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EASST

Review

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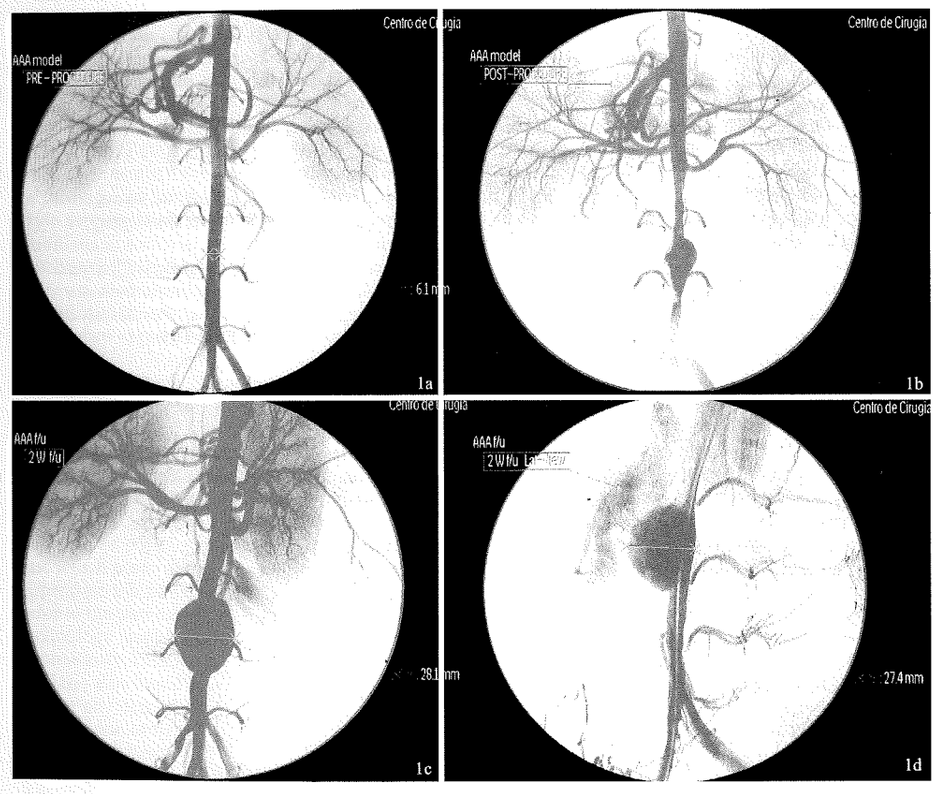

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front page illustration:
Aortography before surgery (a), immediately after surgery (b), and of 2-week follow-up on posterior-anterior view (c) and lateral view (d). Experimental surgery on pigs at the Minimally Invasive Surgery Centre, Caceres, Spain.

Reality is...

by Noortje Marres
University of Amsterdam

Review of Annemarie Mol, *The Body Multiple: Ontology in Medical Practice*, Duke University Press, Durham and London, 2002, 196 pages.

The book *The Body Multiple*, by the Dutch philosopher Annemarie Mol, is many things at once — something which should perhaps be expected considering its principal subject: the concept of multiplicity. To begin with, the book presents an ethnography of medical practice, in particular, of hospital practices concerned with a specific disease, atherosclerosis. As part of this ethnography, Mol further elaborates one of the central claims of science and technology studies (STS), that of the constructed nature of reality. Moreover, in a subtext spread out on the bottom of the pages of the book, Mol provides a diary-style account of her encounters with various traditions in sociology, philosophy and anthropology. This combination of ethnographic research, theoretical argumentation, and accounts of personal experience, is of course a well-established approach in STS, known from the work of Steve Woolgar, Bruno Latour and John Law, among others. But Mol also does something more. Elaborating on constructivist studies in STS, she develops a distinctly philosophical argument. More precisely, *The Body Multiple* transforms the ethnography of techno-science into a philosophical practice: ethnographic research of hospital practices here becomes an occasion to articulate an ontology — one which posits the multiplicity of reality. To appreciate this move, it is no doubt necessary to refer to the particularities of science and technology studies as it is practiced in the Netherlands. Here, unlike in many other places, STS has also found an institutional home in philosophy departments, a situation which Mol makes sense of by presenting her work under the label of "empirical philosophy." To my knowledge, Mol is the first to present work of this particular kind in a monograph published in English.

Ethnography as philosophical practice

How does Mol bring about what we could call her philosophical turn in the ethnography of techno-science in this book? One answer is that Mol follows in the footsteps of the French philosopher Michel Foucault. Like him, she zooms in on socio-material practices performed in a specific institutional setting, i.e. the hospital. And like him, she approaches these practices as sites where subjects and objects acquire their shape and definition. An ethnography of medical practices dealing with the disease "atherosclerosis," which Mol conducted in an academic hospital in a middle-sized town in the Netherlands, provides the main thread of the book. (Mol renames her ethnography a "praxiography," as she finds that there is little "ethnicity" to be discovered in a Dutch hospital.) The fieldwork has yielded accounts of the various ways in which the disease atherosclerosis is "done" in various sites in the hospital: in the clinic, the pathology-lab, the operating theater, the epidemiological research center, etc. Mol describes how in each of these sites, atherosclerosis takes on a somewhat different appearance: in the clinic, the disease is performed as "walking pain," whereas in the pathology department, atherosclerosis gets defined as a "thickening of the blood vessel wall." In recounting the different ways in which the disease is articulated in different settings in the hospital, Mol arrives at the claim that the various medical practices relating to atherosclerosis each enact a different version of this object. That is, from her ethnographic account of the differing articulation of the disease, Mol derives the claim of the ontological multiplicity of the object, atherosclerosis. The disease is more than one, she posits.

Alongside her ethnographic account of the multiplicity of the disease "atherosclerosis," Mol draws on social theory to conceptualize this multiplicity. In the subtext that runs along the bottom of the page across the book, she explains

how her argument further elaborates constructivist approaches in STS and symbolic interactionist accounts of the performance of social identity. Her focus on the enactment of disease in medical practice, Mol points out, is informed by the commitment in STS to the social study of phenomena which are usually classified as belonging to "objective reality." In line with this tradition, Mol points out, her ethnography zooms in on the objective category of "disease" and not the (inter-)subjective category of "illness." Mol then goes on to criticize constructivist work in STS, and in particular, laboratory studies. She argues that this work was still complicit with the modern scientific understanding of reality. Laboratory studies, she argues, presented reality as something that is solid and durable, once scientific facts have become well-established. But, says Mol, "Matter isn't as solid and durable as it sometimes appears." (p. 42) Objects should rather be understood as having a fragile identity, one which, moreover, "may differ between sites" (p. 43). One can wonder whether laboratory studies really presented reality as something solid and durable. For example, didn't Steve Woolgar and Bruno Latour argue in *Laboratory Life* that as soon as facts become consolidated, they become invisible, and no longer cause any noticeable "resistances" to human intervention? It seems to me that Mol rather wants to open up *different* sites for the study of the manufacture of reality, *besides* the laboratories of big science. Be this as it may, her critique of the concept of construction leads Mol to replace it with the more fluid notion of "performance," developed by Erving Goffman. This concept for her has the desired connotation of malleability and fragility, she says. Thus, Mol comes to argue that the concept of the staging of social identity, may be applied to the realm of objects, too. In socio-material practices in the hospital, the argument then goes, not just subjects, but objects too, are performed, staged, or, as Mol prefers to put it, "enacted."

By re-arranging the sociological concepts of the construction of reality and the performance of identity, Mol prepares the ground for her philosophical claim. If an objective entity like disease is approached as something which is enacted in socio-material practices, she argues, then the ontological multiplicity of this object comes into view. In different practices in the hospital, every time a slightly different version of the disease "atherosclerosis" is enacted. This difference, Mol points out, must not be understood in terms of a fragmentation or pluralist character of objects. Instead, the multiplicity of objects must be taken to mean that they "are more than one but less than many (p55)." Multiple objects, Mol posits, hang together in specific ways. In the middle chapters of the book, Mol elaborates this claim ethnographically. Here she describes how coherence between the different versions of the disease is brought about in the hospital. This is achieved in different ways: in some cases, differing versions of the object get aligned. For instance, two visualisation technologies - radiology and ultrasound - enact atherosclerosis differently. The former shows vessel lumen, the latter tells about blood velocity. They are made comparable in the establishment correlates between lumen loss and blood velocity. In other cases, the various versions of the object are not actively brought into agreement, but lead a distributed existence : the epidemiological and the surgical definition of atherosclerosis, for example, may differ, but since these different versions of the object do not come into contact in practice, this does not become a problem. The achievement of commensurability or the lack of necessity thereof, are themes which have received much attention in STS. But Mol presents them as a further elaboration of her claim of ontological multiplicity. She refers to the above practices of achieving coherence as "coordination work." That actors in the hospitals engage in such coordination goes to show that the multiplicity of objects should not be understood as irreducible.

This notion of "coordination work" bears many similarities with the concept of "modes of ordering" put forward by the British sociologist John Law, with whom Mol has collaborated over many years. In his book *Organizing Modernity*, Law presents this concept as a way to understand "social order" as something which is performed, rather than given. In this light, Mol's point of the coordination of different versions of an object in practice, can be taken as an "ontologization" of the question of social order. In fact, Mol's larger philosophical project in *The Body Multiple* can be understood in this way: she turns sociological questions into ontological ones. As I mentioned already, Mol herself characterizes her approach in this book, as "empirical philosophy." By this she means "a philosophical narrative" (p4), developed by "drawing on social scientific, and more notably, ethnographic methods of investigation" (p7). However, it seems to me that what makes Mol's philosophical project stand out from others', is not so much empiricism in general, but a very specific brand of it. Many philosophers, after all, have drawn on empirical studies in their work, from Karl Marx to the philosopher of the cognitive sciences Paul

Churchland, etc. Mol's project rather stands out because of an ethnographic mode of philosophizing, informed by social theory. Accordingly, her work would be better labeled as "ethnographic philosophy," or "ontological sociology" if these terms were not so ugly. Fortunately, that the perfect label for Mol's particular research practice is still to be found does not mean that we cannot evaluate her argument.

Nothing less than the nature of the real

Mol's argument is certainly also meant as a contribution to the sociology and anthropology of medicine. However, I am not sufficiently familiar with these fields to appreciate its merits. But when it comes to its philosophical merits, what makes her argument stand out from others is that Mol extends her claim of the multiplicity of objects to the multiplicity of *reality*. On multiple occasions, she reaffirms that "reality is varied" (p.164). The preoccupation with the nature of the real distinguishes Mol's argument from other philosophies which theorize multiplicity. By way of contrast, the philosopher Gilles Deleuzes inferred from the fact that the identity of entities is multiple, that the question "what is" should no longer be our principal concern. He proposes to shift attention from "being" to "becoming" ("devenir"). Bruno Latour, in his later work, concludes from the instability of objects in practice, that the question whether a given object counts as real, as opposed to illusory, is no longer the foundational question, as it had been for modern philosophy. This question, he points out, can only be answered when the process of the articulation of a given entity, in science and/or politics, has come to an end. Indeed, Mol's persistence in wanting to determine the nature of the real, also after the realization of multiplicity, leads to an exceptional concept of reality.

