The Nature of Evidence
How Well Do “Facts” Travel?

ANNUAL REPORT 2005-2006
This year was a year of both consolidation and change for the project. The ideas debated at our first year brainstorming workshop became embedded more firmly into individual research projects and we continued with shared reading to develop the thematic elements of the project. At the same time, one of our post-docs left the project to move to a job at the Sorbonne in Paris while three post-doc fellows joined the project, creating new areas and new intersections of research.

Research Personnel
The research team funded by the project this year has consisted of the following (with grant-funded Fellows indicated by *). Of the faculty members, Dr Schulze has been mainly working on another grant from the ESRC this year.

Dr Jon Adams*
Professor Stephan Epstein
Dr Peter Howlett
[Sabina Leonelli*, from 1/09/06]
Erika Mattila* (from 1/05/06)
Professor Mary S. Morgan
Dr Max-Stephan Schulze
Dr Ed Ramsden* (from 01/07/06)
Dr Simona Valeriani*
Dr Patrick Wallis

There were three PhD student members working with the research team this year: Albane Forestier, Aashish Velkar, and Julia Mensink. They are all from the host department (the Department of Economic History) and Julia Mensink is funded by the grant.

The project has hosted the following three senior visitors this past year:
Professor Rachel Ankeny, Unit for History and Philosophy of Science and The Sydney Bioethics Program, University of Sydney, Australia
Professor Martina Merz, Observatoire Science, Politique et Société, University of Lausanne, Switzerland.
Professor Michael White, Department of Economics, Monash University, Australia.
Research Clusters

Our first cluster of work is on the transfer of technical ‘facts’ in the context of considerations about technological knowledge. Simona Valeriani has been continuing her work on the travelling of roof technologies within 17th and 18th century Europe. This has involved some archive work, but much of her research time this year has been spent investigating and documenting the roof structures of St Paul’s Cathedral and a number of other city churches designed by Christopher Wren. Her first working paper for the project “The Roofs of Wren and Jones: A Seventeenth-century Migration of Technical Knowledge from Italy to England” (Project Working Paper No 14) demonstrates how these kinds of travelling facts of technology may be pinned down and validated through careful research not just in the archives but in the roof structures directly. The question of the transmission of scientific and technical knowledge - or useful and reliable knowledge - in the early modern period, continues to be a focus for the work of other team members. Albane Forestier, one of the PhD students associated with the project is researching how commercial facts were collected, codified and transmitted by merchant communities active in the French and English West Indies trade in the 18th century. Patrick Wallis continues his investigation of apprenticeship work as a site where knowledge, both tacit and factual, is transferred, but has also begun work on the question of how artisans used expert knowledge to establish facts about qualities by researching disputes where such facts have to be established. Stephan Epstein has been continued his wide-ranging investigation of travelling technical knowledge - travelling by replication and by innovation - within a number of key sectors of technology over the broad period 1200-1800. His specific research this year included a study of cathedral building; the collection of biographical data on practitioners of mathematics; and building a database of technical terms together with their geographical and linguistic origins. These are all elements of a wider and larger study that he is undertaking which fits under the travelling facts umbrella.

The second cluster of work has continued to investigate how facts travel around different disciplinary communities with a focus on the bio-medical fields. One of our new post-docs (from 1st May, 2006), Erika Mattila (who visited us last year), has begun to build on her doctoral research on the transmission of factual knowledge in health sciences. Her research materials consist of a study of simulations of disease transmission models that are produced by interdisciplinary teams involving those with clinical, mathematical, computation and statistical/epidemiological expertises. Her questions for the project are concerned with how facts travel both between the several communities involved, but also how well they travel through the process of model-building and simulation from scientific inputs to public usage for disease control. One of our project visitors, Martina Merz, discussed the parallel case of input and output facts in simulators used in work at CERN - a markedly different field, but with similar research practices and so similar issues to be addressed. Looking at a very different point of time, and on very different materials, David Haycock (funded by the Wellcome Trust, but working in association with this project) has contributed to our thematic discussions with a working paper on the facts of long
life: “A Thing Ridiculous”?: Chemical Medicines and the Prolongation of Human Life in Seventeenth-Century England” (Working Paper No 10). In related work, Patrick Wallis continues his investigation of the mixture of commercial and medical scientific facts that made branded medicines travel so well in 17th and 18th century England. We can think of these commercial products as carriers of medical facts just as the roof technologies carry building facts in Simona Valeriani’s work, which speaks to a general thematic question that is beginning to emerge in several of our projects: how facts travel in material objects.

