Colleagues from across the ISSTI Network met for our Annual Retreat (7-8 June 2018), at the historic Linlithgow Burgh Halls.

More news from the event as well as videos of talks and panels will be included in the next newsletter.

We took this year’s retreat as an opportunity to open a debate about engaging with power and elites, intervention, activism and resilience. We include in this Newsletter some interesting and as of yet unpublished critical reflections on the historical relationship between our work and the wider social and political context as well as news of recent work and achievements by our growing network of colleagues.
Building New Partnerships

Shen Joins International Study Science and Innovation Policy

Congratulations to Xiaobai Shen (Edinburgh University Business School) who is part of a successful application, led by Professor Alan Irwin from Copenhagen Business School to study “Isomorphic Differences: familiarity and distinctiveness in national science and innovation policies.”

National science and innovation policies appear strikingly similar on a number of dimensions, including principles of clustering and partnerships, an emphasis on ‘smart growth’ and a focus on key technologies (such as biotechnology and nanotechnology). Is this a pervasive homogeneity or are countries and regions strategically distinguished? This project will conduct a comparative analysis of science and innovation policy-making in three settings: China, Denmark and the USA. Specifically, it focuses on the balance between duplication and difference in policy-making. Xiaobai will lead the Chinese study.

The main research agenda plans to examine: What is the relationship between replication and variation (or exceptionalism) across national research and innovation policies? Is there a global trend towards convergence (or divergence) within policy thinking and institutional discourse? Such questions are of considerable importance in terms of enhancing our understanding of research and innovation policy. They also address challenges of setting strategy in this area, particularly in terms of how to strike the best balance between ‘following the global crowd’ and ‘setting a distinctive direction’.

Distinguished Visitors from the Chinese Academy of Social Sciences

The University of Edinburgh Business School, Edinburgh Entrepreneurship Club (e-Club), Edinburgh Innovation and the Institute for the Study of Science, Technology and Innovation hosted a visiting delegation from the Chinese Academy of Social Sciences (CASS).

After discussing differences and similarities between UK and Chinese policies to promote innovation ecosystems, the CASS delegation leader Professor Ping Li gave a guest lecture to the Edinburgh Entrepreneurship Club on Understanding the Chinese Economy.

ISSTI also hosted a recent training mission for senior staff from the Chinese Academy of Sciences Bureau of Personnel and Education. Robin Williams, Jane Calvert, Niki Vermeulen, Justyna Bandola-Gill and Xiaobai Shen discussed their insights into the development of science and innovation policy in the UK.
Dristas Part of *Channel 5* Programme on Exploration of Kilimanjaro


STIS PhD students write for *El Tiempo*

Sara Valencia and Oscar Moreno offered an analysis in “El Tiempo” of how the presidential candidates of Colombia focus upon science and technology. The article is available here: http://www.eltiempo.com/elecciones-colombia-2018/presidenciales/analisis-de-propuestas-de-candidatos-presidenciales-en-ciencia-y-technologia-217804

“Everyday Cyborgs and Humanimals: the Documentary”

Animal, Mechanical and Me project, led by Gill Haddow and supported by the Wellcome Trust, produced four short films attempting to answer questions such as “If you had to make the choice would you choose to have your organs replaced with animal or mechanical ones? Does having parts of your body replaced with materials from other sources make you feel any different?” The films are now joined together in Everyday Cyborgs and Humanimals: the Documentary, available here: http://youtu.be/7WiTY5FF5w

STIS PhD student featured in video at *BBC Online*

Matjaz Vidmar has been featured in March 2018 on the BBC Online platform with a short comment piece about space mining opportunities, accompanying an introduction to the UK’s first space mining company. Here is the resulting video: http://www.bbc.co.uk/news/av/science-environment-42884887/the-22-year-old-running-uk-s-only-asteroid-mining-business

Continuing SSU50 Conversations

In 2016, Science, Technology and Innovation Studies (STIS) marked and celebrated the 50th anniversary of the establishment of the University of Edinburgh, Science Studies Unit with a variety of events and activities. Early in the planning process a small group of STIS colleagues discussed different ways that we might contribute to reflecting on the emergence and stabilisation of STS as a distinctive interdisciplinary field. We decided to carry out a series of interviews with key figures in the field and compile them into an edited collection of ‘conversations’.