One key feature of Mol's concept of reality is that access to objective reality in her case becomes a distinctly ordinary event. For most modern philosophy, access to the real is rare and exceptional. It is said to require discovery or revelation, or at the very least, a strict adherence to method and/or reason. For Mol, on the other hand, access to the real has always already been established: "We do not master realities enacted out there, but we are involved in them" (p.179). One way to characterize Mol's position is to say that she takes up the notion of "being in the world" as it has been developed by pragmatist and phenomenological thinkers during the 20th century. Philosophers like John Dewey and Merleau-Ponty criticized the modern preoccupation with the mind, and have argued that subjects are embodied, and as such should be understood as being always already embedded in the world. These thinkers rejected the understanding of the human subject as locked outside reality. However, since pragmatists and phenomenologists developed this argument to account for *the human subject*, the understanding of objective reality in principle remained untouched by it. But Mol extends their argument to include this reality. As she redefines objective reality as something which is enacted in practices, the embeddedness of subjects in the world does not just apply to experiential reality, but also to objective reality. A problem with Mol's argument is that it reifies reality to a degree, something that did not trouble the phenomenologists and pragmatists since they were in the business of outlining the place of the subject in the world. Mol, on the other hand, reintroduces a grammar that says "reality is..." Even as she introduces us to a fluid world in which things are enacted differently in different practices, she makes reality appear as something with stable and fixed features - those of multiplicity and flexibility. This brings us to the normative project of Mol in *The Body Multiple*.

Ontological politics

Mol has a particularly concise answer to the question what difference it makes to appreciate the multiplicity of objects. She argues that if we acknowledge that objects are enacted in differing ways in different practices, we come to realize that each given enactment of an object, and configuration thereof, is relatively optional. That is, from the existence of many differing versions of a given object, Mol derives that alternative enactments of the object are possible: "to stress ontological multiplicity is to lay bare the permanent possibility of alternative configurations" (p.164). Interestingly, Mol does not take this possibility as an occasion to re-affirm that reality is subject to human choice. Instead, she emphasizes that it is in the enactments of objects in practice that it comes to be decided which world we live in. It is in socio-material practices, and not by way of a choice made by subjects standing outside of external reality, that the world comes into being. Mol captures this situation in the term "a politics of what". This politics, she says, acknowledges that the question of the good in answered in the enactment of objects in practice. It is opposed to a politics of who, which zooms in on the question which actors make the decisions (and according to which procedure). The politics of what finds its point of departure in the fact that

"the goals of medicine are not given." What the good life is, when it comes to disease, can only become clear in medical practice. In making this argument, Mol presents the good life as an object of politics, and in doing so she subsumes ethics under politics. Philosophers may raise problems about this. According to the liberal tradition, for example, ethics must be kept outside of politics. There the good life is taken as something which we cannot and should not try to agree on. But more troubling is that even as Mol turns the good life into a subject of politics, she does say very much about what form it should take.

Mol herself is the first to point out that her account leaves this question open. However, that Mol admits to a lacuna in her account does not make it less of a lacuna. The lack of specificity of the political practice that Mol foregrounds, can be explained by the fact that Mol, advertently or in advertently, lets go of the idea of politics as a practice that actors engage in *alongside* day-to-day medical practices. In this respect, an inconsistency in Mol's argument jumps in the eye, which is especially remarkable since most of her argument is so extraordinarily coherent. As we saw above, Mol introduces her "politics of what" by pointing our that the goals of medicine are "essentially contested." (p. 175). However, in the preceding chapters Mol had precisely argued that controversies are extremely rare in the hospital. Because differing versions of a given object are distributed over different practices, they rarely come into contact with one and another. Accordingly, Mol then pointed out, there is little occasion for disagreement among these differing versions of the object to come to the fore. But this raises the question, why would the same not apply to "the goals of medical intervention"? Why do they not lead a distributed existence, but instead, must be considered as "essentially contested"? Mol does not point out a location for the contestation of the goals of medicine. One troubling question that arises in this respect is how much room Mol really leaves for the actors themselves to perform the ethics and/or politics of medicine.

Over the course of her account, Mol gives surprisingly little attention to the moral-political problems that actors may encounter in the hospital. For example, in Mol's account there are no patients who suffer from being reduced to a mere object of the scientific gaze. Instead, Mol criticizes the idea that patients are subjected to such reductions. She argues that the body that appears as an object of medical intervention on the surgical table is simply one version of the subject called patient, which exists alongside the fully human figure that appears in the consultation in the outpatient clinic. For this reason, Mol argues, there is no need to speak of a reduction of the human subject to a mere body-to-cut-into - they are instead two different versions of "the patient." However pertinent Mol's critique of the concept of reduction, it does have the implication that the problem of the passive patient is here theorized away. Something similar occurs when it comes to the problem of the relative impotence of medical professionals with regard to the power of pharmaceutical industries in opening up and closing down avenues of research into new forms of treatment. When she discusses the "big economic push" behind research into drugs for atherosclerosis, and the threat it poses to current treatments, such as surgery and walking therapy, Mol does not register a potential political problem. Instead, she observes that one set of enactments of the disease will be replaced by "a quite different configuration" (p114). Mol's account of the enactment of disease in situated practices, tends to deflate normative problems.

The conceptualization of medical practice undertaken by Mol in *The Body Multiple* has great merits. By foregrounding the enactment of disease in situated practices, Mol ontologizes the questions that are posed in the social sciences about the performance of illness, and more generally, about the maintenance of social order. Moreover, Mol develops the ethnography of techno-scientific practices into a full-fledged philosophical argument, that of the multiplicity of objects. And from her ontology, she derives a simple but solid normative claim; social-material practices of the enactment of objects are the locus of politics. Mol thus opens up the possibility to account of politics as an ontological practice. However, the persistence with which Mol affirms the multiplicity of reality in this book, makes it difficult for her to fully appreciate events that overflow this base-line multiplicity: practices of unification, and practices of the articulation of a lack (of agency, for example). At the same time, it is precisely Mol's allegiance to situated medical practices that allows her to articulate an ontology of the multiplicity of objects. It is an impressive achievement.

On a Blind Date or Making Sense of the Seams Between Science and Society

by Ragna Zeiss
University of York

Report on the conference, 'Where science meets society', Wageningen University, 23 April 2004

On the 23rd of April 2004 a one-day conference with the title 'where science meets society' took place at Wageningen University in the Netherlands. It was organised by the Communication Science department. The title of the conference reveals a great deal about the conference. It is a conference about science and society, the topic of STS. At the same time, few STS scholars would have formulated the title this way, because it assumes that science and society are two distinct entities that can be defined separately from each other. As I will show the tension between the seamless web approach and the science-can-be-distinguished-from-society approach recurred throughout the conference.

The conference was opened by the Vice-Chancellor, who indeed separated science from society. He stated that the conference was very important for Wageningen University and Research Centre (Wageningen UR) that describes itself as 'a leading international knowledge institute in the fields of nutrition and health, sustainable agricultural systems, environmental quality and processes of social change'.1 The University has often noticed the gap between science and society and acknowledges the need to learn to interact with society. One area where the relation between science and society is important is in the expectations society has of science. According to the Vice-Chancellor people have higher expectations of science nowadays than they used to in the past. For example, death used to be an experience people had to deal with everyday. Nowadays someone can be blamed for someone dying. Another problem, he said, is that many people simply do not understand science. This was a theme taken up in the keynote speech.

The keynote speaker was Brian Wynne, professor of Science Studies in Lancaster UK. His presentation fit well with the theme of the conference and raised questions that formed the thread throughout the rest of the day. The content of the talk was perhaps not too surprising for the STS audience and others who know his work, but it was structured well, a pleasure to listen to, and no doubt full of new insights for people unfamiliar with his work. Wynne's main concern was the public deficit model. He started by saying that science is nowadays often portrayed as being in a state of crisis. However, we need to put this into perspective. In many ways science has never been healthier. One only has to look at the many popular television programmes that discuss all sorts of technical and scientific innovations. By talking about science in a state of crisis, we talk about a few areas where our usual, taken-for-granted trust in science has become problematic. He suggested that we have to look closely at the questions of what are considered the problems and how they were generated. These questions are often not even asked, since it is presumed that the problem is public misunderstanding or public mistrust. The root of the problem is thus the public deficit. Wynne illustrated this by giving an example of a survey that asked the public whether non-GM tomatoes also contain genes. Apparently a large amount of the public said no to this. Wynne raised two points about this example. First, not all scientists would know this either. He himself is a materials scientist, but this does not mean he has any more knowledge of biology than any other ordinary person. Therefore one would have to speak about a science deficit as well. Second, the public is often not interested in the technical knowledge and does not need to know this in order to express valid concerns. Above all, even if the public (it remained one single public throughout the presentation) would understand the technicalities, they might still reject the science. When scientists blame the public (and the media who create misunderstandings and mistrust), they do not take the public seriously. The public neither have false expectations nor expect certainty from scientists, an accusation

1 http://www.wageningen-ur.nl/uk/organisation/

often made; they routinely take uncertainty for granted and experience unpredicted consequences of everyday actions. The real concerns of the public are often the unknown risks and uncertainties. They have ethical concerns as well. They want to know who acknowledges the problem of unknown uncertainties and want to discuss whether certain risks should be taken. In short, there is a problem with the institutional culture of science. Science tries to solve the problems by drawing on a risk assessment which only deals with known uncertainties and brings the problem within the scientific realm once again. This is based on wrong assumptions of what concerns the public. Interestingly, although many (governmental) bodies and institutes have acknowledged the inadequacy of the public deficit model, it is reinvented in new forms continuously. If the public is not accused of a deficit of understanding, there is a public deficit of trust, a public deficit of scientific processes or the public assumes that science has an ethical and social responsibility for applications or impacts of its products whereas those realms are and should be separated by some scientists. This reinvention of the deficit model points towards a resistant institutional culture that projects problems to the outside and does not hear the public that it represents. There is a need for a constructive dialogue between scientists and the public in which science leaves room for self-understanding and self-critique. This does not mean, however, that the public will get sovereignty in the laboratories; only that scientists listen to them, respect them and negotiate with them. The questions, 'does the scientist trust the public?' and 'does the politician trust the public?', are just as important as the question whether the public trusts the scientists and the politicians.

