

SDN Meeting Report 2008

Rapporteurs: Regula Burri, Max Fochler, Rob Hagendijk, Sheila Jasanoff, Sang-Hyun Kim, David Winickoff

Session 1: Models and Meanings

Chair: Rob Hagendijk

Stève Bernardin (Université de Paris I), “Pure Science in a Bureaucracy: Limits of a Necessary Fiction,” reported preliminary findings from his dissertation work on the history of car safety regulation in the United States. He discussed how, after the passage of the Highway Safety Act and the creation of the National Highway Safety Bureau (NHSB) in 1966, a new framing of traffic safety was introduced and incorporated into the government’s attempts to set and regulate standards for motor vehicles and highways. This framing, along with the application of public health methods and epidemiology, did not go without challenge. Bernardin traced the tensions between public health specialists at the NHSB and traditional highway engineers at the Bureau of Public Roads (PBR) and elsewhere, highlighting the strategic boundary work employed by each side in enhancing the credibility and legitimacy of their approaches to traffic safety. In the Q&A, a question was raised as to the broader political context in which these tensions were located. Discussion also centered on how new scientific practices became institutionalized and transformed into routine bureaucratic procedures relatively quickly—within a few years.

Ben Hurlbut (Harvard University), “Confusing Deliberation: What “Cloning” Means for Democracy,” examined the efforts of a U.S. expert scientific community to reform the terminology used to refer to human somatic cell nuclear transfer in public deliberation. He showed that, while the shift away from the term “cloning” was justified on grounds of accuracy, the arguments advanced for disseminating scientifically accurate terminologies were, in fact, primarily normative rather than epistemic. By proposing alternative framings and terminologies, scientific experts tacitly advocated a model of democratic deliberation in which they took on themselves a special role as guardians of discursive order in the public sphere. Hurlbut concluded that the legitimacy of expert intervention in public deliberation on human cloning research was thus not only derived from the construction of the boundary between fact and value but established through an invocation of particular democratic norms. The question of broader context was again raised by several participants, and was discussed, for example, with respect to how STS scholars could go beyond producing empirically rich analyses. Attention was also paid to the issue of cross-national differences in stem cell debates.

Angela Pereira (European Commission-Joint Research Centre) presented a documentary film that explored the role of science fiction movies as interfaces between science and society. Sci-Fi movies are not explicitly designed as forums for public involvement in science and technology. But Pereira’s film argued that they could still provide an opportunity to reflect on prevailing visions of technological futures, as well as on the social and ethical implications that these futures might entail. In that sense, Sci-Fi movies can be seen as a popular form of technology foresight; they can raise awareness of and

foster debate over certain technological issues and draw attention to the need for deeper communication about them. The film concluded by posing the question: what are the essential elements of Sci-Fi movies that would make them part of extended peer review of science and technology? Workshop participants pointed to the diversity in film genres and suggested that this might broaden or complicate the discussion. In addition, the need for critical STS analyses of Sci-Fi movies was stressed. The session ended with general discussion on the importance of analyzing the imagination of socio-technical futures and their economic dimensions.

Session 2: Making and Managing Novelty

Chair: David Winickoff

The papers in Session 2 addressed processes of innovation and their governance from a variety of perspectives. **Ulrike Felt** and **Maximilian Fochler** (University of Vienna), “Civic Imaginations of Democracy and Innovation: How Citizens and Scientists Negotiate Innovation Governance in the Life Sciences,” explored the ways citizens – i.e. both scientists and lay people—imagined models of innovation in a public engagement setting in Austria. They showed how the often shifting and situated use of these models was strongly linked to citizens’ imaginations of the possibilities and limits of (upstream) innovation governance. In the culturally well-rehearsed linear model, upstream phases were not seen as amenable to governance. At the same time, network-based ideas of innovation left citizens puzzled as to which actors and places participatory governance could effectively address. The authors concluded that the debate on upstream engagement would benefit from considering the intersections of collective notions of innovation and governance within specific techno-political cultures.