Initially, we thought that this would support a history of the Unit, but as we brainstormed, planned, and discussed the project, our ambitions changed. Rather than limiting ourselves to people involved in the early days of Science Studies at Edinburgh, we decided to conduct a more expansive, and hopefully inclusive, series of interviews. Talking STS, as we named the project, consists of 16 conversations between key STS scholars and early- to mid-career colleagues, many but not all of whom have an association with the University of Edinburgh. Our interviewees include scholars like Donald MacKenzie, Sheila Jasanoff, Harry Collins, Bruno Latour and Karin Knorr-Cetina. A short reflection piece, written by the latter two, accompanies the corresponding exchange. The conversations and reflections together present diverse perspectives on what the field had been, is now and ought to be in the future. We hope that these will stimulate and nourish discussion and debate. Importantly, Talking STS is not a celebratory exercise. We care as much about the field’s flaws, failures and inconsistencies as we do about its abilities and triumphs.

Talking STS conversations and reflections pieces will appear in *Engaging Science, Technology, and Society*, the Society for Social Studies of Science’s open-access journal, later this year. We hope that readers will encounter ideas with which they concur, others with which they disagree and many more that demand prolonged musing.
Gary Werskey

I joined the Science Studies Unit in January 1970. It was my first full-time university appointment and also, as it turned out, my happiest. What made the SSU so special in the early 1970s was a unique combination of exciting times and outstanding contributors who made the most of their circumstances.

Unfortunately, I don’t have the time to provide a considered or even coherent account of what made our unit special and why. So I’m going to offer instead an old-fashioned, dot-pointed, internalist-externalist brain-dump.

External factors

- A wave of optimism in the 1960s about the ‘white-hot technological revolution’, coupled with anxiety about the supply, education, and careers of scientists and engineers, leading to the formation of centres focussed on these issues in various UK universities, of which the SSU was just one example.
- A parallel and counter-vailing trend – much of it emanating from the USA – based on concerns about science’s social and political role and effects, especially its military applications during the war in Vietnam.
- A revival of interest among some (mainly American) historians and social scientists about science as a social phenomenon, led initially by Robert Merton, Everett Mendelsohn, and Thomas Kuhn.
- A cultural renaissance in Edinburgh leading to a new liveliness in the arts, especially poetry and theatre.
- The first stirrings of student activism which extended across many areas of the University and into the classroom.
- The convergence and varying effects of all these influences on the work and activities of the Science Studies Unit.

Internal factors

- The SSU enjoyed high-level support within the University, including its V-C, Sir Michael Swann, and distinguished colleagues in various faculties, including C.H. Waddington, Peter Higgs, and Frank Bechhoffer.
- A politically and intellectually astute leader in David Edge, who created a context where staff and students had plenty of space to explore the issues that mattered most to them (and him). He was also an outstanding academic networker which opened up further opportunities for all of us, including his collaboration with Roy MacLeod in founding the journal *Science Studies* (now *Social Studies of Science*).
- Outstanding colleagues just at the start of their distinguished careers – most notably Barry Barnes, David Bloor, and later Steve Shapin – who lived those unfortunately all too rare qualities in academic life of fearless curiosity and real collegiality.
- Extremely able research students like John Law, Brian Wynne, Cathy Stack, Lorna Duffin, Margaret Deacon, and others who benefited from and later contributed to the updraft in ideas inspired by the ‘Edinburgh School’.
- The often challenging and highly stimulating science students who took our courses, including Donald Mackenzie. Donald and I later ended up in the same commune in Leith, where we found further common cause in historiography and Left politics.