In fact the opening speech by the Vice-Chancellor exemplified what can be understood as a deficit model. Despite stressing science and society as a seamless web in STS, this conference clearly showed that there are differences between the ways in which knowledges are produced and used in different arenas. The knowledges produced at Wageningen University do not always have a direct use in policy-making arenas. After Wynne's presentation a morning and afternoon session were held, both of which consisted of three different sessions. The morning sessions were entitled *Risk Communication in an Uncertain Society*, *Connecting Science and Communities* and *Science and Governance*. I attended the latter session. The session discussed the relation between science and policy/governance with help of a roundtable discussion. Around the table one could find an interesting mixture of people consisting of John Grin (University of Amsterdam), Bram Peper (Erasmus University Rotterdam and former mayor of Rotterdam), Carlo van Praag (Social and Cultural Planning Office), Matthieu Wagemans (Innovation Network Green Space and Agrocluster), and Louis Meuleman (Advisory Council for Research on Spatial Planning). The session was chaired by Noelle Aarts and Cees Leeuwis. One major point of discussion was whether both experts and policy-makers need to redefine their role. Someone suggested that since we now live in a risk society (according to Ulrich Beck) –and no longer in a knowledge society in which scientists advise policy-makers – it is time for both scientists and policy-makers to redefine their roles. However, this is difficult because scientists are both financially and mentally dependent on policy. Science supports existing policy-makers and does not confront them. A culture change would be needed in which science can develop new perceptions of problems outside the current framework of policy. Scientists and politicians would never speak the same language, because then all chances of constructive dialogues would be missed. Perhaps scientists should listen to the public more than to policy-makers. Not everyone agreed on this. Someone argued that too much emphasis is placed on creative and interactive processes. What is wrong with solid empirical and positivist research? Talking to various groups of people is part of the traditional scientific process as well. Solid empirical research, like the Social and Cultural Planning Office does according to Van Praag, is often well received by policy-makers, even though it is not a one-to-one relationship and the reception of a report can sometimes be years after the report was first published. However, others argued that policy-makers do not need scientists. They like to have the discretion to make their own decisions and do not want to be told by scientists what to do. Often issues only come on the agenda when the solution is known and policy makers have to find the problem. Peper gave an example of a time when someone presented scientific information to a bunch of policy-makers. They were interested and informed, but went back to their day-to-day work afterwards (in which the scientific information played no role). This illustrated that the relation between (the practices of) science and policy is sometimes simply not there. This is not to say that science and society are not intertwined. The positivist paradigm clearly distinguishes the realms of science and

policy; however, at a meeting I attended a few days before this conference, it became clear that some Dutch advisory councils similar to the Social and Cultural Planning Office try to co-ordinate their research in order to come to similar conclusions in the reports which then, they hope, will find their way into policy-making. Whereas the different advisory councils could have come up with different knowledges without co-ordination, they built in some political negotiation so that the report would have more chance of being taken seriously by decision-makers. These are interesting issues and worth discussing, even though no simple solution can be found. However, it was agreed that 'solid empirical research' and 'interactive, creative research' can co-exist and do not necessarily exclude each other.

The afternoon sessions explored the following topics: *Applied Communication Science and Society*, *Experts and Non-experts: living apart together*, and *Interactive Research*. I attended the session on experts and non-experts during which Jaap van Binsbergen (University Medical Centre Nijmegen) presented *Who is the expert? On the interaction between doctors and patients* and Barend van der Meulen (University of Twente) spoke about *Genetically modified organisms: Experts, citizens, expert-citizens*. I will focus on the presentation of Van der Meulen and the discussion with the audience that followed both talks. Van der Meulen started by saying he felt some resistance to the title of the conference. He was educated with the shibboleth that science and society are a seamless web. However, he stated, actors continuously make seams in this web, something we call boundary work. People try to purify science from politics, even though political factors play a role. He shortly discussed three models of the relation between science, society, and politics. In the modernist model science leads to the best decisions, experts represent scientific knowledge and experts should be involved in policy-making. The demarcation model considers the government as representing society, and science representing science; there's the possibility to distinguish science and expertise from society, values and interests. In the participation model, science is one of the relevant knowledges, a plurality of perspectives is preferred, the citizens are society and should be involved, the experts do science, and the government governs. However, all three models share the distinction between experts and citizens. Based on an empirical study of the construction of expertise and citizenship in the case of GMO field trials, Van der Meulen argued that we should go beyond this model and to a society in which the expert-citizen and the citizen-expert emerge. For this to happen, people need to acknowledge each other's knowledge, experts need to act as citizens, and citizens need to gain technological competence if they want to participate and be a good citizen. The citizens need to link different expertise; they need to link ethical and technological discourses. The sentence 'if you are a non-expert, you can't be a citizen' may not have been interpreted exactly as Van der Meulen meant it, but led to an interesting discussion.

It was argued that citizens do not want a social scientist to tell them that they are not good citizens because they do not have technical and scientific knowledge. Surely, this knowledge cannot determine whether one is a good citizen, because citizenship consists of many other things as well. Apart from this, citizens can have an opinion if they do not have the technical knowledge. A citizen may not know that a non-GM tomato has genes, but may still have legitimate concerns about ethical aspects of this sort of research. Another issue was that in this model someone has to select people who can attend participation processes. However, there are so many different sciences and knowledges and styles of expertise that the following questions should be discussed: who decides who is a good citizen and who decides how much and what sort of expertise is enough? Not all citizens should become experts. The different discourses may be productive and knowledge of the citizen is valued precisely because it is based in the own environment and not because citizens and scientists would have to understand each other in an ideal speech situation. What is the value of the non-experts if they have to become experts? Is it a distinction we should get rid of? Van der Meulen suggested that we should, whereas others found it productive to keep the distinction between experts and non-experts. With the distinction also comes a distinction between responsibilities of different groups. Wynne argued that discourses (and thus the distinction between experts and non-experts) do not just represent publics; they construct and perform publics and take on a normative dimension. They construct citizenship. Many people acknowledged this, but were happy with the distinction, because it means that one can visit the doctor and say: 'you are the expert, you tell me how I will get better and you are responsible for my health at this point'. Van der Meulen argued that health practices have actually moved from this model towards a model in which the doctor wants to make the patient knowledgeable and responsible for his/her own health. In that

sense " good patientship" can be compared to "good citizenship".

At the plenary discussion that marked the end of the conference, we were partly back where we started. Someone in the audience had been asked to give a summary of the day. He stated that most of the people in the audience were working at a university, which meant that the title of the conference could have been 'scientists talking about where science meets society'. Scientists were once again seen as standing outside society. The relationship between science and society was described as a blind date at which both parties are trying to figure out whether it really is him or her. The metaphor suggested that there is something, an essence, of the other one should find out about - science and society as distinct entities with different and fixed characteristics. In this case the gap between science and society which the Vice-Chancellor noticed may be larger or smaller but is unchangeable. However, one can read the metaphor in a different way. If a blind date leads to a lasting partnership, it will require those involved to make identities and boundaries clear, while also crossing them to enable cooperation, ideally when the terms are mutually agreed. The boundaries between science and society are constructed in the same way - actors try to make them 'clear' through all sorts of boundary-defining discourses and strategies - but if they want them to work they must cross them too. In doing so they will expose themselves to the very constructed nature of their separate identities and risk boundary collapse. The boundaries between science and society, like those between two people in a partnership, therefore require social managing. Boundaries which constrain universities from interacting with what they identify as society are socially produced and reproduced through institutional practices. In some cases the boundaries may be stronger, in others weaker; sometimes they may be easier or more difficult to cross. Managing these boundaries requires identifying the cases in which boundary negotiations and crossings would be desirable.

Author acknowledgement: I would like to thank Andrew Webster and Barend van der Meulen for suggestions, clarifications, and discussion.

Sites of Knowledge Production

Spatiality, temporality, and integration of knowledge in Basel

by Ragna Zeiss

A report of the STS Spring School in Basel, 9-12 March 2004

Five years ago, in 1999, I attended my very first conference: the STS Spring School in Zurich. It was the first of its kind in Switzerland and gathered many people from various backgrounds. They had one thing in common: their interest in science and technology. A year later STS-CH - the Swiss Association for the Studies of Science, Technology, and Society- was founded. Since then, STS-CH has become a very active network of scholars interested in STS.

Now, five years later, in 2004, I made the same journey. In the meantime, STS Schools have become a tradition in Switzerland. After the Lausanne school in 2001, this year's school took place in Basel and was hosted by professor Sabine Maasen. It has attracted 63 doctoral and postdoctoral researchers from six different countries (Switzerland, Germany, Austria, England, Israel, USA) and various disciplinary backgrounds: history, sociology, philosophy, anthropology, geography, and economy to mention a few.

During four days we had the opportunity to discuss the theme of the conference "Sites of Knowledge Production". The conference started with a lecture by Jakob Tanner (University of Zurich, Switzerland) on *Sites of Science* on Tuesday evening. After this a reception took place which was interrupted for a social event in which pictionary was played with book titles from the STS field. The winner received a marzipan-mouse referring to the Oncomouse of Donna Haraway. I could not help but wonder

how the organisers knew in advance who would win the competition. Was it a social experiment conducted on us to see how predictable we were? I now wished we had voted for another drawing, just to see what would have happened.

Everyday the mornings were reserved for plenary sessions. Eleven plenary speakers (from Switzerland, Germany, the Netherlands, England, Ireland, USA, and Australia) enthusiastically revealed their views on sites of knowledge production from, again, various backgrounds. The morning of the 10th Henrika Kuklick (University of Pennsylvania, USA) spoke about *The Body in Place: explaining Fieldwork in the Late Nineteenth Century*. This was followed by Jens Lachmund (University of Maastricht, the Netherlands) exploring *The City as a Site of Knowledge Production: Ecological Fieldwork and the Rise of Urban Nature Conservation* and David Gugerli's (ETH Zurich, Switzerland) *Painting the Ceilings or Furnishing the Rooms? National Science Politics and Local Rules of Attention*. The variety of presentations during the plenary sessions meant that everyone attended topics and approaches one was familiar with as well as topics and approaches that could open up new ways of approaching one's own research or STS research in general.

In the afternoon parallel sessions took place, some of which dealt with *Beyond Disciplines, Trading Spaces*, and *Spatial Organization of Knowledge*. The plenary speakers joined the afternoon sessions and sometimes fulfilled the important role of discussant. This was very useful and often led to interesting discussions, one of which centred around the question: Can we really do our academic research from an island in the ocean as long as we have a computer and internet connection? Personally, I don't believe we can –there is something called tacit knowledge that seems an essential feature in practices of technology and knowledge transfer- but if we could, it would not be as enjoyable as meeting so many interesting and new faces in person, both at the university and in the bars.

