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# SATSU

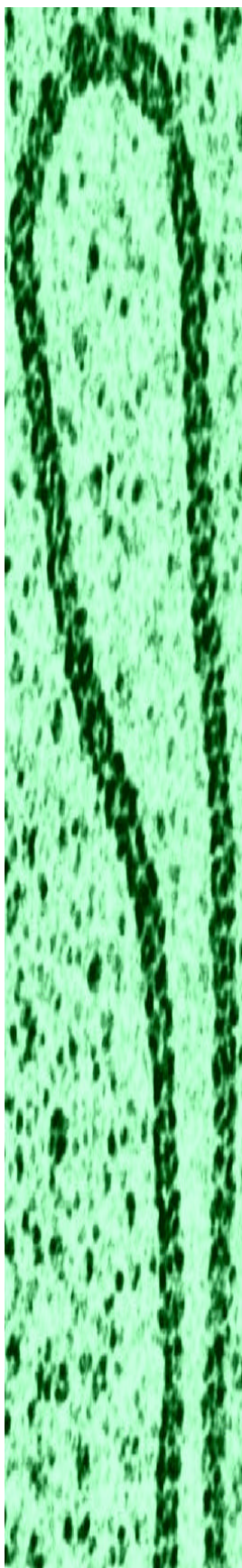
Science & Technology Studies Unit

**2000 & 2001**

Sociology of Science &  
Technology Policy

Cultural Dynamics  
of Scientific &  
Technological Change

Identity & Risk  
Understandings



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## Activities During 2000 & 2001

The Science and Technology Studies Unit specialises in understanding the complex dynamics of change in contemporary S&T networks. Conceptually, SATSU has sought to explore the socio-technical co-construction of knowledge, artefacts and public policy.

The Unit was initially established, in the late 1980s, to critique public/private links between university and industrial actors. In subsequent years, SATSU's portfolio has expanded considerably to encompass a widening field of critique applied to technology and science.

This document provides a brief overview of SATSU's work during 2000 and 2001



# 2000 & 2001

During the period covered in this review, SATSU has continued to consolidate its reputation as a specialist in the field of Science and Technology Studies. Conceptually, SATSU's key intellectual strengths lie in three related fields of enquiry, each of which serves as a basis of empirical research activity:

## **Sociology of Science & Technology Policy**

SATSU has been able to occupy a position that combines the critique of policy with a critique for policy. That is, our research is intended to actively contribute to the intellectual environment within which decision-making takes place in a wide variety of contexts.

During 2000 & 2001, a number of activities have illustrated SATSU's continued critical attention to the changing shape and form Science and Technology Policy. In particular, SATSU completed two major research projects on the use of Foresight in the contexts of Health and Life Science innovation (funded by the ESRC and the European Commission). The findings of the work have provided a much more critical understanding of organisational conditions in which Foresight might, or equally might not, assist in managing future uncertainties and coordinating activities. Additionally, the projects have highlighted the need for policy-making to deliberately question future assumptions and expectations about the role of technology. For example, Foresight activities have tended to overemphasise the role of technological change, whilst neglecting equally important social, organisational and cultural dynamics. Future expectations can be overwhelmingly powerful in shaping action, but often in the absence of an adequate understanding of the source of future representations or whose interests they serve. SATSU continues to develop its critique in this area through the 'Sociology of Expectations' and continued work on Foresight-related initiatives. Some of the activities relevant here and undertaken during 2000 and 2001 include:

Nik Brown, Brian Rappert and Andrew Webster (eds) (2000) *Contested Futures: A Sociology of Prospective Techno-Science*. Aldershot: Ashgate

Knowledge Sourcing and Foresight: Public and Private Agencies in the Health and Life Sciences. ESRC funded research project (L323253035). Status: *completed*

Foresight as a Tool for the Management of Knowledge Flows and Innovation (FORMAKIN). European Commission (TSER) funded research project. Status: *completed*

## **Cultural Dynamics of Scientific and Technological Change**

Determining the patterns and dynamics of change represents an increasingly important starting point for a more constructive engagement with scientific and technical innovation. SATSU's work has focussed on providing a means of anticipating key features of emerging and future developments. A prospective engagement of this kind is illustrated through SATSU's research on the Clinical and Commercial Development of Pharmacogenomics, funded by the Wellcome Trust. Radically novel ways of undertaking product development, based on the availability of genetic information, have transformed pharmaceutical industry R&D. And yet, little is known how future users including patients and clinicians, in addition to regulatory change, will respond.