The third cluster of work is concerned with natural science/social science intersections. Another of our new post-docs, Ed Ramsden (from 1st July, 2006) is working on two projects that cross over this divide and build on his previous expertise in these areas (evident in “Confronting the Stigma of Perfection: Genetic Demography, Diversity and the Quest for a Democratic Eugenics in the Post-war United States” (Working paper No 12). One is concerned with the “new” facts about intelligence that emerged from the famous Scottish Mental Survey of 1947 and how they travelled between and within biological and social science fields of psychology, sociology, epidemiology and genetics. The other is about how facts generated from experiments on stress due to overcrowding in rodents have travelled into various social sciences such as environmental psychology, human ecology, demography, and urban planning, and how those experiments captured the public imagination. Peter Howlett’s investigations of the green revolution in India - another topic that captured the public imagination - have continued in conjunction with, Aashish Velkar, one the PhD students associated with the project. Rachel Ankeny, a visiting research associate on the project, is studying the way that case-based reasoning works to transfer facts between natural science model organisms and the human sciences - crossing boundaries in “Wormy Logic: Model Organisms as Case-Based Reasoning” (Working Paper No 7).

The fourth cluster is about the quantification of facts and their especial potential of numbers to travel well. Julia Mensink, the PhD student funded by the project, is working on the spread of poverty measurements and has been doing case work on both the UN Human Development Index and on Booth’s famous measurements of London poverty in the late 19th century. Research by another LSE graduate student, Steve Swenson, was reported in: “Mapping Poverty in Agar Town: Economic Conditions Prior to the Development of St Pancras Station in 1866” (Working paper No 9). He was able to map the occupational structure of the area and, by using Booth’s poverty criteria, to assess the income distribution of the area. In doing so, he overturned the standard belief in the existing literature that when the station was built, a slum of many thousands of people had been demolished. Not so - the old qualitative facts of historians apparently did not travel well in this case. Michael White, a project visitor this year, has contributed to our discussions with an analysis of how the 19th century economist, William Stanley Jevons, used mapping techniques from geology to analyse and represent the numerical facts constructed from census data to reveal the social structure of Britain. Aashish Velkar has been
working on the standardisation of weight measurements in commerce in 19\textsuperscript{th} Britain, reported in “Institutional Facts and Standardisation: The Case of Measurements in the London Coal Trade” (Working Paper No 11). His work treats the facts of standardisation as very material things, dependent upon markets and institutions to make them reliable in a quantitative form. Peter Howlett and Max Schulze’s work on measuring the convergence of economies contributes to an ongoing debate about what the figures about growth really tell us about the past while Howlett’s work on the wartime and immediate post-war economy speak to the difficulty of turning impressions, qualitative information and even numbers into hard facts about the economy. Mary Morgan’s work on quantitative facts in economic life (academic and public) concludes that social (institutional), metrological and subject matter criteria are all required to make a good measuring instrument and so, in turn, only measurements made with a good instrument will travel well: “Measuring Instruments in Economics and the Velocity of Money” (Working Paper No 13).

Our fifth cluster of work uses perspectives from the humanities and social sciences to investigate travelling facts in two broader spaces: (i) from sciences into the wider public realm, and (ii) over long time spans. On the latter, Stephan Epstein has been considering the historiography of very long run growth and of capitalism in particular, as evident in his working paper “Rodney Hilton, Marxism, and Transition from Feudalism to Capitalism” (Working paper No 15). On the former, Simona Valeriani organised a mini-workshop on how expert communities and the public interact with respect to “heritage facts” (see “Activities” below). Jon Adams’ research into the changing character of popularizations of science in the 20\textsuperscript{th} century produced his first working paper for the project “How the Mind Worked: Some Obstacles and Developments in The Popularisation of Psychology” (Working Paper No 8). He is now investigating the way that fictional techniques are intertwined with facts in presentations of science findings in public spaces. In addition, he has taken responsibility for a “tool-kit” for the project - a set of short pieces about the conceptual notions of travelling used in different literatures currently encompassing Tacit Knowledge, Memes and Metaphors.
Research Group Activities

Simona Valeriani has continued to act as project co-ordinator this year, responsible for communications within the group and for organising our meetings (see below). Jon Adams has been kept busy as the editor of our working paper series, and as commentator on and reporter of the project to the world via our website. Our post-doc fellows have been active in disseminating our joint project, as well as getting involved in workshops, conferences and with communities relevant for their own specific fields. These activities are all reported below under individual names.