The evening was occupied by a special presentation of the Graduate School "Knowledge Society" from Bielefeld. Peter Weingart (University of Bielefeld, Germany), director of the school, opened the session after which four graduate students in various stages of their research presented their work.

The morning of the second day the plenary sessions continued with Paul Messerli (University of Bern, Switzerland) discussing *New Modes of Knowledge Production: Why Location Matters*. David Livingstone's (University of Belfast, Northern Ireland) talk was entitled *Knowledge, Space, and the Geographies of Science*. Since (scientific) knowledge often travels in textual form, Livingstone started working on a geography of reading. He addressed the following question: How are texts mobilised in different locations and cultures and by different audiences? Joss Simon (University of Westminster, London, England) spoke about *The UK GM Nation.* In the afternoon amongst others sessions on *Knowledge Production and Regulatory Practices, Contested Knowledge and the Public*, and *Transdisciplinarity and Sustainability* took place. Unfortunately, I cannot discuss the many and interesting papers that were gives during the afternoon sessions. However, I can say that these papers and presentations have reminded me of the broad range of STS literature outside the literature that has been written in English. Maybe it is time for me to try and include some of these non-translated but very interesting texts into my research.

The evening was reserved for a fascinating story about peer review by Peter Weingart: *Peer review – A True Story*, in which one of the solutions to the question of how to distribute funding amongst capable and promising researchers was presented as a lottery. This was, I must clarify, not Weingart's own solution to the question.

The last morning Fabienne Peter (University of Basel, Switzerland/University of Warwick, England) presented *Implicit Knowledge and the Science-Society Boundary: The Socio-Economics of Knowledge Production.* Philipp Sarasin (University of Zurich, Switzerland) followed up with *Sites and Strata of Knowledge Production: The History of Science After Foucault.* The morning sessions ended with David Turnbull (University of Deakin, Australia) who discussed issues around knowledge about the weather in his talk *Knowledge and Space: Movements, Multiplicity and Messiness in Making Time and Place*. The aboriginals have a very different understanding of what weather is than institutes that systematically organise 'knowledge' about the weather over time and space. Can the aboriginal 'knowledge' of the weather be integrated with 'knowledge' produced by bureaus of meteorology and, at the same time, keep its status as indigenous weather knowledge?

The afternoon sessions addressed amongst others *Hybrid Forms of Knowledge Production, Knowledge and Conflict,* and *Users and Citizens*. The last session I attended ended with a paper which both nicely summarised the conference and opened up the questions that we would take home. The question was: what if one has produced various knowledges at various sites and

in various forms (presentations, papers, publications) and one is asked to create one book from this diverse material? What can one do with these 'islands' of knowledge? Can they be integrated, delocalised and decontextualised? Should we be seduced by homogeneity? Or is unification a myth of science? Can we keep differing narratives in a dynamic tension in order for new ideas to be produced? Do we need to learn to live with diversity? What roles do narratives of spatiality and temporality play? Can we speak of spatial and temporal organisation, conditioning or constitution of knowledge? Do some knowledges travel and others not?

These are challenging questions and many of us will think about them in our further research. The Spring School itself was a site of much discussion, interaction, and -if not knowledge production itself- of making plans for future knowledge productions across different disciplines and local contexts.

For further information about STS-CH, see http://www.sts.unige.ch

I would like to thank Mario Kaiser, Martin Lengwiler, and Martina Merz for helpful comments and 'statistics' on the participants and plenary speakers.

Author's address: At the time of the conference my location and place of knowledge production was somewhere between the Science and Technology Studies Unit (SATSU) in York, England, and the Free University in Amsterdam, the Netherlands.

Recent Dissertations

Helen Jøsok Gansmo, *Towards a happy ending for girls and computing?* Department of Interdisciplinary studies of Culture at the Norwegian University of Science and Technology (supervisor: Knut H. Sørensen).

Compared to other Western countries, Norway has exhibited an outspoken gender perspective in its struggle against the Digital Divide. For more than 20 years there has been broad political coherence that schools should work as the great equalisers influencing more girls to use ICT (Information and Communication Technology) in order to make the girls as competent as the boys, and also in order to tempt more girls to study ICT and work in the ICT industry.

Through a multi-sited ethnography approach, I have investigated this focus on the problematic relation between girls and computing, resulting in a PhD thesis with seven articles and one introductory chapter.

The thesis is an interdisciplinary attempt to address established perceptions of gender and ICT, and to "disrupt established truths" through empirical presentations of many differing perceptions which are a lot more heterogeneous than what is normally accounted for within a stereotypical and dichotomous understanding of gender and ICT. Inspired by science and technology studies (STS) and new gender research, Gansmo has analysed Norwegian political action plans and White Papers from 1983 to 2003, in addition to conducting in-depth interviews with politicians, policymakers, secondary school leaders, computer game producers and teenagers aged 14-16.

The thesis makes a critical departure from a widespread conception that there is something wrong with how girls approach, use and think about computers and computer users. The different White papers and action plans on ICT in education are best characterised by their aim to change the girls; since fewer girls than boys have expressed an interest for computing, the girls should be raised into liking ICT. In these plans ICT is regarded as one of the most crucial keys to a prosperous future for the individual as well as the nation, at the same time as girls are considered as a homogenous group completely different from a similarly homogenous group of boys. Many of the suggested remedial actions can be characterised as attempts to rescue the girls from an insecure future without ICT. These rescue operations are based on a rather unquestioning comprehension of the importance of ICT as well as a preference for the stereotypical understanding of how boys apply ICT "the right way". Such attempts to reach gender equality may thus, paradoxically, be seen as a strategy of masculinisation.

Through theoretical approaches such as translation, inspired by actor network theories, and co-construction of gender and technology Gansmo shows how the different actors tell very different and heterogeneous stories about girls' relationship to ICTs. The political problematisation is not spread unadulterated to the other actors engaged in or interested by the focus on girls and computing. Gansmo studies both gender and technology as constructed and unstable categories which influence each other mutually. But these constructions vary within and between the different groups of actors. Despite the political problem focus on girls and computing, school leaders report that it is not a problem in their school, or if it is, they do not have the means to pursue it, or they pursue it through teaching all pupils more about ICT. Despite talking readily about the world in gender dichotomous terms, also the game producers are sceptical towards seeing their market as segregated into two gender categories, and rather opt to include more transgender features in their games in order to cater for the interests of different types of gamers. Additionally, many of the teenage girls are very clever computer users, even if their school may be lagging behind. ICT has more or less become an obvious and invisible technology for most youths –after school. It is nevertheless a paradox that this exciting and varied use is not seen as relevant for their present or future education. This may be somewhat related to the fact that teens find school computing to be uninteresting. The computer has become genderless for these teens; school computing is seen as boring and limited at the same time as it is used equally by all pupils, while leisure computing is much more interesting and used in heterogeneous ways by both girls and boys.

The thesis criticises a traditional understanding of gender as a fixed dichotomy as well as narrow understandings of ICT. Through analysing gender and ICT as flexible and mutually constructed Gansmo also criticises traditional quantitative research; the quantitative "evidence" that girls are lagging behind – that few girls use computers and that they spend less time computing than boys - is likely to have contributed to an unfortunate blurring of which problems are at stake. Even though numbers matter, it is not enough to "prove over and over again" that the proportion between boys and girls interested in ICT is uneven. Rather, investigating how girls and boys understand e.g. the term ICT may account for some of the differences reported in their interest and use.

The empirical material in the thesis describes many heterogeneous stories which oppose stereotypical and dichotomous comprehensions of gender in relation to ICT.

In this regard we may conclude that we are about to reach a happy ending for the girls and computing problem; many girls and boys are very competent ICT users in very heterogeneous ways. They oppose the gender stereotypes both in their comprehensions of ICT and in their own practical use of ICT. Nevertheless, stereotypical conceptions of gender dichotomies are still widely prevalent and persistent, and often also tied to a gender hierarchy. This means that we still have a long way ahead of us towards dismantling the gender dualisms, and that we are far away from a happy ending for women in higher computing education.

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Joint 4S/ EASST Conference 2004, August 25-28, Ecole des Mines de Paris

PUBLIC PROOFS – SCIENCE, TECHNOLOGY AND DEMOCRACY

Preliminary overview of the sessions and the plenary sessions with their organizers