In addition to prospective analytical research, SATSU has consolidated its strengths in the history of technology too. Funded by the ESRC, Brian Wood's research into the history of the wheelchair, examines the way an artefact becomes a focal point for the complex relationships between key constituencies including healthcare practitioners, civil service policy-makers and wheelchair users. The wheelchair has, in these terms, mediated radical changes particularly in respect to the emergence of disability advocacy and the struggles users have encountered with unwieldy standardisation measures.

Similarly, Paul Rosen's research examines the relationships between cultural and technological change in the contexts of transport and sustainability. The Workplace Cycling Cultures project (ESRC funded) examined some of inhibiting factors (both cultural and practical) preventing greater uptake of cycle commuting. Again, the following activities illustrate just some of SATSU's engagement with questions of cultural change:

A historical study of the wheelchair. ESRC funded (L218 252007). Status: *continuing*

The clinical and commercial development of pharmacogenomics. Wellcome Trust funded. Status: *continuing*

Workplace cycling culture. Modal shift and bicycle design: Implications for Individual and Organisational Practices. ESRC funded. Status: *completed*

## Identity and Risk Understandings

Underpinning much of SATSU's work are analytical questions about the management and negotiation of risk and endangerment in a number of empirical contexts. Nik Brown's ESRC funded research addresses the negotiation of risk in the context of animal transgenics and transpecies transplantation. The project explores the role identity plays in debates about risk, particularly in relation to the contested boundaries of human and nonhuman distinctiveness. Here risk negotiation is based not simply on cultural notions of identity, but notions of ones that are necessarily material and substantive. Identity is equally central to the way in which relevant constituencies (including clinicians, researchers, patients and advocacy organisations) conceive of themselves and others, in respect to questions of safety and efficacy.

In 2000, Sharon Tabberer with SATSU colleagues completed work on the Teenage Pregnancy project, funded by the Joseph Rowntree Foundation. The study received national coverage and has been instrumental in reshaping national debates about teenage pregnancy.

*Xenotransplantation: Risk identities and the human/nonhuman interface* (ESRC grant award: L218 25 2044). Nik Brown and Mike Michael

*Teenage pregnancy and choice: Abortion of motherhood: influences on the decision* by Sharon Tabberer, Christine Hall, Andrew Webster and Shirley Prendergast is published for the Joseph Rowntree Foundation by York Publishing Services, 64 Hallfield Road, Layerthorpe, York YO31 7ZQ (01904 430033) price £12.95 plus £2.00 p&p.

## Activities during 2000 & 2001

### Publications

#### Books

Nik Brown, Brian Rappert & Andrew Webster (eds) (2000) *Contested Futures: A Sociology of Prospective Techno-Science*. Aldershot: Ashgate.

Graham Lewis and John Abraham, *Regulating medicines in Europe: competition, expertise and public health*, Routledge, London and New York (2000).

#### Chapters

Nik Brown (2000) Organising/Disorganising the Breakthrough Motif: Dolly the Cloned Ewe Meets Astrid the Hybrid Pig. In N. Brown, B. Rappert & A. Webster (eds) (2000) *ibid*

Nik Brown (2000) Genetic Engineering: Animals; Genetic Engineering: Humans; Cloning; entries. in J. Barry et al, *Dictionary of International Environmental Politics*. London: Routledge.

Andrew Webster (2000) 'Intellectual Property' - Invited contribution to *International Encyclopaedia of the Social and Behavioural Sciences*, Sheila Jasanoff (ed) Elsevier.