Personal factors

The impact of all these personalities and influences on my own development was, if not life-changing, certainly a watershed in my life. My work on the left-wing scientists of the 1930s benefitted enormously from the interest and criticism it elicited from Barry and the two Davids (and later Donald). It was also boosted by opportunities that arose simply from their patronage, including the inclusion of an article of mine in the first number of *Science Studies*, which Barry later reprinted in his Penguin reader on the sociology of science (in the Penguin series on modern sociology, whose General Editor, Tom Burns, was another Edinburgh connection). David Edge also introduced me to his successor at the BBC Radio 3 science...
department, Michael Totton, who then commissioned an hour-long documentary and a solo talk based on my research into what I later called The Visible College of activist scientists from the Thirties.

Beyond the SSU I simply thrived in the cultural and political movements that made Edinburgh such an exciting place to be. Poetry readings and performances at the Traverse Theatre were simply remarkable. Inside and outside the University there was also the stimulation and engagement of increased political upheaval. I remember walking one evening in a large crowd with Michael Swan as he was attempting to return to his office occupied by a number of radical students. To my surprise he asked me on the run as to what he should do. By now a bearded young lecturer and veteran of similar events at Harvard, I simply told him to ‘listen’ to them, which to my even greater surprise he did. There were more light-hearted escapades, like my attempt with others to screen Andy Warhol’s ‘Flesh’, against the wishes of Edinburgh’s moral police. But among the more confronting moments were the anti-apartheid demos against the Springboks’ tour in 1970-1971.

Unfortunately, by 1972 my love affair with Edinburgh and the SSU was under pressure from two directions. One of them was my relationship with my future wife, who managed to land her first academic appointment at Leicester University. We decided that I might also have a good chance of getting a job down south—a gamble that eventually paid off when I joined Harry Collins in Bath University’s sociology department. The other influence was my own growing radicalization which ended up conflicting with my previously more focused interest on academic work. The SSU is somewhat to blame for this change of emphasis, since at one of its earliest conferences it showcased the charismatic left-wing historian Bob Young, who rather bowled me away with his political passion and scholarly verve (though not Barry Barnes with whom Bob engaged in a tart exchange about domestic politics).

The good news was that I was able to encourage my Frisbee-throwing partner on the Meadows, Steve Shapin, to succeed me. This was a great outcome for Steve and the SSU, who went on to such great success as the renowned ‘Edinburgh School’. What a tough act to follow!

Gary Werskey

Dr Gary Werskey studied history at Northwestern and Harvard Universities and has taught at the University of Edinburgh, Bath University, and Imperial College. After serving as Executive Director, External Affairs, at the University of New South Wales, he became a management consultant and sometime property developer. He is the author of The Visible College: a collective biography of British scientists who became socialists of the 1930s and is currently researching the life and work of the British-Australian artist-illustrator A.H. Fullwood. He is also an Hon. Associate of the University of Sydney’s History Department.
Steven Shapin

I was not one of the original members of the Science Studies Unit. I was, in fact, the third person in my position— the first was, I think, an Israeli-American who (so I was told) had been interested in the technologies of rain-making, though I never met him, and the second was Gary Werskey. Werskey was a Harvard-trained historian of science whose thesis, and subsequent book, was on the 20th-century British-Marxist scientists— Joseph Needham, J. D. Bernal, et al. Fortunately for me, Werskey decided to resign his Edinburgh lectureship, eventually to take up a position in industrial sociology at Imperial College and later to move on to Australia.

I do not know whether Werskey was actually teaching history at the time he left, but my plans to teach and do research in history of science were not enthusiastically received by an eminent member of the Edinburgh history department, who, when I arrived in 1972, was the resident historian of science, so the label for my course (“Social History of Science”) was negotiated as adequate “product differentiation” from the Real Thing and I was, on this basis, permitted to teach some version of history as opposed to alternatives that I never clearly understood—perhaps some version of science policy?