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S2 Powers of code: software cultures
MACKENZIE, Adrian; HUNSINGER, Jeremy
S3 The Interface: Questions of agency in computing and new media art
SUCHMAN, Lucy; MACKENZIE, Adrian; FUJIMURA, Joan
S4 Pranks of Presentation in Art, Science and Architecture
S5 Politics and Technologies of Participation
NELIS, Annemiek; HAGENDIJK, Rob; DE VRIES, Gérard
S6 Informed Consent and Trust
BRUMSEN, Michiel; ASVELD, Lotte; MAZUR, Dennis
S7 Internet Political Governance and Technical Government
MARZOUKI, Meryem; MEADEL, Cécile;
S8 Theory, Practice and Normativity in STS
BRUUN JENSEN, Casper; BOWKER, Geoffrey C.
S9 Gender in the Information Society: Inclusion Strategies Co-constructing Gender and ICT
FAULKNER, Wendy; SØRENSEN, Knut H
S10 On social and consumer sciences shaping market(-ing) practices
GRANDCLEMENT-CHAFFY, Catherine; HELGESSON, Claes-Fredrik; KJELLBERG, Hans
S11 Managing Healthy Bodies
STENGEL, Katrina; HODGSON, Paula; ROBERTS, Celia
S12 Feminist Technoscience Research _ in 'the Engine Rooms of Technological Production'?
BJÖRKMAN, Christina; MÖRTBERG, Christina; ELOVAARA, Pirjo
S13 Technoscience, Identity, and Hierarchy
HOFFMAN, Karen
S14 Body-Techniques-Presence
MIALET, Hélène
S15 New Directions past the Science Wars
IHDE, Don; SELINGER, Evan
S16 Economic experiments
MUNIESA, Fabian; MILLO, Yuval; LEZAUN, Javier
S17 Vulnerability of Technological Cultures
WACKERS, Ger; HOMMELS, Anique
S18 Assessment of interdisciplinary research
LAUDEL, Grit; ORIGGI, Gloria
S19 Emerging Stem Cell Strategies: Practices, Rhetorics, Policies
GOTTWEIS, Herbert; HOGLE, Linda
S20 Trusting Online Health Information: the Internet Between the Public and the Experts
KIVITS, Joelle; ADAMS, Samantha; JOSEFSSON, Ulrika
S21 Plenty of Benefits from a Scarce World? Spatial Limitation in the Sustainability Discourse
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S22 Experiences with Interactive Technology Assessment: critical reflections and lessons for the future
RIP, Arie; GRIN, John
S23 Onto ontics & ontology: working, testing and appreciating nature/culture
LAW, John; MOL , Annemarie; VERRAN , Helen
S24 The Role of Democratic Values in Science
WRAY, K. Brad; ROLIN, Kristina; MIROWSKI , Philip
S25 Subjectivity and citizenship
TAUSSIG, Karen-Sue; SUNDERRAJAN, Kaushik
S26 Varieties of Ethnographies
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S27 Agricultural Biotechnology: Uncertainty, Develpment and Governance
PAPAGEORGIOU, Kyriaki; SMITH, Elta; HIESINGER, Meg
S28 Innovations and catching-up process
LOUDIN, Jiri;
S29 Performativities of Economics
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S31 Critical theory and STS: great expectations or dangerous liaisons?
NUNES, João ; SCHWARZ, Christine
S32 ICTs and the markets: on following new technological mediations in economic activities
MALLARD, Alexandre; DUBUISSON-QUELLIER, Sophie; LICOPPE, Christian
S33 ANT and Psychology
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S34 Discipline and Research: Practices of Interdisciplinary Cooperation in Science
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S35 Nanotechnology - risk, rhetoric and imagination
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S38 Intimate technologies: Modulating Chemical Selves
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S39 Patient Organisations, Science and the co-production of knowledge
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S40 Heterogeneous Objects, Diverse Publics
ADKINS, Lisa; ROSENGARTEN, Marsha; VITELLONE, Nicole
S41 Mobile Technologies as Hybrid Collectives
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S43 Interpreting research on the complexity of changing disease patterns
TAYLOR, Peter; NUNES, Joao A.
S44 Critical Studies on the National Innovation Systems (NIS) Framework
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S45 Contested ontologies: the construction of public technoscience practices
SCOTT, Anne; DU PLESSIS, Rosemary
S46 Public epistemologies: the (re)enactment of public participation
DU PLESSIS, Rosemary; SCOTT, Anne
S47 'Race' in the Genomic Era: The Politics of Identifying Difference
LEE, Sandra Soo-Jin; KAHN, Jonathan
S48 What does the Web represent? From virtual ethnography to web indicators
SCHARNHORST, Andrea; VAN DEN BESSELAAR, Peter; WOUTERS, Paul
S49 "Author meets Critics" session for Annemarie Mol's "The Body Multiple: Ontology in Medical Practice"
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S51 Psychiatry at the Crossroads of Science, Medicine, and the Market
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S53 Public expertise across nations.
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S54 Cultural Context of Public Participation: Challenge from Japanese STS Handbook
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S59 The interface between standardisation and research
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S60 ICT Standards Setting and the Social Sciences
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S61 Civic Epistemology: Testing and Making Knowledge for Collective Choices
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S73 SCOT and ANT in 5 minutes: a new counter-networking technique for STS
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S75 Reconfiguring intervention: IT in healthcare
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S76 Taiwanese Studies of STS and Comparative Studies in Asia
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S79 Integration of Western post-Soviet states into European Research Area (ERA).
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S82 Epistemic technology
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S83 Technologies of the self in biopolitical context: discontinuities in the organization of biomedical technologies
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S84 Time And Dna-Technology
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S85 Cyberscience - How Information Technologies Impact On Knowledge Creation
NENTWICH, Michael

S86 Engineering Ethics: Reflections and New Directions
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S87 "You are here!" technologies of locatability
SCHWARZ, Heinrich; ØSTERLUND, Carsten

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S89 Beyond Translation: Conceptualizing Heterogeneous Micro-Communities
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S92 Microbiopolitics
HELMREICH, Stefan; PAXSON, Heather

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S94 Hackers and Tinkerers: Amateur Ways of Doing Technology
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S96 Humans, Ghosts, and Machines. Conceptualizing the Technomorphosis of Modern Western Societies
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S98 Experimenting the political link. Public proofs of power and togetherness
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S99 Modeling Users, Designing Bodies: Incorporating Digital Models in Architecture, Bioscience and Medicine
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S100 Legitimacy of using scientific research in policy making: recent developments in policy science, ethics and evaluation
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S101 Moving Meat
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S102 Hermeneutics of Science and Technology
ROPOLYI, Laszlo; KISS, Olga;

S103 Statistical evidence in the making of public health policy
BERLIVET, Luc; PARASCANDOLA, Mark

S104 Appropriation as a Strategy of Resistance: Legal, Cultural, and Political Dimensions of the Modification of Technological Systems by Non-owners
BEECH, Colin; BENNETT, Michael

S105 Exploring the Mangle I: Studying and Performing Science through the Mangle of Practice / Exploring the Mangle II: Putting the Social Sciences and Humanities through the Mangle of Practice
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S106 The significance of socio-technical relations in the production and reproduction of normalised behaviour and daily routines
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S107 Extreme Bodies _ Technologies and Elite Sport
PASVEER, Bernike;

S108 "Communicating Social Studies of Academic Knowledge".
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S109 Learning from What Went Wrong: Do RTD Policy-Makers Draw Lessons From Experience?
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S110 Risk Society and the Governance of Innovation in the EU
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S111 Engineering Identities: Knowledge, Person, Nation I & II
DIOGO, Maria Paula; DOWNEY , Gary; GOUZEVITCH, Irina

S112 Clinical guidelines and medical practice
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S113 New technologies in monitoring and reflection in everyday life: examples from environmental performance and monitoring
RODRIGUES, Eugénia; SENGERS, Pheobe; YEARLEY, Steve

S114 Socializing Stem Cells: Innovations in Legal, Scientific, and Ethical Cultures
SPERLING, Stefan; TESTA, Giuseppe

S115 Voting Proofs: Electronic Voting and the Future of Democracy
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S116 Knowledge Work – Catching the drift
LOFTHUS HOPE, Kristin; MOLTU, Berit; AMDAHL, Eva

S117 The Online, Virtual and 'Mobile' University
POLLOCK, Neil; SCHWARZ, Christine

S118 Neuroscientific Narratives: Facts, Metaphors and Cosmologies
ROEPSTORFF, Andreas ; COHN, Simon

S119 Experimentalising society, socialising experiments
LEVIDOW, Les; BONNEUIL, Christophe

S120 Science, violence and the body: from colonial medicine and physical anthropology to current trends of war
BASTOS, Cristiana;

S121 Human Subjects Research and the Boundaries between Science and Ethics
BARKE, Richard;

S122 The Ontology of Scientific Objects
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PS123 The Technological Animal
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GRUNDMANN, Reiner; STEHR, Nico

S125 Economic issues of science and technology: towards a knowledge-based society
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S126 STS and the War on Terror
GUSTERSON, Hugh; CLOUD, John;

S127 Roundtable: Technical Education Future(s)?
JEREMIJENKO, Natalie; DOING, Park;

S128 Technologies as tools in medical and scientific practices
THELANDER, Sabrina;

S130 When socio-technical controversies challenge the role of responsibility in democracy
ASSOULINE, Gerald; TRUSSART, Nathalie;

S131 Cyberinfrastructure and E-Science
BOWKER, Geoffrey C.; RIBES, David

PS132 Spacing, Timing and Organizing
MCLEAN, Chris; QUATTRONE, Paolo;

S133 "Nanotechnology could be huge": public understandings of, and reactions to, nanotechnology
ERICKSON, Mark; TOUMEY, Chris

S134 Formats of proof and formats of trust: when public proofs are put to test
DOIDY, Eric; GRANJOU, Céline; DUCOURNAU, Pascal

S135 Values pluralism and Participatory Technological Assessment. Scientific Challenge for Sociology and Philosophy
REBER, Bernard

S136 Attending to the technologies of politics. How techno-scientific issues turn political in situated practices.
GOMART, Emilie; MARRES, Noortje

S137 The Ground for the Interdisciplinary Research: Technology, Ethics and Politics
SON, Wha-Chul; HEIKKERÖ, Topi;

S138 'Ethics Wars': Exploring the Socio-Ethics of Genetics Research
TUTTON, Richard; HOEYER, Klaus

S139 Scientific Misconduct and Evaluation (Peer Review, Impact)
FROELICH, Gerhard

S140 Claims of Truth – Forms of Evidence : Manufacturing the Scientific Subject in Visual, Material and Written Narratives of Evidence
GISLER, Priska; WIEDMER, Caroline;

S141 Activism and Information Technologies, Networks and Democracy
AGUITON, Christophe; CARDON, Dominique;

S142 Public accountability as a tool for achieving publicly legitimate and socially sustainable decision-making across three policy contexts: GM food, waste management and transport
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S143 Regulating and standartizing the using of drugs: socio-historical trajectories
GAUDILLERE, Jean-Paul; LOWY, Ilana

S144 Social Robots
CAPORAEL, Linnda R.;

S145 ICTs in local settings

S146 Information infrastructures: libraries

S147 ICTs and intimacy

S148 ICTs and social inclusion

S149 Tested bodies - genetics and diagnostics

S150 Pharmacogenomics: between drugs and genes

S151 Organizing biotechnology: regionality and difference

S152 Genetic governance-in-the-making

S153 Anomalous bodies

S154 Representing genetics

S155 Sex, Intersex and Public Proofs
MARSHALL, Barbara L.

S159 Regional innovation systems and policies

S160 From National to International R&D

S161 University spin-off firms. Between tension and motivations

S162 Network, Work team and regimes of innovation

S164 Ethics, conflict of interest and democratisation

S167 Alternative/ Green energy

S168 Governance of environmental issues

S169 Expert and lay knowledge

S172 Building science. Established and Non-established sciences

S174 STS tools for exploring the future

S175 The transformations of judicial and penal systems through science and technology

S176 Technics of surveillance and public trust

S177 Control and traceability: in and out of the laboratory

S178 Exploring the varieties of discourses on public participation

S179 Scientometrics

S180 Building science and technology communities

S181 Technology politics

S183 Science on stage

S184 Bodies, subjectivities, technologies

S185 ICT: designes and users

S186 Caucus for the cartography of scientific controversies

S187 Gendered medicine

S188 Normalizing boundaries in health research

S189 The use of natural science ideas to explain social phenomena

S190 "Author meets Critics" session for Jean Langford: "Fluent Bodies: Ayurvedic Remedies for Postcolonial Imbalance"
SUMMERTON, Jane

Conferences and Calls for Papers

The Nature of Mathematical Proof is the title of the two-day symposium, organised by Alan Bundy, Donald MacKenzie, Sir Michael Atiyah OM FRS and Angus MacIntyre, and held at **The Royal Society in London** on 18-19 October 2004. The increasing use of computers both within mathematics and to automate mathematical reasoning has raised new questions about the nature of mathematical proof. This meeting will present and contrast the different viewpoints, including: experimental mathematics vs mathematical rigor, automated vs human proofs and formal vs rigorous arguments. What role does proof play in the way mathematicians learn and think? For further information, contact Suzi White, Events Officer, tel +44 20 7451 2581, fax +44 20 7451 2692, http://www.royalsoc.ac.uk. The Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG, UK.