Stephen Hilgartner (Cornell), “Intellectual Property and the Politics of Emerging Technology: Inventors, Citizens, and Powers to Shape the Future,” addressed the changing politics of emerging technologies, focusing on intellectual property, especially patents. He argued that the contemporary politics of intellectual property can be illuminated through the heuristic device of contrasting two policy perspectives that are found in current debate. The traditional policy discourse of intellectual property policy is based on an Innovation Policy Perspective (IPP), understood in linear terms. The IPP, he argued, continues to dominate the policy world, but contention around IP increasingly also features a second policy discourse, which he called the Politics of Technology Perspective (PTP). The two policy paradigms cast what is at stake in intellectual property policy in starkly different terms. For example, while the IPP conceptualizes technological change as apolitical and frames patents as a source of market power that enables rights-holders to extract rents, the PTP sees technological change as inherently political and frames patents as a source of “configuration power” that yields influence over the shape of social orders.

Brice Laurent (Ecole de Mines de Paris), “New Forms of Science/Society Relationships in the French Administration: Innovations and Ambiguities,” analyzed new forms of science-society discourses in the French administration when looking at the ways in which industrial risk is constructed as a political object. He showed how different

institutional structures produce different visions and definitions of industrial risk. The concept was framed, for example, as a cultural issue, or as a technical issue to be handled by experts, or as a contested issue that should be put under the scrutiny of the public. Laurent showed that such different visions are related to different concepts of citizenship. Despite the current calls for “participation” and “dialogue” in the French Administration, Laurent concluded, such models are translated into administrative procedures where they tend to remain invisible.

In her comments on the three papers, **Cristina Grasseni** (Fondazione Bassetti) highlighted three common concepts addressed by the authors: participation, innovation, and responsibility. She pointed to participatory democracy as a contested ground, to the role of artifacts in innovation, and to the reinvention of both democracy and basic understandings of social life in processes of innovation and governance. Finally, she noted, the three papers showed that responsibility is a force which is used and evoked in such processes.

Much of the discussion focused on Hilgartner’s analysis. Jasanoff suggested that it might be better to frame the comparison in terms of “innovation” versus “constitution,” rather than “innovation” versus the “politics of technology.” This framing, she argued, would better highlight questions of participation and the co-production of particularly consequential emerging technologies and new forms of citizenship. Barben stressed the distinction between discourses and institutions. Questions also explored whether the two policy discourses could be understood as mapping onto the categories of market and state (Hagendijk) or how the paradigms might be related to Mode 1 and Mode 2 of knowledge production (Forsyth). While Hilgartner did not understand these concepts as mapping directly onto the innovation and politics of technology discourses about IP, Felt and Fochler said that in their study citizens referred to both Mode 1 and Mode 2 depending on the issue at stake. Joly wondered what was historically novel in contemporary discussions of IP. According to Hilgartner, the long history of controversy over patents was not the focus of his paper. Mata pointed to the ways patent law shapes the political economy of the south, and Bonneuil observed the emergence of a metapolicy discourse—exemplified in discussions of peer production and open source—that would integrate the IPP and PTP paradigms.

Session 3: S&TS and the Problem of Democratization

Chair: Shobita Parthasarathy

Jenny Reardon (UC Santa Cruz) introduced the framework of the session as approaching democratization both as a normative goal, as well as an object of study. In doing so, and in building links to political theory, the session set out to debate new lines of inquiry around democratization and to scrutinize the role of SDN researchers in this.

The first paper presented by **Rebecca Ellis**, “Taxonomy, Biodiversity and their Publics in 21st Century DNA Barcoding” (co-authored with Claire Waterton and Brian Wynne, Lancaster University), built on their fieldwork with the Barcoding of Life Initiative (BOLI), the authors addressed the crafting of future publics of this emergent

technoscientific project. They characterized BOLI's vision of democratization as one of a "rapid and universal access" to taxonomic knowledge of an imagined general public, which is expected by the initiators to foster a "more intimate" relation of this public to nature. Drawing on Ernesto Laclau's concepts of the empty signifier and of the public as a failed totality, the paper analyzed the construction of BOLI's public, and most of all which different possible publics are marginalized by the totalizing "everyone" employed. In the discussion, it was pondered to which other resisting and subversive uses the barcoder technology might be put by different social groups/publics. Beyond this, participants inquired how both the materiality of the technology as well as the linguistic shifts and switches in the rhetoric of the proponents of DNA barcoding play a role in the process of crafting BOLI's publics.