Because of the change of postdoc fellows during the year, we put off our main workshop and held a project mini-workshop entitled Facts of Heritage and Facts of Use: The Public’s Understanding of Architectural Heritage (15th February, 2006), organised for us by Simona Valeriani (programme enclosed). This workshop followed on from a special session that she had also put together: “Built History, Daily Use and Public Understanding” for a conference at the Institute of Historical Research: History and the Public (London, February 13-14th). Workshop discussions about the public’s compared to the experts’ attitudes towards buildings which had, or did not have, particularly historically important implications were useful in stimulating our thinking about the way we think about the facts of the past.

We continued to develop links with other research projects. Our working relations with the parallel “Nature of Evidence” project at University College, London, go on well, with regular meetings at post-doc level, at project leader level, and in seminar exchanges. The two groups have planned a joint public conference designed to report their work and to encourage a broader discussion and attention to the nature of evidence. The proposed conference has now been accepted as a British Academy Congress, to take place in December 2007.

Our research group were also invited to take part in a workshop with a group working on the history of observation in the sciences at the Max Planck Institute for the History of Science (MPIWG), Berlin in December 2005. Postdocs from both projects presented their work, and during this year and next we expect individual return visits from the Berlin post-doc fellows. Two senior links were also formed with the MPIWG - Mary Morgan has become a participant in the project on observation and Stephan Epstein has been discussing a project to study the codification and standardisation of technical knowledge in shipbuilding over the four centuries from around 1400 until 1800.

Our weekly group meetings turned into (in part) a regular open seminar series in this past Summer term with outside visitors alternating with internal research meetings for us to develop our ideas. Our seminar list (enclosed) included a number of postdocs from the parallel UCL project on the Nature of Evidence, and one from the “observation” project at the Max Planck Institute.
Project Working Papers (2005-6)

07/06: Wormy Logic: Model Organisms as Case-Based Reasoning
Rachel A. Ankeny

08/06: How The Mind Worked: Some Obstacles And Developments In The Popularisation of Psychology
Jon Adams

09/06: Mapping Poverty in Agar Town: Economic Conditions Prior to the Development of St. Pancras Station in 1866
Steven P. Swenson

10/06: “A Thing Ridiculous”? Chemical Medicines and the Prolongation of Human Life in Seventeenth-Century England
David Boyd Haycock

Aashish Velkar

12/06: Confronting the Stigma of Perfection: Genetic Demography, Diversity and the Quest for a Democratic Eugenics in the Post-War United States
Edmund Ramsden

13/06: Measuring Instruments in Economics and the Velocity of Money
Mary S. Morgan

14/06: The Roofs of Wren and Jones: A Seventeenth-Century Migration of Technical Knowledge from Italy to England
Simona Valeriani

15/06: Rodney Hilton, Marxism, and the Transition from Feudalism to Capitalism
Stephan R. Epstein
Individual Research Activities Associated with the Project by Faculty, Post-Doc Fellows and PhD Students: Seminars, Conferences and Publications
(Includes project working papers and those in process, relevant workshops, conferences etc.)

Jon Adams
Seminars/Conferences
Participant at Annual 4S (Society for the Social Studies of Science) Conference, Pasadena, California, September 2005.


Publications

“Neither One Thing Nor the Other” Review of Susan Merill Squier’s Liminal Lives, *Metascience* (forthcoming 2006)

Interference Patterns: Literary Study, Scientific Knowledge, and Disciplinary Autonomy (Book manuscript accepted for publication by Bucknell University Press. Manuscript edited and revised summer 2006. Publication expected 2007.)