The international conference, *Images of Science: New Interactions between Science and Society* will be held in **Amsterdam** on 6 and 7 December 2004. All of us hold images of science. But not all of us hold the same images of science. Some of us still treasure the notion of scientists in their ivory tower, hardly aware of the social questions their work arouses. No matter this persistent image, reality is different. Ever more scientists are realising only too well their tower is part of a world that affects them too, and are increasingly sensitive to the social consequences of their work. In fact, scientists are receptive to the Ethical, Legal and Social Issues (ELSI) related to or resulting from their activities. But how exactly do they respond? Is interaction between science and society across the various disciplines equally strong? Why have ELSI been attracting more attention over recent years? And what exactly is the role of religion, views of life and ideology in all of this? The conference is intended for scientists, politicians, policymakers and other parties interested from European Union states. In plenary sessions and workshops participants will receive an overview of developments over the past 15 years and a fresh look direction future. Attention will be dedicated to experts' ideas, but (relative) outsiders too will be able to contribute their opinions. Images of Science is organised by the Rathenau Institute, the Social Sciences Council of the Royal Netherlands Academy of Arts and Sciences and the All European Academies of Science (ALLEA). The conference is part of a series of events organised during the Netherlands' European Union presidency under the theme of The European Knowledge Society. This conference is realised with the support of the Dutch Ministry of Education, Culture and Science. We hereby invite you to attend this conference and to discuss your images of science. To learn more about this event or to register, please visit www.imagesofscience.com.

Statistics Are Social: A Conference on the Tensions Between Society and Statistics will be held at the **University of Durham** on September 23-25, 2004. The aim of the conference is to confront issues arising from recent developments in the philosophy of science for the use of statistics among social scientists. Contributions challenge current notions of appropriate research design, take up the question of the scientific method or naturalism, innovate in the analysis of survey data, explore epistemological questions related to triangulation, propose and utilise methods such as case-study research, complexity theory, fuzzy set theory, and feminist epistemology. They study categorical versus quantitative measurement, do discourse analysis or deconstruction of questionnaires, study historical development of narratives within statistics as a discipline, consider the ethics of government survey data, explore privacy issues relating to social data provision, analyse realism and empiricism in social research, and/or account for the underpinnings of new statistical techniques.
In particular we wish to encourage two types of papers: reflective pieces on epistemology; and illustrations of innovative research. We aim to publish a selection of papers in one of the journals that are leading the push for innovations that work. These journals include (among others) the *International Journal for Social Research Methodology*, the *Journal of Post-Keynesian Economics*, the *Journal for the Theory of Social Behaviour*. Contact the organizers: Dr. Wendy Olsen (wendy.olsen@man.ac.uk), The Cathie Marsh Centre for Census & Survey Research, University of Manchester, Manchester M13 9PLtel. 44+(0)161-275-3043fax 44+(0)161-27 and Prof. Dave Byrne (dave.byrne@durham.ac.uk) Department of Sociology and Social Policy, University of Durham, 32 Old Elvet, Durham DH1 3HN, tel. 44+(0)191 374 7239 fax 44+(0)1917629. The web site of the Conference has the provisional programme (www.ccsr.ac.uk ==> Events section).

Registration and other program materials are now available for "*The Scientific Instrument Collections in the University*" (SICU) Conference, to be held 24-27 June, 2004 at **Dartmouth College**. We hope you will visit our updated website and participate in the symposium. See http://www.dartmouth.edu/~sicu.

Biblical Exegesis and the Emergence of Science in the Early Modern Era. We invite submissions for papers for a conference to be held at Birkbeck College, **University of London**, on November 27th 2004. The conference will examine how biblical hermeneutics in the early modern period contributed to the natural philosophy of the era. The emphasis of the conference is on biblical reading practices, rather than religion in general is intended to focus on the specific procedures of interpretation and to propose models for how they interacted with scientific thought and discourse on the natural world. We take science in a broad sense, to encompass both residual and emergent models of nature. We include alchemical, natural magical, and emblematic views of the natural world within our definition, as well as chemical and paracelsian models of reality. We also include emergent natural history, medical theory, and ideas of corporeality from atomism to monism. Topics might include: * Exegesis and the natural world * Scripture and the Signatures of Natural Things * The book of Scripture and the book of Nature * The bible and Animals * Natural philosophy in biblical commentary * Scripture and the nature of corporeal being * Interpretation as prediction about comets, astronomy, apocalypse and biblical commentary. * Alchemy, cabala and exegesis * Scriptural physics / the physics of creation in the early modern mind. The keynote speaker is Peter Harrison, Bond University, Australia, author of *The Bible, Protestantism and the Rise of Natural Science* (Cambridge University Press, 1999).
Deadline for proposals: 15th June 2004. Reply to: k.killeen@english.bbk.ac.uk or PeterForshaw@hotmail.com.

Economic Sociology: Problems and Prospects is the title of the International Conference to be held on September 8-10, 2004 at the University Campus, **University of Crete Rethymno, Crete**, Greece. The event is organized by the Department of Sociology, University of Crete And the Economic Sociology Research Network of the European Sociological Association. The New Economic Sociology has come of age and this calls for a reflexive examination of its course, achievements and weaknesses, current position and future prospects.
This process of rethinking, of assessment and orientation has already begun and we do have some very useful insights as is the case with Mark Grannovetter's paper on "A Theoretical Agenda for Economic Sociology", Richard Swedberg's *Principles of Economic Sociology* and the contributions of several other colleagues. In this coming conference the aim is to make an attempt to go a step further in the discussion of an agenda for economic sociology. In addition, of course, to present aspect of work done in the various economic sociology fields. Accordingly, the aim is to attract papers reporting on recent empirical research, theoretical contributions and of course good combinations of the two. The dimension of embeddedness what exactly it means, implies and includes should attract papers, alongside the analysis of markets, of cultural forms impinging on economic activities, of the role, work and impact of classical and less classical sociologists on economic sociology, on the relationship of interest, trust, law and contract to economic life. The economic sociology of globalization, is a topic and area in which contributions are also welcomed, while micro- as well as meso-level exploration are very welcomed too. This is also true about the field of the economic sociology of European construction, the transition to capitalism of the ex-state socialist countries and the ever-pressing issues related to underdevelopment. The relations of economic sociology to other branches of sociology and other disciplines are also an area to be looked into. Therefore, this is an open call to economic sociology. In particular, papers may address any of the following general themes: economic sociology and sociological theory; European economic sociological theory - old and new; the economic sociology of European construction; the economic sociology of really existing capitalisms; economic sociology and economic institutions; and open themes. The plenary speakers include
Prof. Mark Granovetter, Prof. Nicos Mouzelis, Prof. Richard Swedberg, and Prof.
Carlo Trigilia (not confirmed yet). The Conference will be conducted in English
Conference Contact Address: Economic

Sociology Conference, Department of Sociology University Campus, University of Crete, Rethymno, Greece 74100, Tel: +30 210 6011522, +30 28310 77465, +30 28310 77471, Fax: +30 210 6011522, +30 28310 77 467, E-mail: skoni@social.soc.uoc.gr.

The 12th European Conference on Cognitive Ergonomics (ECCE-12), with the theme, *Living and Working with Technology* will be held on 12-15th September 2004 at the **University of York**, UK. Technology is now as much about leisure and socialising as it is about work and productivity. Cognitive ergonomics has accordingly become increasingly concerned with how people live with, work with, and enjoy technology in their daily lives. ECCE-12 is aimed at encouraging dialogue and debate between those studying how people live and work with technology. These will include practitioners and researchers from cognitive ergonomics, psychology, computer science, HCI, graphic design, interaction design, product design, human factors engineering, social science and technology studies. Full details of the conference including the advance programme and how to register can be found at http://www.ecce12.org.uk.. Informal enquiries should be directed to Sue Helliwell (sue@cs.york.ac.uk).

The **E-conference** entitled *Technological Responsibility: Relevance of the Research, Social Dialogue, Competitiveness and Fairness*, will start on July 18, 2004 and will go ahead until October 2004. It is possible to participate to the e-conference by sending short messages, commenting on the discussion outline or some of the included topics; sending longer interventions on issues relevant for the conference discussion; and sending relevant paper and documents, that will be made available for participants through a special archive. To take part into the e-conference, please send an e-mail to the conference coordinator lsc.info@tiscali.it. The goal of the electronic conference is to allow a reflection on a set of issues related to technological and scientific research, with special attention paid to the dynamics related to the participation of a plurality of social actors in the processes of the so-called 'black box' of research.The core issue of the e-conference is 'technological responsibility', not so much as the attention to identify and prevent the social, economic and environmental negative impacts of technologies, rather as the orientation of social actors to feel involved in scientific and technological issues and to actively participate in building research during its development stage, before it is consolidated in finished technological products. Linked with this core issue are other questions that will be considered in the e-conference. These are that of the quality of scientific and technological research and its relevance with respect to society's needs; that of social dialogue, intended as a tool for fostering the involvement of social actors with the processes occurring in the research black box, influencing its trajectories; that of the relations among research, competition and equity, which are often taken for granted while they probably are still to be fully understood. The background for discussion, including a deeper examination of the topics of the e-conference, is available at http://www.gruppocerfe.org/scuola_soc/. This project - financially supported by the Latium Regional Administration and the European Social Fund - is carried out through a temporary association with ASS.FOR.SEO (Association Training Development and Employment). It includes a set of research, training and communication activities which will lead to an international conference on scientific and technological development, to be held in Rome, in December 2004.