The second paper, by **Jenny Reardon**, "On Giving a Genomic Account," diagnosed a proliferation of practices of democratization in science, and particularly in genomics. She analyzed the "costs" that these seemingly more democratic new practices may have, using as an example the HapMap project and its aim to foster the autonomy of its researched communities by granting them the possibility to define how they themselves would want to be named and identified. These costs followed from HapMap organizers' inability to discern the links between political and epistemic practices of representation employed in this seemingly democratizing move, the strongly constrained agency of the communities to define their identity, and the loss of accountability concerning the effects of the project. In conclusion, she argued that what is needed is not simply more participation of "people" in the design and regulation of scientific research, but knowledge production practices that foster awareness and response, and that open up meanings instead of assuming knowledge to be built on a fixed ground.

The discussion focused strongly on the possible role of SDN researchers and the co-production of knowledge in such practices. Yaron Ezrahi suggested that SDN scholars should engage in the ethics of the "imaginaries we want to live by", and should explore the causal relations between imaginaries and how political decisions are made.

The contribution by **Andrew Mathews** (UC Santa Cruz), "Opaque Transparencies in Mexican Forests: Official Knowledge and Local Concealment," traced transparency as a political category. Analyzing knowledge production in the Mexican forestry bureaucracy and its relation to practices in rural communities, the paper traced the tension between bureaucratic regulations seeking to render society transparent and how these regulations fail to relate to local life-worlds and knowledge systems. Mathews concluded that the transparency invoked by government officials conceals more than it reveals. Questioners inquired into how indigenous ecological knowledge is marginalized by these authoritative practices, and by which registers disempowered people may produce countervailing knowledge to the official bureaucratic account.

The cross-cutting discussion explored the possibilities and limits of building links between political theory, in particular the work of Laclau and Mouffe, and the issue of democratization in STS work. While the usefulness of the concepts put forward by radical democratic theory for fostering difference and openness was stressed, at the same

time the question was on the table how the closure of issues can be addressed in this framework.

Session 4: Testing Co-Production

Chair: Regula Burri

In this session three papers were discussed that look at the circulation of scientific knowledge in the public domain and the ways in which it becomes associated with other knowledge and concerns in the constitution and change of social order.

Bruce Goldstein (Virginia Tech), “The U.S. Fire Learning Network: Coproducing Identity, Ways of Knowing, and Social Order Through Narrative,” discussed the changing practices of wild fire management in the USA from suppression to ecologically more informed ways of dealing with fire. He reported on the uses of narrative approaches taken from planning and management studies to create and implement the new approach, thereby changing the underpinning conception of natural order and the identities of the professionals involved in actual fire management.

Arisa Ema (University of Tokyo), “How Information and Communication Technologies Affect “Safety” and “Privacy”? A Case study of RFID Surveillance System to Japanese School Children,” presented research by her and Yuko Fujigaki on the introduction of ICT based surveillance technology in Japan that allows parents to trace the trajectories their children follow in going to school and coming back. Drawing in part on a survey conducted among parents and children the technological solutions adopted and the actions and attitudes of schools, parents and children were explored.

Tiago Mata (Technical University of Lisbon), “An Uncertain Dollar: The Wall Street Journal, the New York Times and the Monetary Crisis of 1971 to 1973,” discussed an episode from economic history (the dissolution of the Bretton Woods currency parity management between 1971 and 1973). More specifically he discussed the ways in which two newspapers reported on the events and combined political interpretations with technical and theoretical economic understandings of the issues in doing so. He argued that spokespersons on behalf of economics as a science took a back seat and did not engage very actively in the newspaper coverage. It was left to economic journalists and policymakers to account for the events.