A Toolkit for Travelling Facts Published on the project website. Three linked essays (1) Tacit Knowledge, (2) Memes, and (3) Metaphors. Collating the work of the group in seminars on the mechanics of “fact travelling.” Available online at: [http://www.lse.ac.uk/collections/economicHistory/Research/facts/Activities.htm](http://www.lse.ac.uk/collections/economicHistory/Research/facts/Activities.htm)

Stephan Epstein
Seminars/Conferences

“Transferring technical knowledge and innovating in Europe, c.1200-c.1800”, Seminar at the Max Planck-Institut für Wissenschaftsgeschichte (MPIWG), Berlin, July, 2006

Discussant at international workshop organized by Ursula Klein and Emma Spary at the MPIWG on “The Making of Materials. Science and Technology in the 17th and
18th centuries” August 2006

Discussant at Session 38 “Useful Knowledge and Technological Practice in Early Industrial Economies”; and Chair.Convener of Session 122, part 2: “Progress, stasis, and crisis: demographic and economic developments outside England AD c.1000-c.1800” both at International Economic History Association Conference, Helsinki, August 2006.

Publications


Peter Howlett
Seminars/Conferences

Publications


Erika Mattila (from 01/05/06)
Seminars/Conferences
Participant at “Local Transmutations of Global Phenomena: An Historical Reassessment of Smallpox Prevention, Vaccination and the State.” An international workshop organised by the Wellcome Trust Centre for the History of Medicine at University College London June/July 2006.

Participant at “Dissent in Science” Workshop, Centre for Philosophy of Natural and Social Science, LSE, June 2006.
Participant at “Models and Simulations”. Conference organised by CPNSS, LSE and CNRS, Université Paris, June, 2006.

Participant at “From Science to Product?” Seminar organised by Helsinki Institute for Science and Technology Studies, University of Helsinki, May 2006.


Publications


“Tarttuvien tautien leviämisestä kasvien kylmänkestävyyteen: monitieteinen mallintaminen biometrian tutkimuskäytäntöön” [“From the transmission of infectious diseases to the studies on cold-hardiness on plants: Multidisciplinary modelling as research practice in Biometry”]. In Miettinen, Reijo; Tuunainen, Juha; Knuuttila, Tarja & Erika Mattila: Tieteestä tuotteeksi? Yliopistotutkimus muutosten ristipaineessa [From Science to Product? University Research in the Pressure of Change.](2006) Helsinki: Yliopistopaino.


Mary S. Morgan
Seminars/Conferences


“Measuring Instruments in Economics and the Velocity of Money”, presented at Australian National University, Research School in Social Sciences, Economics Group (October 2005); and at Handbook of Economic Measurement Workshop University of Amsterdam, April, 2006.


**Publications**


Ed Ramsden (from 01/07/06)

Publications


Simona Valeriani

Seminars/Conferences


“Tracing Evidence and establishing “Facts” in Building Archaeology: the Harris Matrix and other methods”, Meeting of the Postdocs from the two Evidence Projects (UCL & LSE), November 2005


“Roma - Firenze - Venezia - Augusta - Londra: la trasmissione del sapere tecnico in
Europa tra il XVI ed il XVII secolo.” Università di Genova, Facoltà di Architettura, UNITE, Invited lecture, March 2006


Participant: Second International Congress on Construction History, Queens’ College, University of Cambridge. March/April 2006

Participant: 44th Congress of the Koldewey Gesellschaft, Wrocław/Breslau, May 2006

Publications


Patrick Wallis
Seminars/Conferences


“Wielding the syringe: apothecaries, gender and medicine”, Society for the Social History of Medicine, Annual Conference, Warwick University, July 2006.


Publications


PhD Students: Project Activities

Albane Forestier
“Eighteenth-Century French and British firms in the West India trade: A comparison” Workshop in Economic History, LSE, March 2006

Julia Mensink
Conferences/Seminars
“Economic measures building political influence” Workshop in Economic History, LSE March 2006

“The Human Development Index and its political power” History of Economics Society Annual Conference, Grinnell College, Iowa, USA, June 2006.

Participant at Launch workshop for UCL International Institute for Society and Health, University College London, October, 2005

Participant at Amsterdam History and Methodology of Economics and Cachan History of Social Science Joint Workshop, Group, Tinbergen Institute, Universiteit van Amsterdam, The Netherlands, December 2005

Participant at Workshop on Measurement in Economics, Tinbergen Institute, Universiteit van Amsterdam, The Netherlands, April 2006.

Participant at Conference of the International Network for Economic Method (INEM) Grinnell College, Iowa, United States, June 2006

Aashish Velkar
Seminars/Conferences


Publications