The arrangement that my new colleagues fell into was a nominal division of labour into sociology of science (Barnes), philosophy (Bloor), an assortment of “policy” and “ethical” issues (Edge), and me (faute de mieux, “the historian”). That gave the appearance of some sort of intentional “interdisciplinarity,” but this was more a historical accident than a considered way of carving up the study of science along traditional disciplinary lines. At the time I arrived, the circumstances of the Unit’s founding, and the conception that C. H. Waddington had of the thing, were not much talked of, but my understanding was that Waddington intended something different from what the Unit was then becoming. I was given the impression that, in the Waddington (or, perhaps, the Waddington-Edge) conception, we were meant, so to speak, to solve the “Two Cultures” problem in educating Edinburgh science undergraduates (“We’ll teach ‘em science; you teach ‘em the rest,” is the way I heard it), or that we were intended to be something more policy-orientated. So, by the early 1970s, the Unit seems to have become what it was more or less by accident and by reflecting the current teaching and research interests of the four people who then made up its academic teaching staff.

At the time I arrived, Barry Barnes and David Bloor had for some years discussed with each other how one might constructively engage with science as a social phenomenon, and I had little to contribute to what they had already achieved, and were to achieve, in the years after my arrival. I was, in that respect, clearly their student and not a competent member of the enterprise that had already done so much to define. I felt myself lucky to have them as colleagues in my first job, and I think of them as my proper “education,” since I spent little more than three years as a postgraduate student in the States and knew next to nothing about the social study of science, or about the philosophy or sociology of science, when I arrived. On reflection, I find it a puzzle that I was appointed at all, and I suspect the reason was that I was the least nervous—or, at least, the most voluble— of the three applicants to undergo the traditional formal interview that was the sole basis for the appointment. (David Edge was the only member of the Unit on my interview board, and maybe he was out-voted: the other two candidates were far better qualified.) At the time of my appointment, I had in press precisely one book review and one article— which had nothing to do with my Ph.D. thesis—then under consideration by the journal that David Edge edited.)

Through the 1970s and 1980s, Unit staff tried intermittently to have a more significant role in the university’s teaching, but these efforts came to nothing. Recall that we were in the Science Faculty, and I was given to understand that there was neither curricular flexibility nor Science Faculty interest in having any more “fringe stuff” in science education. Our classes were quite small: as I recall, Edge’s “D” course was always the most well-attended, with Barnes’s sociology course next, followed by Bloor’s philosophy course. Student take-up for my “social history of science” course was at times embarrassingly poor: I recall classes as small as six or eight, rarely more than twelve students, and no more than two or three post-graduate students ever had the doubtful benefits of my supervision.

As I was not promoted from Lecturer— to Reader— until after I had accepted an offer from UC San Diego (17 years after my appointment and as my “going away present”), Science Faculty politics was closed to
me. Mere lecturers received the agenda of Faculty meetings but were not permitted to attend or to have a voice, so my knowledge of the institutional circumstances affecting the Unit was patchy and indirect. (Though, to tell the truth, I was, in general, wholly content to let David Edge represent the Unit within the Faculty and University and did not work energetically to advance any institutional views I might have had.) I speak for myself on this, but I felt we all had an abundance of free time for research and writing, that administrative duties were non-existent, and that teaching demands (or opportunities) were modest—certainly compared to teaching loads I have carried since leaving Edinburgh in 1989. I know that some of us wished we had more support for post-graduate positions, and more applicants for post-graduate study at the Unit, but the truth of the matter is that during my time we had very few students doing Ph.D.s with us— with a qualification I'll make later. Donald MacKenzie was an extraordinary presence as Barnes's student and, later, when he took up a position in the sociology department, and I am as indebted to him for what I learned at Edinburgh as I am to my lecturing colleagues.

Barnes and Bloor made the most of the time we all had for research and writing; I did not, and I never published the "book of the thesis" which was, and is, the norm for getting tenure in American universities. In fact, it was 13 years after my appointment that I published a book at all, and this was co-authored with Simon Schaffer, with whom I first began to discuss the project when he was at Imperial College and later when he moved to Cambridge. My appointment on tenure came unasked-for in a brown envelope arriving in the Unit mailbox and was gratefully, if matter-of-factly, received. (Those were the days.)