With respect to all papers, participants in the Q&A period focused on the (institutional) strategies, conditions and constraints for the events analyzed and the relative success of the interventions. In addition the ways in which scientists and social scientists were involved alongside institutions, actors and subjects of regulation in these examples of redefining social and natural order (the latter in the case of fire management). Finally, considerable attention went into cultural and institutional differences between the USA, Europe and Japan and their relevance for understanding the events and changes. It was argued in this context, for example, that in southern Europe a non-suppressing approach to wild fires (and the conceptions of nature underpinning it) would be completely unfeasible and unacceptable. Similarly the ready acceptance of surveillance technologies

by Japanese parents and institutions amazed many participants located in the USA or Europe.

Session 5: Life and Its Values

Chair: Stephen Hilgartner

This session included four presentations that bridged the divide between STS theory and practice in work related to the life sciences. Two papers featured attempts to build new communication and collaboration structures around the life sciences and two looked analytically at episodes of protest and activism by civil society. Common themes centered on the reflexivity of the analyst or intervener, the definition of publics, the boundaries between expert and other forms of knowledge, and the co-production of expert systems and democratic politics.

Shobita Parthasarathy (University of Michigan), “Making Democracy at the Patent Office: The Science and Politics of Patents on Living Organisms,” presented preliminary findings from her work on life patents in Europe and the United States. Focusing primarily on the US scene, she demonstrated through several exemplary cases how activism is occurring both through the democratic medium of street protests and other moves by civil society and inside patent offices, though more technical, expert forms of intervention. In this process, once-insulated decisionmaking practices of patent agencies are being brought to public view, revealing as yet unanswered political questions about the nature of expertise and the boundaries of the publics whom patent systems seek to serve. Parthasarathy called attention to the role of “boundary figures,” speaking both technically and politically, in restoring to view the moral dimension of patent law and how it defines the public interest.

Kris Saha and David Winickoff (Whitehead Institute and UC Berkeley), “Opening Life Science Research and Development: Integrative management of Data, IP and Ethics in Stem Cells,” reported on a workshop organized at Berkeley in 2007 to explore the possibilities for greater collaboration among stem cell researchers. The organizers assumed that more collaboration through new data sharing practices would be in the public interest by reducing disincentives and other barriers to innovation. Using the Public Intellectual Property Resource for Agriculture (PIPRA) as their background model, they asked participants from varied institutional sectors to consider the potential for collaboration. Workshop discussions illustrated the fluidity of the boundary between technical and social concerns around intellectual property and data sharing. Participants were interested in collaboration, but felt leadership should come from a funding agency such as the National Institutes of Health. In response to questions, the authors acknowledged a need to relate their experiences more to social and political theory and to develop ways of being reflexive about their dual role as analysts and intervenors.

Les Levidow (Open University), “GM Food on Trial: Contesting European Democracy,” discussed the multiple levels at which GM crops were put on trial in the European Union. He showed how the metaphor of “trials” at once captures and connects the technical conflicts around field experiments, the juridical trials of dissident activists, the public

tests of regulatory efficacy and sufficiency, and demonstrations against the “democratic deficit” of EU institutions. He concluded that what was on trial in Europe was not only the safety and sustainability of GM agriculture but also the appropriate model of the European constitution. An interesting question that emerged during discussion was the extent to which Levidow’s stories were driven by technological as opposed to constitutional concerns, and whether the same sort of layered account could be given of any other contested domain of EU politics. In other words, were GM crops just one instance of a wider democratic conflict and not particular to this specific technological sector?

Annemiek Nelis (Center for Society and Genomics, NL), “Doing DNA-Dialogue,” reported on the efforts of the center that she directs, to initiate a wide-ranging public dialogue on aspects of genomics. Organized under the heading of “Great Expectations,” the two events she described sought to represent both scientific and social issues arising from genomics, in the first case, through a wide variety of events from theater and poetry to public lectures and, in the second, through a focus on specific social issues. Nelis described how the organizers became reflexively aware, in part through public questioning, of their own inevitable role in as participants in framing the issues, selecting the experts, and experimenting with the very notion of “dialogue.” The recognition that these were interventions rather than interactions led to a research agenda around the center’s DNA dialogues. In discussion, Nelis and her questioners addressed the need for better analytic resources to make sense of such public interventions, as well as the ethics of organizing such events.