David Charles, Andrew Webster and Brian Rappert (2000) 'Intellectual Property in University Spin-offs', in *Intellectual Property and Small Firms*, R. Blackburn (ed) (Routledge: London)

### Journal articles

#### Nik Brown

with Michael, M. (2001) Transgenics, Uncertainty and Public Credibility. *Transgenic Research*, 10, 279-283.

with Michael, M. (2001) Switching Between Science and Culture in Transpecies Transplantation. *Science, Technology and Human Values*. 26, 1, 3-22.

with Rappert, B (2000) Putting the future in its place: Comparing innovation moments in genetic diagnostics and telemedicine. *New Genetics and Society*. 19, 1, 49-75

with Rappert, B. (2000) Emerging Bioinformatic Networks: Contesting the Public Meaning of Private and the Private Meaning of Public. *Prometheus*. 18, 4, 437-452.

with Michael, M. (2000) From the Representation of Publics to the Performance of 'Lay Political Science'. *Social Epistemology*, 14, 1, 3-19

#### Graham Lewis

with John Abraham, The creation of neo-liberal corporate bias in transnational medicines control: the industrial shaping and interest dynamics of the European regulatory state', *European Journal of Political Research*, 39, 53-80, 2001.

## **Brian Rappert**

Brian Rappert & Nik Brown (2001). Putting the Future in its Place: Comparing Innovation Moments in Genetic Diagnostics and Telemedicine. *New Genetics and Society* 19(1): 49-76.

Brian Rappert. (2001). "The Distribution and the Resolution of the Ambiguities of Technology, Or Why Bobby Can't Spray" *Social Studies of Science* August: 557-592.

Brian Rappert (2001). "Scenarios on the Future of Weapons" *Contemporary Security Policy* 22(1): 50-74.

## **Paul Rosen**

(2001) 'Velo-City 2001' report, *Velo Vision* (bicycle magazine), 4: 4, December.

with David Skinner (2001) 'Guest introduction - 'Opening the 'white box': the politics of racialised science and technology', in *Opening the 'white box': the politics of racialised science and technology*, special issue of *Science as Culture* 10, 3

(2001) (co-edited with David Skinner) *Opening the 'white box': the politics of racialised science and technology*, special issue of *Science as Culture* 10, 3

(2001) 'Towards sustainable & democratic urban transport: constructivism, planning and policy', in special issue of *Technology Analysis & Strategic Management* 13, 1: 117-135.

(2000) 'Raleigh and its retailers', *Bicycle Business* (trade magazine) 6 (April): 22-3.

(2000) 'Prejudice against the concrete'. Essay review of Andrew Feenberg, *Questioning Technology*, in *Science as Culture* 9, 3 (2000): 405-412

## **Andrew Webster**

with Brian Rappert, 'The commercialisation of Science' *Knowledge, Economy and Society* vol 45, (2000)

with Henry Etzkowitz (2000) The future of the university and the university of the future' *Research Policy*, vol 29: 313-330.

with Richard Hull, William Kaghan (eds), Special Issue of *Technology Analysis and Strategic Management: The Intersection of Innovation Studies and Critical Management Studies*, vol 12, No. 3 Sept 2000.

## **Brian Woods**

(2001) 'Towards a History of the Wheelchair,' *Blesmag* Summer: 8-9

(2001) 'Research Project on the History of the Wheelchair,' *Wheel World*, September: 2

(2001) 'Towards a History of the Wheelchair,' *Disability Times*, October: 8

## **Reports**

Nik Brown & Andrew Webster. (Jan 2000) *Information and Communication Technologies 2000 to 2005 - Lifespan, Lifestyle and Health*. Report for the Economic and Social Research Council.

Andrew Webster and Brian Rappert (2001) *Human Genetics: An Inventory of new and potential developments in human genetics and their possible uses*, STOA, European Parliament

## **Conference Papers & Presentations**

Nik Brown, *The dynamics of expectations in the health and life sciences*, IIIForo International, EPES, Malaga, Dec 2001

Nik Brown & Mike Michael, *An analysis of changing expectations: Retrospecting prospects and prospecting retrospects*, Society for the Social Study of Science conference (Fashioning the Future), Boston, Nov 2001

Nik Brown, *Risk, Species Identity and Boundary Change*. Seminar Series of CRICT (ESRC Centre for Research on Innovation and Competition. University of Manchester and UMIST, Jan 2001

Nik Brown, Risk Identities and the Human/Nonhuman Interface. Seminar Series of the BIOS Group at Goldsmiths College.