One thing that is usually forgotten in talk of the so-called “Edinburgh School” is that the Science Studies Unit always had a fault-line running down the middle of what were its two parts. Identifying the Unit with the “Strong Programme” and with the sociology of scientific knowledge (SSK) equates it with the work done by Bloor and Barnes, and that work is, of course, distinctive and has proved influential. But, in fact, from the time I arrived until my departure in 1989, there were always post-graduates housed in the Unit whose research had nothing to do with that of Bloor and Barnes, or with any form of SSK. Edge had a long-standing arrangement to secure ESRC funding for post-graduates pursuing work in “appropriate technology” for the “Third World”— for example, studies of water-management policies in Brazil and Indonesia, the development of a micro-electronics industry in Mexico, agricultural innovation in Africa. These students outnumbered, I believe, those doing work in SSK; many of them were supervised through Harry Dickinson in the Engineering Department; and, while they were physically located in the Science Studies Unit, and while their funding was channelled through Edge, their substantive supervision was, I think, managed through Engineering and Edge did not, apart from administrative matters, have much to do with their research.

When Harry Dickinson suddenly died, Edge very generously did what he could to find alternative supervision for Dickinson's last, “stranded” students, who remained housed in the Unit. So, if you walked into 34 Buccleuch Place at any period from the early 1970s to the late 1980s (and maybe beyond), you would find more researchers doing “useful things” in and around technology policy than those working on anything concerned with the “Strong Programme.” (When the term “Edinburgh School” began to get currency— and maybe this wasn't until the early 1980s— I recall that several American visitors fetched up at Buccleuch Place expecting to see monstrous regiments of relativists working away to undermine Rationality and Reason, and were shocked to find just two or three people doing what they feared, in freezing cold offices, with no evidence of munificent funding from the Kremlin.)

Everyone in the Unit got on quite well, but the “useful people”— with perhaps one or two exceptions—understandably had little interest in the SSK-stuff, and, with the exception of Edge, the “useless people”—Barnes, Bloor, and Shapin—knew little or nothing about technology policy. (For a time, Edge— of course— and Brian Wynne constituted a sort of “bridge” between the “useless” and the “useful” bits, but when Wynne departed for Lancaster, there was not much left in the way of a connection.) Looking back on it, that division was unfortunate, and, perhaps, it lead to some missed opportunities, but it was at the time just accepted as "the way things were." “Useful” and “useless” were, in fact, shared (and only semi-ironic) terms we all occasionally used to describe the divided nature of the Unit’s personnel.

I am giving the impression that, in all this, I was something between an “amateur” and a Lucky Jim-ish “incompetent” compared to my colleagues, and, if so, there is much truth to it. But there were some good
things that flowed from degrees of disorganization and amateurism, and which my distinguished colleagues might agree I am right to confess.

I quickly got into the—perhaps annoying—habit of banging on the office doors of Bloor and Barnes, and eventually of Andy Pickering and Donald MacKenzie too, with the intention of getting their views on things I had read and ill-formed thoughts and opinions I had. I cannot recall an occasion on which I was turned away because my colleagues were “too busy” or because they professed little interest in my obscure historical interests. Those discussions, sometimes continued across the street at pubs or at a mediocre restaurant/wine bar, were my proper education, and I got the impression that this was how academic colleagues normally behaved—that people made themselves available when serious (or sometimes not-so-serious) things were proposed for discussion. The truth, however, is that in my subsequent academic positions I never again encountered anything remotely like that sort of accessibility, or, indeed, agile intelligence. When I reflect on that period of my life, I recognize how much I owe to the generosity of my colleagues, but I also reflect on a style of academic openness, breadth, trust, and time-to-think which our administrative masters—especially in Britain, but also in many other national settings—have worked so assiduously to destroy. They have made it unlikely, if not impossible, that the conditions which made the work of the Science Studies Unit possible in the 1970s and 1980s could ever occur again. I am honoured to have been a minor member of that group and I am saddened that its collective work came to an end.

