“Reason and Unreason in 21st Century Science”

An invitation only dialogue, to be held
Monday 11 April – Wednesday 13 April 2011
at Christ’s College Cambridge

Programme

convened by:

Peter Lachmann (Cambridge, UK)
Lars Walløe (Oslo, NO)
Dagfinn Føllesdal (Oslo, NO)
Herbert Huppert (Cambridge, UK)
Jürgen Mittelstrass (Konstanz, D)
John Harris (Manchester, UK)
Leopoldina Fortunati (Udine, ITA)
Carine Petit (Brussels, BE - COST)
Alan Richardson (Royal Institution, London, UK)

Dialogue rationale:

1. The second half of the twentieth century saw spectacular advances in both the physical and the biological sciences. The former have given us a much clearer picture of how the universe and the earth came into being and of how physical world works. We understand what causes earthquakes and volcanic eruptions and many of the factors that influence climate. The latter has seen the rise of molecular biology in all its forms and have lead to major improvements in public health and medicine which have substantially contributed to longer, healthy lifespan and have opened up the prospects of many other biologically based advances.

During this period there has come into view a dynamic and an increasingly audible range of voices with varying degrees of influence, that seem to reject modern science and scholarship and the views of the European Enlightenment as a whole.

2. For some voices, the impossibility of reconciling our knowledge of the physical world with the creation accounts in Genesis, or our knowledge or evolution with its story of the creation of Man demonstrates that ‘science must be wrong’. Other voices, which might be considered by most in the scientific profession to be ‘non-rational’, extend their objections into many other fields. Alternative medicine, vaccination, climate science, reproductive technologies and genetic modification of food plants are some striking examples.
3. This high-level workshop will explore the possible evidence base that might underpin reasons for these ‘alternative’ views. We will investigate whether there are any plausible grounds for a reasonable and reasoned scientific scepticism in 21st century science, what might motivate it and how such scepticism may be reconciled with known scientific realities. This will require an authoritative evaluation of the science involved (including what is not so far known) and a pragmatic approach to how to communicate this to a non-scientific audience. The workshop will also explore evidence for and reasons why an ‘anti-enlightenment’ movement might once again be able to flourish at the beginning of the twenty-first century.

4. It is intended that the discussions will produce a number of outputs: Firstly a series of coherent academic reviews of the topic for publication in the literature. Second a critique of the debates and issues for dissemination to a non-expert audience and thirdly, a roadmap of potential research and network topics that might be developed into new international network proposals.

Monday 11 April 2011

12:00pm  Registration and welcome lunch

14:30 – 17:30  **Session 1 – Origins of Reason, Methodology and the Rise of Irrationality**

Chair:

**Session rationale:** Science can be defined as the endeavour to give general explanations, based on experimental and observational evidence, for sets of particular phenomena. Karl Popper proposed that this required scientific hypotheses to be expressed in a form that allowed them to be falsified by experiment or observation. The history of science from ancient times to the European Enlightenment and beyond; and its distinction from technology and from other endeavours to provide explanations of the natural world will be explored. The rise of irrational movements, particularly since the second world war, that reject science and the European Enlightenment altogether will be described and analysed with a view to establishing their causes and to finding ways to counter their influence.

**Speakers and discussants will be drawn from:**

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<tr>
<th>Name</th>
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<th>Website/Details</th>
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<td>Michael Friedman (USA)</td>
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<td>Lewis Wolpert (UK)</td>
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<tr>
<td>Tracey Brown (UK)</td>
<td>confirmed</td>
<td><a href="http://www.senseaboutscience.org">www.senseaboutscience.org</a></td>
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<tr>
<td>Tilley Tansey (UK)</td>
<td>confirmed</td>
<td><a href="http://www.ucl.ac.uk/histmed/people/academics/tansey">www.ucl.ac.uk/histmed/people/academics/tansey</a></td>
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<tr>
<td>Martin Carrier (D)</td>
<td>confirmed</td>
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<tr>
<td>Dermot Moran (IRL)</td>
<td>confirmed</td>
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Tuesday 12 April 2011
Session 2 – Risk, Probability and the Precautionary Principle in Scientific Scepticism

Chair: Lars Walløe

Session rationale: The physical world is “probabilistic” as Maxwell’s Demon should have demonstrated to every child learning physics at school. However, the concepts of probability and of risk are poorly understood by the majority of the public and this has lead to both confusion and corruption in the whole area p – the Precautionary principle being a good example. A proper understanding of probability, of statistics and of risk is essential for all scientific explanations; and their lack underlies much unreason.

Speakers and discussants drawn from:

Giuseppe O. Longo (Trieste, ITA) http://www2.units.it/giuseppelongo
Herbert Huppert (Cambridge, UK) - confirmed
Franco Barberi (ITA)
David Hand (London, UK) - confirmed http://www2.imperial.ac.uk/~djhand/

14:00 – 18:00 Session 3 – Case Studies

Chair:

A. Life Sciences:

Vaccines: Pierre Bégué (Paris, F) – CONFIRMED

Alternative Medicine: Edzard Ernst (Exeter, UK) - CONFIRMED
http://sites.pcmd.ac.uk/compmed/ErnstCV-extended.pdf http://sites.pcmd.ac.uk/compmed/ernst.htm

Genetic Modifications: Inigo Potrykus (CH) - CONFIRMED
http://www.goldenrice.org/Content1-Who/who_Ingo.html

Reproductive technologies:

Linda Nielsen (DK) http://jura.ku.dk/english/staff/profile/?id=6108

B. Physical Sciences:

Herbert Huppert (UK) - CONFIRMED
Stephen Sparks (Bristol, UK) - CONFIRMED
http://www.gly.bris.ac.uk/people/rsjs.html

Climate sciences: Dr. Bernard Legras (LMD-ENS, Paris) - CONFIRMED
Bronislaw Szerszynski (UK) - confirmed
http://www.lancs.ac.uk/fass/sociology/profiles/bonislaw-szerszynski/
Session 4 – Reason and Evidence in Ethics

Chair: John Harris (Manchester)

Session Rational:

Speakers and discussants drawn from:

- Onora O’Neill (UK) - CONFIRMED
- Peter Lachmann (UK) – “Ethics evolve by natural selection”
- Dagfinn Follesdal (NO) - CONFIRMED
- Jesper Hoffmeyer (DK) - CONFIRMED http://www.jhoffmeyer.dk/
- Dermot Moran (Dublin, IRL) - Confirmed
- Juergen Mittelstrass (Konstanz, D) – CONFIRMED
- Martin Carrier (Bielefeld, D) - CONFIRMED

13:00 lunch and end

The dialogue will not be limited to those listed above. All participants will be expected to contribute to debate in all sessions. The maximum number of participants will be 35.

If funds allow, we hope to cover the costs of all invited participants.