

UNIVERSITY COLLEGE LONDON

SOCIOLOGY OF SCIENCE

COURSE OUTLINE



Autumn 2010 Science and Technology Studies

HPSC 3006 Course Convenor: Dr Inga Kroener

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About the department:

You are advised to familiarise yourself with the departmental Student Handbook and consult them on all procedural matters. The notes are available on the departmental web-site at <http://www.ucl.ac.uk/sts/>

About this course:

The aim of this course is to undertake a detailed examination of the sociological contribution to the analysis of science. It examines the complex relationship between science and society and also takes a sociological look at the process by which knowledge is constructed. The course introduces students to the main currents of thought which have been influential in sociology of science through both historical and contemporary studies.

Unlike 1000 and 2000 level courses, this course is largely discussion based (although there will still be lectures). *You will be expected to read a set piece for the seminars and to contribute fully to seminar discussions.*

Classes (lecture/seminar) will take place Wednesdays 11-1pm in Foster Court, Rm. 218.

Reading week, when there is no class, is the week beginning 8 November.

By the end of this course you should:

- Have an understanding of how science works as a social process i.e. how technical knowledge is produced by communities
- Have a detailed knowledge of the main theories in the sociology of science
- Be aware of the strengths and weaknesses of a range of sociological approaches to the analysis of science
- Begin to see links between sociological analyses of science and broader debates in science policy, history of science and philosophy of science

Although this course will draw on more general arguments and ideas in sociology, you will not be expected to become an expert in all of these wider debates. I have provided some reading for anyone who wishes to place each topic in a broader sociological context.

Reading:

The notes that you take in lectures will not be detailed enough to understand a topic or to write an essay on that topic. It is therefore essential that you make use of the reading list.

There are several recent introductory textbooks on the sociology of science, and you are strongly recommended to purchase **one**:

- Yearley, Steve (2005), *Making Sense of Science: Understanding the Social Study of Science* (London: Sage) [A good overview, with a leaning towards more contemporary issues] Abbreviated to **SY** on this reading list;
- Bucchi, Massimiano (2002), *Science in Society: An Introduction to Social Studies of Science* (London: Routledge) [Well written, a little too concise in places but particularly good if you are interested in public understanding/communication of science] Abbreviated to **MB** on this reading list;
- Sismondo, Sergio (2004), *An Introduction to Science and Technology Studies* (Oxford: Blackwell) [Another good introduction, with a greater leaning towards philosophy of science than the other texts]. Abbreviated to **SS** on this reading list.
- David, Matthew (2005), *Science in Society* (Basingstoke: Palgrave). Tends to be aimed more at sociology students, but still a good introduction particularly if you're interested in wider links with social theory Abbreviated to **MD** on this reading list.

Two other general readings:

- Erickson, Mark (2005), *Science, culture and society : understanding science in the twenty-first century* (Not a bad introductory text, but because of breadth including philosophy, history and popularization of science, less suitable for this particular course)
- Hackett, EJ (et al) (2008), *The Handbook of science and technology studies* (Cambridge, Mass. ; London : MIT Press) (3rd ed) (Comprehensive overview of state

of the art for the field; also the 1995 2nd edition still has good, relevant overviews of topics)

The reading list:

- The reading list is divided into required and optional reading - you are **not** expected to read all of the material.
- You will be expected to read **all** of the required reading - which amounts to one piece each week, where possible from one of the assigned textbooks.
- The optional readings are intended as additional material. You will certainly need to read more than the required reading for your essays or exam revision.

If you cannot get hold of the required reading, then you should read an item from the optional list instead.

Where to find the reading material

Most of the required and optional reading material is kept in the DMS Watson science library and many of the journal articles are available electronically. Material marked [TC] is kept behind the issue desk of the DMS Watson library. Some of the key readings have been submitted to the library for digitization and should be available electronically – I have marked these [D] on the reading list.

You are also encouraged to use the Wellcome Library (210 Euston Road). This is a reference library with a large collection of science policy/sociology of science material - including some of the material on this course.

Course Assessment

This course will be assessed on the basis of *two* pieces of coursework (50% of the final mark, 25% per piece) and *one* exam (50% of the final mark). A list of essay questions is included with this reading list. Students who wish to write an essay connected with the course but not on the list should see me to discuss a title.