The Departments of German Studies, American Studies, English Literature, Political Sciences, Economics and Sociology at **the University of Erlangen/Nuremberg**, Germany, are inviting young scholars (graduates and postgraduates) to present papers at our conference: *Border//Crossings: Culture - Media – Economy*, the 6th Interdisciplinary, International Graduate Conference at the University of Erlangen/ Nuremberg, November 5-7, 2004. The concept of 'border' is - paradoxically? - gaining new relevance in the wake of what is usually described as 'globalization', including such diverse phenomena as migration, inter-cultural communication, transformation or hybridization. This concept is equally important for those theories centering around identity and those centering around difference. In trying to cross national as well as disciplinary borders we are looking for contributions with current theoretical and/or empirical perspectives, critically analysing the concept and/or the construction of borders. We would like to confront different angles on the subject and are hoping to create space for productive discussions. Possible topics include, but are not limited to: Oikos/Nomos; Production/Distribution/Consumption; Constructions of Knowledge; Biopolitics; GenderTransitivities; Discourse Analyses; Power Structures; Marxologics & Criticism of Ideology; LanguageRituals & Representations; Hybrid Cultures; Ethics after Postmodernism; Postcolonialisms; BodyFormations; MediaExperiences and MediaPerspectives; and Free and Open Source-Software Development. Please register using our online submission form at http://www.gradnet.de. The deadline for paper proposals (1-3 page abstracts) is August 31, 2004 (registration for other participants until October 31, 2004). Panels with three to five speakers will last two to two and a half hours. The time allocated for each paper is about 10 minutes, in order to permit ample time for discussion. Before the conference, each contribution (3 to 10 pages) will be posted on our web page in order to facilitate discussion and scholarly exchange. The deadline for submitting these short contributions is October 15, 2004. Please send abstracts and short papers to gradabstra@arno.franken.de in Rich Text Format (.rtf) or Portable Document Format (.pdf). Selected papers will be published in the conference proceedings. The conference fee is 20 EUR. For further information please do not hesitate to contact gradinfo@arno.franken.de.

Does STS Mean Business? The one day international workshop will be held at Saïd Business School, **University of Oxford**, Weds 30th June 2004, 9.15am to 5.30pm. This workshop explores aspects of the uses and transformations of Science and Technology Studies (STS) in recent years, especially as STS is appropriated within new contexts, including management studies and business schools. To what extent and in what ways is STS proving useful? Do new locations for STS prompt new questions about its utility and evaluation? Do moves to new locations invoke transformations and appropriations of STS by new audiences or simply provide the same old 'usual suspects' with new offices/resources? Are these shifts part of what Gibbons/Nowotny describe as the (inevitable?) gloomy move to Mode 2 knowledge production or do these shifts present golden opportunities for defining and recruiting further new audiences for STS. As well as questions about the utility of STS, these shifts into new arenas also raise questions about its radical capacity. Do these developments compromise or attenuate the early provocative cutting edge of STS? Has STS now given up on science as the hardest possible case and, if so, what are the new hardest cases? Mel Pollner (1991) famously said of early radical reflexivity that it had "settled down and moved out to the suburbs". Is the same true of STS? Has radical STS not only settled down but now also received its MBA? There are only a few places remaining at this event. If you wish to register, please have a look at our website: http://www.sbs.ox.ac.uk/sts/workshop and email catelijne.coopmans@stx.ox.ac.uk. Participants for the event include: Marc Berg, Steve Brown, Nik Brown, Simon Cole, Richard Ericson, Rob Evans, Ros Gill, Michael Guggenheim, Hans Kjellberg, Claes Fredrik Helgesson, John Law, Janet Low, Mike Lynch, Noortje Marres, Chris McKenna, Paolo Quattrone, Mike Power, Knut Sorensen, Nigel Thrift, Paul Wouters. Organisers: Steve Woolgar, Daniel Neyland, Catelijne Coopmans.

The *Association of Internet Research* (AoIR) will hold its 5th international conference at the **University of Surrey** (UK), on 19-22 September 2004. The short-hand for the event is IR 5.0:SUSSEX: 2004: UBIQUITY? The internet seems to be at once everywhere and invisible but simultaneously it structures only a fraction of the communications of the total global community. It can facilitate greater interaction, understanding and political activism; being used at the same time to exclude, destroy and exploit. The much cited ubiquity of the internet needs to be examined in both the contexts in which it is accepted and those in which it is contested. The theme of 'ubiquity?' addresses the following questions: Is the internet everywhere? How and where does the internet appear and act in technical, social, political, or cultural contexts? What does it mean to have access and who does and doesn't have it? How does the presence of the internet affect individuals, communities, families, governments, societies and nation-states? What are the implications of 'internet everywhere'? Submissions addressing these and other questions regarding the internet are welcome. Internet Research 5.0 will feature a variety of disciplinary and interdisciplinary perspectives on the Internet. Examining and challenging the visibility and prevalence of the Internet and Internet discourses, the conference will bring together a wide range of researchers, practitioners and scholars for the exchange of formal and informal ideas. As with previous AoIR conferences, the aim is to promote a deep, coherent and situated understanding of the internet and connected networks. See http://www.aoir.org/2004/.

From 4-6 November 2004, an international conference *"Science in Europe – Europe in Science: 1500-2000"* will be held in **Maastricht** (the Netherlands), exploring new European perspectives on the history and historiography of science. The conference is jointly organized by *Gewina* (Dutch Society for the History of Science, Medicine, Mathematics and Technology) and the European Society for the History of Science.

Why look for a European perspective?

During the last decades, the growing political and economic integration of European countries has led to a major shift in the way we think and feel about our national identity and our position as European citizens. The arrival of the euro, the deregulation of European markets and the integration of East and West have created a general awareness of the uniting factors at work on the European level, extending even beyond the boundaries of the European Union. Europe is not just a geographical matter-of-fact anymore; it reflects a psychological and political reality, characterized by its own distinct cultural space and historical destiny.

This new dimension of Europe is bound to have a profound impact on our perception of political entities, social differences and local traditions. As national frontiers recede into the background, new structural determinants come into focus. The ways of international communication and commerce, the continuous migration of people, knowledge and goods, as well as the cultural radiance of metropolitan centres towards peripheral regions will become important elements in our understanding of what constitutes the peculiar identity of this multilingual and multicultural continent.

This emerging European perspective will undoubtedly have important implications for the historiography of science. Europe was the cradle of modern science, originating in the dynamic world of the late Middle Ages, soon to become a prominent feature of the European Renaissance and Enlightenment. During the nineteenth and the twentieth century, Europe maintained a leading role in science, medicine and technology, which became deeply integrated in European culture. Although throughout its history Europe was continuously influenced by civilizations from other continents, it managed to impress a distinctive flavour on what has become our global scientific heritage. In this perspective, research into the European roots of modern science is all the more desirable.

The conference is organized around three areas of reflection:

1. Science in Europe

The history of Europe is intertwined with the history of the sciences. The exchange of ideas and technology contributed substantially to the history of Europe. Scholars and students, as well as texts and instruments travelled widely across national borders. Texts, however, were not only translated, but also adapted, assimilated and supplemented. Ideas and research practices were taken out of their original contexts, appropriated and adopted into new practices and theories.

Science in Europe aims at discussing themes dealing with the mobility, transmission, and the appropriation of knowledge, e.g. Scholars' and students' travels, Book and print culture, Translation practices, Travelling instruments, research technology and laboratory materials, National societies and their international contacts and ambitions, International conferences, Networks in Europe: Centre / periphery; interactions between different metropolises; relations between cities and countryside

2. Europe in Science

Considering Europe not as a mere natural fact, but rather as a historical construction, it may be asked how science has contributed to this process. How was Europe defined and referred to, in for instance eighteenth-century encyclopaedias or nineteenth century schoolbooks? How did the cultural space of Europe contribute to or conflict with the notion of internationalism in science? How did scientific explorers react to the otherness of overseas civilizations, and how would they juxtapose these experiences with their perception of Europe as the budding ground of science and civilization? European research networks and standardization of measures and weights confirmed the image of a growing European unity. Co-operation (and rivalry) in science may have been a venue towards political co-operation, a harmonisation of social and cultural values and a better mutual understanding. *Europe in Science* tackles the following issues: The scientific construction of Europe (geography, anthropology), The normalisation and standardisation of measures, European research-networks and research institutions, European scientific prizes, Internationalism as an historical construct

3. The History of Science and the self consciousness of Europe

As any historical narrative, the history of science builds a vision of common heritage and continuous development. The birth of modern science is often considered to be one of the most distinctive achievements of European culture. What is the relationship between the identity of Europe and science's historical development? What, if any, cultural impact does the history of science have on the self-consciousness of Europe? How does the history of science relate to other constituent historical narratives such as the history of Christianity and humanism or the history of various roads to democracy?

The history of science can be seen as a contributor to the homogenization of European culture. The proclaimed universalism of science transcends the national context and brings national cultures closer to each other. Still, national identity often reappears in so-called national styles, which provide an opportunity for historians to disentangle the closely knit picture of European culture. A (rhetorical) analysis of science and the accounts of its historical development could broaden our views on the role of science in the (dis)uniting of Europe. Topics may include: The comparative analysis of the meaning of 'Europe' for different European countries, Historical reflection on and contextual analysis of national and international oriented histories of science and their relationship to a broader European perspective, The problematic issue of national styles.

Call for papers

Scholars wanting to present a 20 minute paper at this conference are invited to submit a one-page proposal to the program committee before 1 May 2004. The final programme will be announced in July 2004. The language of the conference is English.

Practical information

The conference opens on Thursday evening November 4, at 7.00 pm with a public lecture, open to the general public, followed by a Get Together Party. The conference finishes on Saturday around 5.30 pm. On Saturday morning the General Assembly of the European Society for the History of Science will hold its bi-annual meeting. Updated information on the conference can be obtained on **www.gewina.nl**.

Conference fee and registration

The conference fee is € 120.00, and includes coffee/tea and catered lunches on Friday and Saturday. On Friday night a conference dinner will be organized. This dinner is not included in the conference fee and costs € 55.00.

Registration for the conference and the reservation of hotel accommodation for the participants is handled by the Maastricht University Conference and Events Office. Please refer to the Registration section on **www.gewina.nl** for details.

Program Committee

Prof. Dr. E. Houwaart, chair (Amsterdam), Prof. Dr. J. Browne (London), Prof. Dr. C. Debru (Paris), Prof. Dr. R. Fox (Oxford), Prof. Dr. K. Gavroglu (Athens), Prof. Dr. Phil. H. Kragh (Aarhus), Prof. Dr. A. Labisch (Düsseldorf), Dr. G. Somsen (Maastricht), Dr. I. Stamhuis (Amsterdam), Dr. B. van Tiggelen (Louvain-la-neuve), Prof. Dr. G. Vanpaemel (Leuven/Nijmegen), and dr. J. Wachelder (Maastricht).

All e-mail correspondence should be addressed to gewina@history.unimaas.nl

Further information can also be obtained from Dr. R. Knoeff, Faculty of Culture and Arts, P.O. box 616, 6200 MD Maastricht, The Netherlands. Fax +31 43 3884816.