BIOS is UCL's Research Group on Social and Ethical Aspects of the Life Sciences, Biomedicine and the Life Course. (UCL) Nov, 2000

Nik Brown, Disciplinary Change in Contexts of Telemedical Mediation: What Dermatologists do without their Skins. Society for the Social Studies of Science/European Association for the Study of Science and Technology, Vienna, Sept, 2000.

Nik Brown, Organising/Disorganising the Breakthrough Motif. British Sociological Association annual conference (Making Time/Marking Time), University of York, 17-20 April 2000.

Brian Rappert, The calculus of death: A response to the emergence of non-lethal weapons, Society for the Social Studies of Science/European Association for the Study of Science and Technology, Vienna, Sept, 2000.

Paul Rosen, 'The role of Green Transport Plans in developing cycle commuting: individual and corporate change' (with David Skinner), presented to the Velo-City 2001 International Cycle Planning Conference, Edinburgh, September 2001.

Paul Rosen, Cycling identities: Transport, Policy and Workplace Commuter Cultures, Centre for Urban and Regional Development Studies, Newcastle University, Wed 14<sup>th</sup> 2001.

Paul Rosen, 'Hell is other cyclists: transport, identity and the British "anti-car" debate'. Paper presented at the EASST/4S International Conference, "Worlds In Transition: Technoscience, Citizenship and Culture in the 21st Century", Vienna, September 2000.

Andrew Webster, 'The Impact of New Medical Technologies: Transforming Health, Transforming Medicine' British Association for the Advancement of Science, Science and Society, Annual Conference, University of Glasgow, Sept 4 2001.

Andrew Webster, 'The economic impact and innovation effects of new health technologies: integrating the economic and social 'value chains', European Molecular Biology Laboratory Science and Society Conference, Heraklion, Crete, November 2001.

Andrew Webster FORMAKIN: Implications for the utility and evaluation of Foresight. Paper presented at the FOREN thematic network meeting in Rome, March 23rd.

Andrew Webster, 'Exploring innovative health technologies: redefining health, medicine and the body', Department of Sociology, Research Seminar series, University of York, 28th November 2001.

Andrew Webster, 'Mind the Gap: Traditional analyses of risk and social science', National Railway Museum, York May 8 2000

Andrew Webster, 'Health and future risk', Department of Sociology, University of Sussex, March 2000

## Research Grants and Funding

**Marie Curie Training Site Award:** SATSU successfully secured funding to become a European Commission Marie Curie Training site on 'New Genetics / New Society? Integrating Science, Society and Policy'. The award will run from 2001 to 2005 and is expected to fund up to 75 months worth of post graduate training and supervision. Main Contact: Nik Brown

**Xenotransplantation: Risk Identities and the Human/Nonhuman Interface** (ESRC grant award: L218 25 2044). **Abstract:** The research examines how various risks associated with xenotransplantation (XTP – the use of nonhuman cells and organs in human transplantation) are negotiated between different constituencies, reflecting and mediating changing formulations of the

Andrew Webster, 'Knowledge management, institutional regimes and Foresight in health genetics and informatics', UMIST Research Seminar Series, Manchester, May 2000.

Andrew Webster and Annemiek Nelis, 'Regulation as a Form of Social Practice: Different ways of regulating the Gene', European Association for the Study of Science and Technology, Vienna, September, 2000

Andrew Webster, 'Understanding Science and Technology Policy: Towards a Sociological Reconstruction', Department of Sociology & Social Policy, University of Sheffield, November 2000.

Andrew Webster & Nik Brown, The Social Context of Information and Communication Technologies: What are the Issues (with Andrew Webster), Wired Welfare? Setting the Agenda for Social Policy, 13 Jan 2000, University of York.

Andrew Webster 'The commercialisation of public sector science: impact on the science base', Imperial College September 6-30

Brian Woods, A Historical Sociology of the Wheelchair, SATSU Seminar Presentation, 15 March 2001.