The due dates for essays are as follows:

1st Essay 12 November 2010

2nd Essay 17 December 2009

You should submit your coursework using the Turnitin system – all students registered on the course will receive an e-mail with instructions on how to use Turnitin. Please do not e-mail essays to me without prior permission. Late essays will be penalized: one day late, 5% deducted; up to one week late, 10% deducted; ***after one week essays will not be marked.***

Students who do not submit both pieces of coursework and sit the exam may be INCOMPLETE on the course.

Course Overview

- 6 Oct** Introduction: What is sociology of science?
13 Oct Interests and the Strong Programme
20 Oct Laboratory Studies 1: What are ethnographic approaches to science studies?
27 Oct Laboratory Studies 2: Case study of the experimenter's regress
3 Nov Actor-network theory (1)
8 Nov READING WEEK – ESSAY DUE
17 Nov Actor-network theory (2) and general discussion
24 Nov Science and gender
1 Dec Boundaries of science
8 Dec Experts, Public Science and the co-production of knowledge
15 Dec Future Science and the Sociology of Expectations

Topic 1: Sociology as Social Knowledge about Society...

Does it make sense to talk about social scientific knowledge as different from natural scientific knowledge? What should social scientific knowledge about natural science be like?

Essential Reading:

Either

SY – Chapter 1 *OR*

MB – Chapters 1-2 (**most recommended**) *OR*

SS – Chapter 3 (and 4) *OR*

MD – Chapter 1

Additional Reading

Erickson, Mark (2005), *Science, culture and society : understanding science in the twenty-first century* (Chapter 5 – Scientists and scientific communities)

Topic 2: Interests and the Strong Programme

The publication of T.S. Kuhn's *Structure of Scientific Revolutions* in the 1960s opened the door to a sociology of scientific *knowledge*. Although Kuhn himself eschewed this approach, his theory implied that scientific change of a revolutionary order (the paradigm shift) is rooted in the characteristics of the scientific community. Sociologists began to look at knowledge itself as socially conditioned.

Essential Reading:

Either

SY – Chapters 2-3 (**most recommended**) OR

MB – Chapters 2-3 OR

SS – Chapter 5 OR

MD – Chapter 4

Additional Reading

Theoretical statements:

If you read one, read this:

Bloor, D (1991 [1976]), *Knowledge and Social Imagery* (Routledge) esp. Chapter 1 'The Strong Programme in the Sociology of Knowledge' **[D]** (for the classic statement of the tenets of the strong programme and the argument against a 'sociology of error') and also see Afterword in 2nd Edition for response to critics.

For more detail:

Chalmers, A (1990), *Science and its Fabrication* (chapters 6-8) (a critical overview of the strong programme)

Laudan, L (1981), 'The Pseudo-Science of Science', *Philosophy of the Social Sciences.*, Vol.11 pp.173-98. (Scathing critique of the strong programme)

and

Bloor, D (1981), 'The Strengths of the Strong Programme', *Phil. Soc. Sci.*, Vol.11 pp.199-213.

(Scathing defence of the strong programme)

[Both are behind DMS Watson Issue Desk under 'Symposium: The Strong Programme in the Sociology of Knowledge': TC1707

You can also get them electronically from Senate House Library if you have a Senate House Library Card – which UCL students are entitled to]

Case Studies:

Gillespie B *et al* (1982), 'Carcinogenic Risk Assessment in the United States and Great Britain: The Case of Aldrin/Dieldrin', in *Science in Context: Readings in the Sociology of Science* (Eds Barnes B and Edge D. Milton Keynes: Open University Press) (Good, policy-relevant case-study). [D]

Webster, A (1991), *Science, Technology and Society* (Chapter 2) (Overview, includes discussion of the botanical classification study mentioned in lecture)

Collins, H and Pinch, T (1993), 'The Germs of Dissent: Louis Pasteur and the Origins of Life', in *The Golem: What Everyone Should Know About Science* (Chapter 4) [D]

Shapin S (1979), 'The Politics of Observation: Cerebral Anatomy and Social Interests in the Edinburgh Phrenology Disputes', in R. Wallis (ed), *On the Margins of Science: The Social Construction of Rejected Knowledge* (Keele. University of Keele. Sociological Review Monograph No.27) pp139-178. [TC 4700]

(Also discussed in Yearley, S (1988), *Science, Technology and Social Change* (London: Unwin Hyman), Chapter 2).