Opportunities available

The Ministry of Education of Finland has decided to strengthen the institutional basis of science and technology studies in Finland by providing start-up funding to the University of Helsinki, Helsinki University of Technology (HUT) and Helsinki School of Economics for establishing a network-based national center for science and technology studies. As part of this effort, the HUT is looking for a Senior Researcher in Innovation Systems and Sustainability to conduct research and participate in the building up of the center. The researcher will operate as a key player in a team consisting of a professor of science and technology studies, a coordinator (both based at the University of Helsinki), another researcher (based at Helsinki School of Economics) and a development group with representatives from the member universities of the center. S/he is assumed to conduct research in one or more of the following fields of inquiry: (innovation systems, policy analysis, technology management, foresight methodologies, sustainability strategies); contribute to the organization and development of doctoral education within HUT and in the new center by teaching relevant courses; raise funding for research projects in innovation systems and sustainability; and act as an academic interface between HUT and the new center. The researcher will hold a PhD in a field relevant to the post, such as engineering, management, economics, or decision and policy analysis. S/he has a proven record of scientific publication in journals relating to science, technology and sustainability studies. A good command of English and project management skills are essential. Knowledge of Finnish is a plus but not a prerequisite. This is a fixed term position until 31 December 2006, with the possibility of a renewal. The salary range is 2700-3600 euros per month, depending on qualifications and experience. Details on the position can be obtained from Professor Janne Hukkinen (HUT Laboratory of Environmental Protection, janne.hukkinen@hut.fi, +358 9 451 3975) or Professor Ahti Salo (HUT Systems Analysis Laboratory, ahti.salo@hut.fi, +358 9 451 3055). Applications including a cv, publication list and names of three referees should be mailed to the registry of HUT by 30.06.2004 (HUT Registry, P.O. Box 1000, 02015 HUT, Finland).

As part of the IHS Department of Political Science's participation in a large pan-European research consortium, applications are invited for the position of Pre-doctoral Research Assistant, to be appointed for a period of approximately 2.5 years (starting October 2004; approx. EUR 1000 after deductions). There is also the possibility that this can be later transformed into a post-doctoral position, on a part-time basis. The IHS is a private postgraduate institution for teaching and research in the disciplines of Political Science, Sociology, Economics and Finance. The departments run postgraduate academic courses and conduct both their own research agendas and contracted research. The focus of the Department of Political Science is on the field of European Integration. Within this, many topics and issues related to European Integration are also covered including, for example, national adaptation to EU policies. The necessary requirements for this position are: a university degree in a relevant subject, preferably in political science, with a focus on European Integration; knowledge of the field of EU environmental and/or social policy, especially as related to the wider understanding of the concept of (different modes of) governance; excellent English (oral and written); very good methodological and theoretical skills in political science; enthusiasm for scientific work and an ability to cooperate and work well with others on both a national and international level. The deadline for receipt of applications is 1 July 2004. Applications and all relevant documentation should be sent to Prof. Gerda Falkner, Institute for Advanced Studies, Department of Political Science Stumpergasse 56, 1060 Vienna, Austria. For further information please first consult the Department's homepage (http://www.ihs.ac.at/index.php3?id=400). For any further more specific enquiries please contact Dr. Oliver Treib (Tel. 0043.1.59991.169)

The Faculty of Life Sciences and the Centre for the History of Science, Technology and Medicine at the University of Manchester seeks a Lecturer in Science Communication (REF 582/04). Applications are invited for this new post available in the academic year 2004-05. This is a re-advertisement. Anyone who applied previously need not reapply. The appointee will be based in the Centre of the History of Science, Technology and Medicine, but will work across the new Faculty of Life Sciences in the development of teaching, research and practical communication activities. You should have a completed PhD in science, science communication, history and sociology of science, or related discipline; professional science communication experience in journalism or public engagement activities; or an academic and professional record of achievement in science communication; the ability to develop an international profile in science communication through publication and performance; excellent communication, writing and interpersonal skills; and demonstrable ability to work independently and as part of a team. Salary will be on the Lecturer A/B scale £22,954 to £34,838 per annum (under review). Informal inquiries can be made to Professor Michael Worboys. Email: michael.worboys@man.ac.uk Completed applications should include a letter of application, an application form, a full curriculum vitae, and details of the applicant's experience in Science Communication. Examples of work may be submitted. Details at - http://www.man.ac.uk/news/vacancies/academic.html#582. Application forms and further particulars are also available from the Office of the Director of Personnel, The University of Manchester, Oxford Road, Manchester, M13 9PL. Tel: ++44 (0) 161 275 2028; fax: ++44 (0) 161 275 2471; minicom (for the hearing impaired): ++44 (0) 161 275 7889; email: personnel@man.ac.uk Quote ref 368/04. Closing date 25 June 2004.

The BSHS Singer Prize, of up to £300, is awarded by the BSHS every two years to the writer of an unpublished essay based in original research into any aspect of the history of science, technology or medicine. The Prize is intended for younger scholars or recent entrants into the profession. The Prize may be awarded to the writer of one outstanding essay, or may be divided between two or more entrants. The Prize will usually be presented at the BSHS annual conference and publication in the British Journal for the History of Science will be at the discretion of the Editor. Essays on offer or in press will not be eligible. General Rules Candidates must be registered for a postgraduate degree or have been awarded such in the two years prior to the closing date. Entry is in no way limited to British nationals Essays must not exceed 8,000 words (including footnotes following the style guidelines in the British Journal for the History of Science), must be fully documented, typewritten with double-line spacing, and submitted in English. Use of published and unpublished primary material is strongly encouraged, and full and correct use of scholarly apparatus (eg footnotes) is expected. Entries (3 copies, stating the number of words) should be sent to arrive not later than 15 December 2004. Essays must not bear any reference to the author, either by name or department; candidates should send a covering letter with documentation of their status and details of any publications. Entries should be sent to BSHS Secretary, Dr. Sally Horrocks, School of Historical Studies, Leicester University, Leicester, LE1 7RH Enquiries only by email to smh4@le.ac.uk. Do not send essays as email attachments.

The James Martin Institute for Science and Civilization at the Saïd Business School, University of Oxford, seeks applications for a University Lecturership in Science and Technology Studies (with special reference to science and technology governance), in association with Kellogg College. The post would start on 1 January, 2005, or as soon as possible thereafter. The James Martin Institute for Science and Civilization has been newly established under the Directorship of Professor Steve Rayner at the Saïd Business School (SBS). Its mission is to identify and conduct research on socially significant science and technology issues. The lectureship is one of three new positions being created to form, along with the Director, the core faculty of the James Martin Institute. Commensurate with rank, candidates should demonstrate excellence or potential excellence in research and teaching in the area of science and technology studies (with special reference to science and technology governance). The University Lecturership is associated with a Non-Tutorial Fellowship at Kellogg College. The salary would be according to age on the scale up to £44,376 per annum. This post is in an area currently designated by HEFCE as a shortage subject under its "Golden Hello" scheme. The appointee may therefore be eligible for a 3-year salary supplement if he or she fulfils certain conditions and if funds are available in the limited budget for the scheme. Candidates should have (or soon be expected to have) a Ph.D. in any social science relevant to the mission of the James Martin Institute. We seek candidates with a strong research orientation. The Saïd Business

School (SBS) is fully integrated into one of the world's greatest universities and is one of Europe's fastest-growing and most prestigious management schools. Our faculty and students come from all around the world, rendering our intellectual agenda and perspectives truly international. Candidates will be considered for the post on the basis of the selection criteria outlined in the further particulars. Further particulars, and method of application are available on http://www.sbs.ox.ac.uk/ or can be obtained from Jennifer Fielding, Saïd Business School, Park End Street, Oxford OX1 1 HP (tel: 01865 288813, fax: 01865 288810,e-mail: acvacs@sbs.ox.ac.uk). Completed applications and three references (to be forwarded directly by the applicant's referees) should be sent to Jennifer Fielding at the Saïd Business School by Wednesday 1 September. Informal enquiries may be made to Professor Steve Rayner telephone +44 (0) 1865 288938 or email steve.rayner@sbs.ox.ac.uk.

Lancaster University is pleased to invite applications for the post of Professor or Senior Lecturer/Reader in the field of Modern European History. We are looking for applicants of outstanding research potential; the level of the appointment made will be determined by career age and research and teaching experience. The appointment arises from the importance attached at Lancaster to the research and teaching of modern European history (including by colleagues in the Department of European Languages and Culture), and also in anticipation of the retirement in the next few years of Professor Martin Blinkhorn, a specialist in modern Spanish and Mediterranean History, and Dr Alan Wood, whose expertise lies in the history of Russia. The History Department is the base for Dr Thomas Rohkrämer and Professor Derek Sayer, and because of their specialisms and the desire to retain a wide range of interests it is not likely that an appointment will be made with a specific focus on modern German or Czech history. Specialists in modern French, Russian, Spanish or Italian history are particularly encouraged to apply. For further information, details to be posted next week at: http://www.personnel.lancs.ac.uk/CurrentVacancies.aspx. Otherwise, contact Dr. Stephen Constantine (S.Constantine@lancaster.ac.uk). Reference: A260.

News from the Profession

In September 2004 the Work Interaction and Technology Group at King's College London is launching a new MSc in Organizations and Technology. A distinctive feature of this MSc is that it promotes an understanding of technology that is firmly rooted in the social and organizational contexts for which it is designed, used and managed. Drawing on recent research in the social and computer sciences, particularly workplace studies and Computer Supported Cooperative Work, the programme will provide students with the ability to analyse work practice and organizational process through ethnographic and video-based research. The course address the organizational implications of recent developments in computing and communication systems including the Web, mobile technologies, expert systems, ubiquitous computing, augmented reality, media space, and the like. These initiatives are having a profound impact on work and organization and a corresponding influence on research in the social and computer sciences. In this way the course will provide students with the analytic, conceptual and practical resources to undertake research on technology at work and the skills with which to manage technology-based projects within public and private sector organizations. Course outline: a full-time, 1 year MSc consisting of a number of taught modules including courses on Workplace Studies; the Management of Information Systems; Technology and Organisations; Research Methods; and Studies of Knowledge and Practice. Every student undertakes an empirically based research project that forms the basis of the dissertation. Course requirements: A good first degree (normally a 2:1 or the equivalent). Applications are encouraged from students with a background in the social sciences, as well as those with relevant experience in the computer sciences, engineering and cognate disciplines. Further details: http://www.kcl.ac.uk/management/courses/msc_ot.htm. For e-mail enquiries please contact: ot-msc@kcl.ac.uk.

A large exhibition on ancient glass and science entitled Vitrum: Il vetro fra arte e scienza nel mondo romano (http://brunelleschi.imss.fi.it/vitrum/) has opened in Florence at Palazzo Pitti. Several scientific instruments, including Archimedes's model of the universe and some chemical glassware, have been reconstructed. While the catalogue of the exhibition is in Italian, a complementary publication entitled *When Glass Matters: Studies in the History of Science and Art from Graeco-Roman Atniquity to Early Modern Era* (edited by Marco Beretta), Florence, Leo S. Olschki (www.olschki.it), explores the same topic over a longer time span.