Steven Shapin

Prof Steven Shapin joined Harvard in 2004 after previous appointments as Professor of Sociology at the University of California, San Diego, and at the Science Studies Unit, Edinburgh University.


He has published widely in the historical sociology of scientific knowledge, and his current research interests include historical and contemporary studies of dietetics, the changing languages and practices of taste, the nature of entrepreneurial science, and modern relations between academia and industry. He writes regularly for the London Review of Books and has written for The New Yorker. He is a Fellow of the American Academy of Arts and Sciences, and his awards include the J. D. Bernal Prize of the Society for Social Studies of Science (for career contributions to the field), the Ludwik Fleck Prize of 4S and the Robert K. Merton Prize of the American Sociological Association (for A Social History of Truth), the Herbert Dingle Prize of the British Society for the History of Science (for The Scientific Revolution), a Guggenheim Fellowship, and a Fellowship at the Center for Advanced Study in the Behavioral Sciences. With Simon Schaffer, he was the 2005 winner of the Erasmus Prize, conferred by HRH the Prince of Orange of the Netherlands, for contributions to European culture, society, or social science. In 2014, he received the Sarton Medal, the highest honour of the History of Science Society, in recognition of a “lifetime of scholarly achievement.”
We are delighted to welcome new arrivals.

Dr Morgan Currie

Morgan Currie is the new Lecturer in Data and Society at STIS. She arrives from Stanford University, where she was a Postdoctoral Fellow at the Digital Civil Society Lab. She earned a Ph.D. in Information Studies from University of California, Los Angeles, in 2017, and a Masters in New Media from the University of Amsterdam in 2010.

Currie’s research examines the way cultural, political, and economic factors interact with the design and development of data infrastructures. Her recent work analyses the datafication of city records – how city governments have embraced statistical tools to track performance, set goals, justify budget expenditures, direct public services, and interact with the public. Her research uses fieldwork, interviews, and case study analysis to ask how these new information cultures take shape, and how they might open - or foreclose - democratic participation. Currie also draws from political theories of democracy, including American pragmatism and post-structuralist critical theory, to understand how civil society can use data as a tool to contest political issues.

At STIS Currie will be teaching the courses ‘Internet and Society’ and ‘Data, Design, and Society.’ She plans to expand her research to a multi-city, international comparative study to explore datafication's relationship to democratic processes. This project sets out to understand how cities’ embrace of these statistical activities demand new literacies and political competencies of citizens who wish to intervene in them.

Dr Rob Smith

I work in the field of Science and Technology Studies and focus primarily on the social, political and ethical dimensions of the biosciences. I am especially interested in the ‘public’ parts of all this; what happens when biotechnologies — and the people making them — get out into the world. I’m currently pursuing these interests by participating as a social scientist in a field that attempts to make biology easier to engineer — Synthetic Biology. Here, I am focusing primarily on the relationship between research funding and public value; the ability of synthetic biology to address meaningful social and environmental challenges; and what happens when scientists try to automate important parts of their work. A lot of my research involves working closely with synthetic biologists, other social scientists, artists and policy makers; in unexpected spaces; and with lots of different kinds of increasingly large data (digital, funding portfolios), so I am fundamentally interested in method.

I joined The University of Edinburgh in April 2018 to work with Jane Calvert as part of the Engineering Life Project and Centre for Mammalian Synthetic Biology. This builds on two years worth of researching, intervening and scheming (sometimes with with synthetic biologists) at the Department of Global Health & Social Medicine, King’s College London. I completed my PhD at the University of Nottingham, during which I was interested in the development of a biofuel controversy in the UK, and particularly the way that groups — policy makers, NGOs, research funders, scientists and consultants — navigated and reacted to this controversy. I originally trained as a biologist and hold a BSc(Hons) in Animal Science.

Major Promotions for STIS Colleagues

Dr Jane Calvert was appointed to a Personal Chair in Science and Technology Studies, whilst Dr Ann Bruce and Dr Niki Vermeulen were promoted to Senior Lectureships. Congratulations all round and all best wishes for future career successes!