Topic 3: Laboratory Studies and The Micro-social Approach

2 weeks

The 'strong programme' argued that broad social and political conditions could influence the content of scientific knowledge. Towards the end of the 1970s sociology of science took a distinctly micro-social (and linguistic) turn. Detailed studies of scientists, in laboratories or making claims in papers, became the preferred methodology of 'lab anthropologists'. The complex negotiations, contingencies and skills involved in creating 'a fact' (and the way that these were all erased from the final product) became the focus of attention.

Essential Readings:

Week 1

Either

SY – Chapter 6 *OR*

MB – Chapter 4 *OR*

SS – Chapters 6, 9 *OR*

MD – Chapter 5

Week 2

Collins, H (1985), 'Detecting Gravitational Radiation: The Experimenters' Regress', Chapter 4 in *Changing Order: Replication and Induction in Scientific Practice* (Chicago: Univ Chicago Press) [D]

Additional Reading:

Starting Point for further reading:

SS – Chapter 6 'The Social Construction of Scientific and Technical Entities'

Overviews

Woolgar, S (1988), *Science: The Very Idea* (Chichester: Ellis Harwood) Chapter 6. (A good overview of some of the main claims of pioneering ethnographic works) [D]

Erickson, Mark (2005), *Science, culture and society : understanding science in the twenty-first century* (Chapters 2-3 – case study of one lab + wide-ranging theoretical chapter on scientific knowledge)

Knorr-Cetina, K (1995), 'Laboratory Studies: The Cultural Approach to the Study of Science' in Jasanoff S *et al* (eds) *Handbook of Science and Technology Studies*, (London: Sage) (2nd ed) pp140-166 (Not an easy read, but very succinct overview of the approach).

Doing, P (2008), 'Give me a Laboratory and I will Raise a Discipline: The Past, Present and Future Politics of Laboratory Studies in STS', in Hackett, EJ (et al) (2008), *The Handbook of Science and Technology studies* (Cambridge, Mass. ; London : MIT Press) (3rd ed)

SY – Chapter 7 'Reflection, Explanation and Reflexivity in Science Studies' (an overview of reflexive claims that the findings of STS about epistemology, should also apply to the knowledge claims of STS practitioners...)

Examples of Ethnographies of Science (try to read at least one):

Latour B & Woolgar S (1986), *Laboratory Life: The Construction of Scientific Facts* (Princeton University Press) Chapter 2 and skim chapter 3 [ch.3 in TC 1701]. [*Read the Doing chapter' Give me a laboratory...'* above first]

Knorr-Cetina, K (1999), *Epistemic Cultures: How The Sciences Make Knowledge* (Chapters 1, 2 and either 3 or 4).

Collins, H and Pinch, T (1993), 'A new window on the universe: the non-detection of gravitational radiation', in *The Golem: What Everyone Should Know About Science* (Chapter 5). (not written up as an ethnography, but based on Collin's ethnographic work described in H. Collins' *Changing Order*)

Mol, A (2002), 'Cutting Surgeons, Walking Patients: Some Complexities Involved in Comparing', in Law, J and Mol, A (eds) *Complexities: Social Studies of Knowledge Practices* (Durham: Duke University Press)

Topic 4: Actor-network theory

One of the most influential schools of thought since the 1980s and 1990s has been 'actor-network theory'. The central idea is that 'facts' are created when 'heterogeneous' assemblages of actors and objects are mobilized into a 'network'. Science and society are *both* co-created as the laboratory is used as a focal point for assembling knowledge and redefining social interests. Science becomes 'politics by other means'.

Essential Readings (2 weeks)

Week 1

Either

SY – Chapter 4 *OR*

SS – Chapter 7

Week 2

Latour, B (1983), 'Give Me a Laboratory and I will Raise the World', in *Science Observed: Perspectives on the Social Study of Science* (London: Sage) pp141-170. or extract in Biaglio, M (1999), *The Science Studies Reader* (Ch.18)). [D]

AND

O, Amsterdamska (1990), 'Surely you are joking, Monsieur Latour!', *Science, Technology and Human Values* Vol.15, Fall, pp495-504.

Additional Reading:

If you read one piece of extra reading, read this:

Latour, B (1999), *Pandora's Hope: Essays on the Reality of Science Studies* (Chapter 2)
(Includes a good, relatively clear, illustrative case study of Amazonian soil science in the making) [D]

Further reading:

Latour, B (1987), *Science in Action* (Harvard University Press) (especially introduction and chapters 1 & 2) (A classic overview of Latour's theories) (Chapter 2 is [D])

Callon, M (1986), 'Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay', in Biaglio, M (1999), *The Science Studies Reader* (London Routledge) (Ch.5) (Some key ANT jargon explained through a case study of molluscs in Brittany)

Shapin, S (1988), 'Following Scientists Around', *Social Studies of Science*, Vol.18 pp.533-50
(Review of 'Science in Action').