Session 6: Science and Politics Beyond the Nation State

Chair: Sang-Hyun Kim

Silke Beck (UFZ Leipzig), “From Disgust to Trust—Public Resistance Revisited,” discussed her involvement in projects on water governance, especially in “SMART”—a German consortium of institutions and stakeholders interested in “integrated approaches” to water management projects. SMART is underwritten conceptually by the “German High Tech Strategy” that emphasizes ecological modernization and environmental technology, reframing environmental problems as economic opportunities. A number of conclusions have emerged from Beck’s involvement in SMART. Water engineers have tried to adapt projects to local contexts, but it is clear that they are still very detached from social contexts. There is ample empirical evidence that people resist the idea of water recycling. Diagnosing this evidence as a “yuck factor” rooted in emotion or irrational disgust, technical authorities have tended to respond by deploying a “decide, announce, defend” approach to water management’s publics. This “deficit” model of handling stakeholders has introduced new uncertainties in policy and bred mistrust and resistance. These approaches, Beck suggested, could be usefully amended to include processes of informed deliberation and organized stakeholder meetings, in order to adapt technologies to local environments. STS insights might usefully contribute to water policy by identifying and addressing the “politics of scoping and scaling,” and explaining resistance.

Christophe Bonneuil (Centre Koyre), “The Fabric of Scientific Advice at the WTO: Authority, Selection and Boundary Making in the Agbiotech Dispute,” framed his discussion of the use of scientific experts within WTO dispute settlement process, by asserting the importance of the WTO as an institution in modern political life. The use of scientific experts there remains understudied, in part because it is so opaque. Bonneuil has had some access to communications between parties, confidential sources, which has shed some light on the procedures of expert usage in the recent *EC-Biotech* dispute at the WTO. The parties disagreed as to whether there were scientific issues requiring expert testimony, but the panel decided to consult experts, and did so individually as is their custom. The expert selection process was a “tricky game” of proposing expert lists, and a tactical battle of getting experts ensued that was shaped by short time windows of signing up experts. In general it was a chaotic and “under-codified” process. The panel focused on both speed and legitimacy, which is somewhat incoherent. Bonneuil suggested ways in which the use of expert testimony deployed boundary work and black boxing of contingency. He also drew attention to the role of science in the formation of legal categories.

Rob Hagendijk (University of Amsterdam), “Science, Technology and Inequality in a Globalizing World,” gave an overview and assessment of the *Researching Inequality through Science and Technology* (RESIST) project based in the Netherlands, which aims to understand the contribution of S&T to the creation and maintenance of inequality. He explained the rather ambitious scope of the project. He spoke of the challenges for innovation policies that seek to balance economic growth, reduction of inequality, and accountability to the poor. Inequality was defined in relation to both class and gender, and with respect to access to resources, extent of representation in decisionmaking, reaping profit in political and productive processes. The project features an interdisciplinary group of researchers from UK, Norway, Netherlands, Portugal, Malta, Mozambique, S Africa, L. America, Turkey, USA, Caribbean. In general, the project investigates programs for emerging technologies, technology transfer, indigenous knowledge. How are these projects developed and operationalized, and how do they conceive connections between national levels of policymaking and more local communities, local sites of practice, etc.? Hagendijk was struck by the involvement of the social sciences in the coproduction of natural and social order, though social sciences (with the exception of economics) have less power than the sciences to define problems. Conflicts in the project emerged over the utility of international accountability as a useful normative thrust of the project. An advisor from South Africa, e.g., argued that the research should be more focused on “national innovation systems.”

Meeting Business

Hideyuli Hirakawa presented ideas for collaboration between SDN and Japan STS in the lead-up to the 2010 meeting of 4S and Japan STS in Tokyo.

Cristina Grasseni and Jeff Ubois discussed possible convergences between SDN interests and those of the Fondazione Bassetti.

A prize was awarded (to Tm Forsyth) for submitting the first complete entry to the STS glossary; Les Levidow was runner up.

It was decided that the next meeting of SDN would be held in Cambridge, Massachusetts.