Brian Woods, Revolutionaries and Bureaucrats: The Social Shaping of NASA's Space Shuttle, Sociology Departmental Seminar, 24 October 2001.

Brian Woods, A History of the Wheelchair Under the British State, SATSU Seminar Presentation, 13 November 2001.

human/nonhuman interface. Xenotransplants are illustrative of much wider social questions about the regulation of transpecies disease risks, animal experimentation and new biological innovation. Four analytical themes inform the research: the potentially disparate roles of disciplinary 'expert' discourse in such areas as immunology and virology; the implications of distinctions made between 'public' and 'expert'; the temporal dynamics of risk; and different in models of regulatory governance. Main Contact: Nik Brown. Collaborators: Dr Mike Michael (Goldsmith's College, UCL) Prof. Robin Weiss (Wohl Viron Centre, UCL).

**A historical sociology of the wheelchair** (ESRC grant award: L218 25 2007). **Abstract:** For millions of disabled people the single most important

technological innovation of the 20th century has been the modern wheelchair. Yet, in common with most technologies for disabled people, there has been little sociological analysis of this machine. Through a combination of oral accounts and archival sources this project will construct a historical sociology of the wheelchair in the 20th century. By bringing together disability studies and the sociology of science and technology, this study will examine the underlying processes in wheelchair design; explore the ways that the wheelchair has constructed and transformed self, identity and the meaning of disability; and investigate lay and expert contributions to wheelchair innovation. Our inquiry into how this machine has developed will make a valuable contribution to an understanding of the multidimensional nature of the relationship between the creators and users of technologies for disabled people. Main Contact: Brian Woods. Collaborators: Prof D MacKenzie and Mr N Watson, University of Edinburgh.

#### **The Clinical and Commercial Development of Pharmacogenetics** (Wellcome Trust grant award)

**Abstract:** This two-year project is focused on the use of pharmacogenetics in existing (licensed) drugs and clinical testing of new (unlicensed) drugs. The research is particularly interested in the social and

ethical concerns to do with trialling and clinical practice, and patient and physician responses. It addresses the way firms anticipate and negotiate a route through which pharmacogenetics might be successfully deployed. Main Contacts: Graham Lewis and Andrew Webster. Collaborators: Paul Martin & Alison Pilnick (University of Nottingham).

#### **Workplace Cycling Cultures, Modal Shift and Bicycle Design: Implications for Individual and Organisational Practices** (ESRC LINK grant award) 1999-2001. **Abstract:**

The purpose of this project is to understand what factors facilitate the development of workplace cycling cultures, within the context of broader workplace transport cultures. The project draws on work in social studies of technology, organisation studies, the sociology of the environment and the sociology of consumption. It builds on previous research within SATSU, notably projects looking at urban and transport planning and the organisational consumption of technology, as well as Paul Rosen's PhD thesis and book on the British bicycle industry (MIT Press). The research is concerned with how individual and organisational decisions and practices interact with each other to shape the pattern of work-related travel at any workplace, or indeed across a whole city. Main Contact: Paul Rosen. Collaborator: David Skinner

## Research Graduates

### **Ragna Zeiss**

Thesis title: *Standards and their (changing) environments. The mobility of drinking water quality standards.* Activities include: EURAS workshop (European Academy for Standardisation), Delft University of Technology, the Netherlands. Workshop on 'Standards, compatibility and Infrastructure Development'. 28-29 June 2001; Summer School on 'Consumption, Everyday Life and Sustainability', Lancaster University, 17-23 July 2001; Conference on 'The role of water in history and development' organised by the International Water History Association (IWHA), University of

Bergen, Norway, 9-12 August 2001; Paper given at the BSHS postgraduate workshop, Oxford University, 18-19 December 2001. Paper was titled: Standards and standardisation processes: investigating their limits.

### **Yuwei Lin**

Thesis title: 'The hybrid identities of hackers in the information communication technologies (ICTs) innovation systems' Activities include: HAL(Hacker At Large) 2001 Conference August 8-11 University of Twente, Enschede, The Netherlands. Yuwei's report was published in Linuser Magazine in October 2001.