Golinski, J (1998), *Making Natural Knowledge: Constructivism and the History of Science* (Cambridge University Press) Chapter 1, esp. pp.27-46 (Helpful summary of the key points of actor-network theory).

Scott, P (1991), 'Levers and Counterweights: A Laboratory that Failed to Raise the World', *Social Studies of Science* Vol.21 pp7-37 (empirically based critique of Latour)

Collins, HM and Yearley, S (1992), 'Epistemological Chicken' in A. Pickering (ed) *Science as Practice and Culture* (Chicago: University of Chicago Press) pp301-26 (attacks the notion that non-humans can be treated as if they were the same as intentional actors)

See also:

Callon M and Latour B (1992), "Don't Throw the Baby Out with the Bath School! A Reply to Collins and Yearley" in *Science as Practice and Culture* (Ed. Pickering A. Chicago and London: University of Chicago Press) pp343-368.

Law, J and Hassard, J (1999), *Actor-Network Theory and After* (Oxford: Blackwell) (More advanced reading – including Latour claiming that all the terms in actor-network theory, including the hyphen, are problematic).

Topic 5: Gender, 'Race' and Minorities in Science

Feminist critiques of science have tended to develop outside of mainstream sociology of science, despite the overlap in perspectives. Studies range from institutional questions (why so few women in science?) to epistemological questions (is there a distinctly feminist science?). Feminist analyses of science form a burgeoning literature. Other inequalities in science remain relatively under-researched.

Essential Reading

Either

SY – Chapter 5 *OR*

SS – Chapter 13 *OR*

MD – Chapter 5

If you read one piece of extra reading, read this:

Haraway, D. (1997), 'Modest_Witness@Second_Millennium', in *Modest_Witness@Second_Millennium.FemaleMan[®]_Meets_OncoMouse[™]* (London: Routledge) (Chapter 1 – a tough but rewarding read) [D]

Additional Reading

Etzkowitz, H *et al* (2008), 'The Coming Gender Revolution in Science' in Hackett, EJ (et al), *The Handbook of Science and Technology studies* (Cambridge, Mass. ; London : MIT Press) (3rd ed)

Oudshoorn, N (2004), "Astronauts in the Sperm World" : The Renegotiation of Masculine Identities in Discourses on Male Contraceptives , *Men and Masculinities*, Vol. 6, No. 4, 349-367

Schiebinger, L (1999), *Has Feminism Changed Science?* (Harvard Univ. Press) (esp. Sections II and III)

Lederman, M and Bartsch, I (2001), *The Gender and Science Reader* (London: Routledge) (Esp. sections 4 and 5)

Haraway, D (1999), 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective', in Biagioli, M (ed) *The Science Studies Reader* (Routledge) and also in Lederman, M and Bartsch, I (2001), *The Gender and Science Reader* (London: Routledge).

Anderson, W and Adams, V (2008), 'Pramoedya's Chickens: Postcolonial Studies of Technoscience' in Hackett, EJ (et al), *The Handbook of Science and Technology studies* (Cambridge, Mass. ; London : MIT Press) (3rd ed)

Haraway, D (1989), 'The Bio-Politics of A Multi-Cultural Field', in *Primate Visions: Gender, Race and Nature in the World of Modern Science* (London: Verso) pp244-258 only.

also in

Harding, S (1993), *The "Racial" Economy of Science: Toward a Democratic Future* (University of Indiana Press) pp377-397.

And in

Lederman, M and Bartsch, I (2001), *The Gender and Science Reader* (London: Routledge)

Topic 6: Boundaries: Science and Non-Science

Drawing boundaries is an eminently social process. Boundaries are routinely drawn between, for instance, science and non-science, experts and lay persons, science and politics and the social and natural. The way in which boundaries are drawn and the purposes served by the resulting distinctions are an important topic within social studies of science.

Essential Reading

Either

Gieryn TF (1983), "Boundary Work and the Demarcation of Science from Non-Science: Strains and Interests in the Professional Ideologies of Scientists", *American Sociological Review* Vol.48 pp781-795 [TC 3315].

