Third Reich*. Chicago: University of Chicago Press, 2010. Chapters 4 (pp.184–218) and 5 (pp. 219–264).

31 May Anthropological encounters and biomedical exchanges

Introduced by **Salim Al-Gailani**

Anderson, Warwick. *The Collectors of Lost Souls: Turning Kuru Scientists into Whitemen*. Baltimore: The Johns Hopkins University Press, 2008. Introduction (pp. 1–8), Chapters 4 (pp. 91–115) and 6 (pp. 133–160).

# Science and Literature Reading Group

## Our Animal Friends

We meet on **Mondays from 7.30 to 9pm in the Skillicorn Room at Homerton College**. Some of the readings are available online: follow the links at [www.hps.cam.ac.uk/seminars](http://www.hps.cam.ac.uk/seminars).

Organised by Daniel Friesner (Science Museum), Melanie Keene (Homerton College) and Liz Smith (Darwin Correspondence Project). For more information, or to join our email list, please contact Daniel Friesner or Liz Smith. *All welcome!*

9 May Charles Darwin, *Expression of the Emotions* (1872), pp. 116–146

Mary Martha Sherwood, *Soffrona and her cat Muff* (1828), pp. 6–31. Reprinted in *In Nature’s Name* (2002), edited by Barbara T. Gates

Jack London, *White Fang* (1915), part IV

23 May Rudyard Kipling, *Just So Stories* (1902): Camel, Leopard, Rhinoceros and Elephant

Stephen J. O’Brien, *Tears of the cheetah, and other tales from the genetic frontier* (2003), selection TBA

6 June James Herriot, *All Creatures Great and Small* (1976), chapters 1–3

Hugh Lofting, *Voyages of Doctor Dolittle* (1922), chapters 1–3

H.G. Wells, *Island of Doctor Moreau* (1896), ‘Doctor Moreau explains’

# History and Theory Reading Group

## Historiographical Functions of Experiment

In this series of three meetings, we will explore the historiographical uses of experiments. In recent decades many historians of science have plunged into the lab, attempting to replicate various past scientific experiments with some interesting results. But what exactly does the success or failure of replication teach us? How do we access knowledge about experiments described in past texts? How do we identify and interpret bygone events in the laboratory or on the dissection table? How should the historian handle seemingly impossible or absurd experimental claims by past scientists? And if past experiments can be replicated, then is it legitimate for the historian to vary or extend those experiments to learn more?

We meet on **Fridays, 2.30pm to 4pm in Seminar Room 1**. Organised by Jenny Bangham, Hasok Chang, Katharina Kraus and Jenny Rampling.

### 27 May **Hasok Chang (HPS, Cambridge)**

Introduction; Complementary experiments

Hasok Chang, 'How Historical Experiments Can Improve Scientific Knowledge and Science Education: The Cases of Boiling Water and Electrochemistry', *Science and Education* 20 (2011), 317–341 (DOI 10.1007/s11191-010-9301-8). This paper will be discussed along with video clips of some key electrochemical experiments.

Additional recommended reading: Hasok Chang, 'The Myth of the Boiling Point'. Online article with video clips of experiments: [www.hps.cam.ac.uk/people/chang/boiling/](http://www.hps.cam.ac.uk/people/chang/boiling/)

### 3 June **Jennifer Rampling (HPS, Cambridge)**

Impossible experiments

Lawrence M. Principe, 'Apparatus and Reproducibility in Alchemy'. In Frederic L. Holmes & Trevor H. Levere (eds.), *Instruments and Experimentation in the History of Chemistry* (Cambridge, MA: MIT Press, 2000): 55–74. This will be discussed alongside photos of some recent attempts to reproduce alchemical recipes.

Additional recommended reading: Vera Keller, 'Drebbel's Living Instruments, Hartmann's Microcosm, and Libavius's Thelesmos: Epistemic Machines before Descartes', *History of Science* 48 (2010), 39–74.