Or:

Gieryn T (1995), 'Boundaries of Science' in Jasanoff S *et al* (eds) *Handbook of Science and Technology Studies*, (London: Sage) pp393-443 (Long but useful overview of the practical problem of demarcating the inside from the outside of science)

Additional Reading:

Lynch, M (2004), 'Circumscribing Expertise: Membership Categories in Courtroom Testimony' in Jasanoff, S (ed) *States of Knowledge* (London: Routledge) – (contains some criticisms of 'boundary-work')

Gieryn, T (1999), *Cultural Boundaries of Science: Credibility on the Line* (Chicago) (Esp. Introduction)

Yearley S (1988), *Science, Technology and Social Change* (London: Unwin Hyman). Chapter 2.

Jasanoff, S (1987), 'Contested Boundaries in Policy-Relevant Science', *Social Studies of Science* Vol.17 pp195-230 (Complex but excellent argument on the shifting and negotiable boundary between science and politics)

Golinski, J (1998), *Making Natural Knowledge: Constructivism and the History of Science* (Chapter 2 - on historical uses of the boundary problem).

SS – Chapter 1 pp31-32.

Two Case Studies that Use Boundary-Work

Amsterdamska, O (2005), 'Demarcating Epidemiology', *Science, Technology & Human Values* Vol.30(1): 17-51. (Historical case study of disciplinary boundary setting)

Bal, R (2005), 'How to Kill with a Ballpoint: Credibility in Dutch Forensic Science', *Science, Technology & Human Values* Vol.30(1): 52-75. (Case study of boundaries in law)

Topic 7: Experts, Risk and the Co-production of Knowledge

Essential Reading

Either

SY – Chapter 8 *OR*

Irwin, A (2001), *Sociology and the Environment* (Cambridge: Polity) Chapters 5 and 7.

Additional Reading:

If you read one piece of extra reading, read this:

Irwin, A (2007), 'STS Perspectives on Scientific Governance', in Hackett, EJ (et al), *The Handbook of Science and Technology studies* (Cambridge, Mass. ; London : MIT Press) (3rd ed)

Further Reading:

Gillespie B *et al* (1982), 'Carcinogenic Risk Assessment in the United States and Great Britain: The Case of Aldrin/Dieldrin', in *Science in Context: Readings in the Sociology of Science* (Eds Barnes B and Edge D. Milton Keynes: Open University Press). (Classic case-study on role of expertise, also summarised in Irwin book ref above). [D]

Ravetz, J (2006), *The No-Nonsense Guide to Science* (New Internationalist), Chapters 5 and 6 (Scientific Objectivity; Uncertainty)

Stilgoe, J (2005), 'Controlling mobile phone health risks in the UK: a fragile discourse of compliance', *Science and Public Policy* Vol. 32(1): 55-64. (Case study involving the public face of science)

Jasanoff, S (1987), 'Contested Boundaries in Policy-Relevant Science', *Social Studies of Science* Vol.17 pp195-230 (Complex but excellent argument on the shifting and negotiable boundary between science and politics)

Stirling, A (2007), 'Risk, Precaution and Science: Towards a More Constructive Debate', *EMBO Reports* 8(4):309-315

SY – Chapter 9

MD – Chapter 3

Lupton, D (1999), *Risk* (Routledge). Chapter 2 'Theorizing Risk' (Short and excellent introduction to risk in social science) [D]

Specific Reading on co-production

Jasanoff, S (ed) (2004), *States of knowledge : the co-production of science and social order* (London : Routledge, 2004) (Esp. Chapter: 'Ordering Knowledge, Ordering Society')

Reardon, J (2001), 'The Human Genome Diversity Project: A Case Study in Coproduction', *Social Studies of Science*, Vol.31 No.3 pp.357-388 (On the simultaneous production of social and natural categories, together with the boundary between them).

Topic 8 Sociology of expectations

The course finishes with a session on hope and promise. Recent STS studies of emerging technologies have emphasized the role of expectations in shaping the development of novel science and technology. This new 'sociology of expectations' moves away from ideas of promise as 'mere' hype and looking at how promises about future utopias and dystopias actively shape the innovation process.