### 10 June **Karin Ekholm (HPS, Cambridge)**

Anatomical experiments

Fabricius ab Aquapendente, 'The Fleishy Substance' and 'The Cotyledons' in *The embryological treatises of Hieronymus Fabricius of Aquapendente: The formation of the egg and of the chick and The formed fetus, a facsimile edition with an introduction, a translation, and a commentary by Howard B. Adelman*, Vol. I, pp. 249, 251–59 [notes in Vol II, pp. 749–60].

William Harvey, 'Preface' to *Anatomical exercitacions concerning the generation of living creatures to which are added particular discourses of births and of conceptions, &c.* (London, 1653).

Discussion will focus on the use of anatomical dissections to understand primary source texts and consider the problems such replications entail.

## Kant Reading Group

In Easter Term, we will read the *Transcendental Deduction of the Categories* according to the second edition of the *Critique of Pure Reason* (1787). In the Transcendental Deduction, Kant aims to show that the categories, the pure concepts of the understanding derived in the Metaphysical Deduction, are conditions of all possible experience. This means that they are *a priori* grounds that feature as necessary components in any possible experience. This argument is known as one of the most obscure, though most fascinating, parts of the *Critique*.

Meetings are held in the **HPS Lodge from 3.30–5.00pm on Tuesdays**. They begin with a short presentation and are followed by general discussion. All are most welcome. If you have any questions, please feel free to contact Katharina Kraus.

**Kant, Immanuel (1781/7, 1998) (CpR)** *Critique of Pure Reason*, trans. and ed. P. Guyer and A.W. Wood, Cambridge: CUP.

- 3 May § 15. B129 – B131  
§ 16. B131 – B136
- 10 May § 17. B136 – B139  
§ 18. B139 – B140  
§ 19. B140 – B142
- 17 May § 20. B143  
§ 21. B144 – B146  
§ 22. B146 – B148
- 24 May § 23. B148 – B149  
§ 24. B150 – B156  
§ 25. B157 – B159
- 31 May § 26. B159 – B165  
§ 27. B165 – B169

## Particles and Fields Reading Group

This new reading group will meet on **Tuesdays, 2–3pm in Seminar Room 1** in the first four weeks of term. Organised by Jeremy Butterfield and Hasok Chang.

- 3 May **Jeremy Butterfield** introduces:  
Mary Hesse, *Forces and Fields*, Chapters 6, 7 and 8.
- 10 May **Nazim Bouatta** introduces:  
Marc Lange, *The Philosophy of Physics*, Blackwell, Chapter 5.
- 17 May **Hasok Chang** introduces:  
Robert E. Schofield, *Mechanism and Materialism: British Natural Philosophy in An Age of Reason* (Princeton University Press, 1970), Chapter 1: ‘Newton’s Legacy’ (pp. 3–16), and Chapter 10: ‘Forces, Fluid Dynamics, and Fields’ (pp. 235–276).
- 24 May **Lena Zuchowski** introduces:  
M. Frisch, *Inconsistency, Asymmetry and Non-Locality*, OUP, Chapter 2–3.  
G. Belot, ‘Understanding electromagnetism’, *British Journal for the Philosophy of Science* 49, 1998, p. 531–555.

# Language groups

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## Latin Therapy

Latin Therapy will meet on **Fridays in the HPS Lodge from 4–5.30pm**. All levels are welcome and beginners are strongly encouraged to come along. Each week we will cover some introductory grammar, followed by a text suggested by members. The pain of the ablative absolute will be salved with copious tea and biscuits!

More information can be found at our website: [www.hps.cam.ac.uk/latintherapy](http://www.hps.cam.ac.uk/latintherapy). To be added to the mailing list, or to suggest a text, please contact Susannah Gibson.

## Greek Therapy

Greek Therapy meets **every Wednesday during term time in the HPS Lodge from 5.15 to 7.15pm**. We are an informal group for beginners and for experienced readers of Greek seeking to brush up their skills. The first hour of every session consists of a basic grammar session and reading simple texts, followed by an hour of reading from Plato's *Theaetetus*. For information or to be added to the mailing list, please contact Liz Smith.