Essential Reading

Borup, M *et al* (2006), 'The sociology of expectations in science and technology'. *Technology Analysis & Strategic Management* 18:285-298

Additional Readings

Adam Hedgecoe, Paul Martin (2003), 'The Drugs Don't Work: Expectations and the Shaping of Pharmacogenetics', *Social Studies of Science*, Vol. 33, No. 3, 327-364

Brown, N and Michael, M (2003), 'A Sociology of Expectations: Retrospecting Prospects and Prospecting Retrospects', *Technology Analysis & Strategic Management* 15: 3-18

Brown, N *et al* (eds) (2000) *Contested futures : a sociology of prospective techno-science* (Aldershot : Ashgate)

Horst, Maja (2007) 'Public Expectations of Gene Therapy: Scientific Futures and Their Performative Effects on Scientific Citizenship' *Science Technology Human Values*, Vol. 32, No. 2. (1 March 2007), pp. 150-171

Busby, Helen, Martin, Paul (2006) 'Biobanks, national identity and imagined communities: The case of UK biobank' *Science as Culture*, Volume 15, Number 3, September 2006 , pp. 237-251(15)

Geesink, I *et al* (2008) 'Stem Cell Stories 1998-2008', *Science as Culture* 17:1-11

ESSAY TOPICS FOR SOCIOLOGY OF SCIENCE

Assignments should be word-processed, 12 point type, minimum 1.5 line-spaced, with page numbers added and with a word count at the end.

Assignment 1: Essay

Your essay should be between 2250-2700 words long with a list of references at the end. Do not include references in your word count. Please read the guidelines on how to write an essay. You are expected to read widely for this assignment in order to answer the question set.

Wherever possible your essays should discuss empirical case studies from the academic literature.

*** Marking will take account of students who tackle a topic we have not yet covered in lectures. ***

1. Critically assess the achievements of the strong programme in the sociology of science.
2. Do ethnographies of science really study science in its natural state?
3. What does it mean to claim that science is socially constructed? Does it matter whether or not the claim is true?
4. How successful is Actor-Network Theory at demolishing the divide between science and society?
5. Are feminist studies of science solely about women and science?
6. According to sociologists of science, what is at stake when scientists contest or defend the boundaries around science? How convincing are these sociologists' arguments?
7. *EITHER*
Is it possible or desirable for scientists to remain neutral when then participate in or advise on regulatory disputes involving science and technology?

OR

What is 'co-production' in sociology of science? How useful is the concept for understanding the relationship between science and politics?

8. Are we right to place high expectations on the sociology of expectations in STS?

Assignment 2: Focussed Review

By this stage of the course you should be able to read, understand and start to provide your own evaluation of research articles that draw on the main approaches to sociology of science covered in this course.

Select **one** research article from either *Social Studies of Science* or *Science, Technology & Human Values* or *Science as Culture* journals, written since January 2008. The article should relate to one or more themes or topics from the course (e.g. it uses actor-network theory, it employs ethnographic methods, it is about risk etc). You must make this a different topic to your essay one topic (you are permitted some overlap, but it should mainly link to a different topic).

Write a 900-1100 word critical review of the article.

- The review should have a title of your choosing, and you should also clearly state which article you are reviewing. [Don't add this to the word count]
- The review must explain (even if only in a sentence or two) how the article relates to the course. *You should also read at least 3-4 pieces from the most relevant topic on the reading list as contextual material.*
- The review should **describe** and **explain** the main argument(s) presented in the article.

Some arguments in this course are complex and I will be looking for explanations that demonstrate you understand these arguments. Your review should also leave space for **critical discussion** of the material presented in the piece (e.g. strengths, weaknesses, comparison with other literature on the topic, or with other approaches on the course, does it really achieve what it claims to have done?). Hint: It helps here to have one main message that runs through your review.

- You may cite other work from the reading list (or beyond) in your review but are expected to mainly focus on your chosen article. [Don't add your bibliography to the word count]

You might want to skim through an example of one article (which will also make you think differently about things you were taught in first year...) and its critical response in *Social Studies of Science*:

Jorges, B (1999) 'Do Politics Have Artefacts?', *Social Studies of Science* 29(3): 411-32

Woolgar, S and Cooper, G (1999) 'Do Artefacts Have Ambivalence: Moses' Bridges, Winners' Bridges and Other Urban Legends', *Social Studies of Science* 29(3): 433-449

If you need reminding of the original debate see section entitled 'technical arrangements and social order' in:

Winner, L (1999), 'Do Artefacts Have Politics?', in MacKenzie D and Wajcman J (Eds), *The Social Shaping of Technology* (Milton Keynes: Open University Press) pp28-39 (Also in 1st edition).

(Also widely available on-line, e.g.

<http://zaphod.mindlab.umd.edu/docSeminar/pdfs/Winner.pdf>)