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Reality is...

by Noortje Marres
University of Amsterdam


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.
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 position, 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 Life in Laboratory that as soon as facts become consolidated, they become invisible, and no longer cause any noticeable “nuisance” to human intervention? It seems to me that Mol rather wants to open up different sites for the study of the manufacture of reality, thereby challenging the domination of big science. But this is as much, her critique of the concept of construction leads Mol to replace it with the more fluid notion of “ordering.” This concept, developed by Erving Goffman, this concept for her has the desired connotation of malleability and fragility, she says. She then argues that the concept of the staging of social identity, may be applied to the realm of objects, too. In socio-material practice, she concludes, the argument then not only 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 plural character of objects. Instead, the multiplicity of objects must be taken to mean that they “are more than one but less than many (p.45)” Multipe objects, Mol posits, hang together in many ways, informed by social theory. Accordingly, her work would be better labeled as “ethnographic philosophy,” or “ontological science.” In the term were not so ugly. Fortunately, that the perfect label for Mol’s particular research practice is still to be found does 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 Deleuze 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 “coining: grounding” (Secrivity). Bruno Latour, in his later work, concludes from the instability of objects in practice, that the question whether objects exist as real, as opposed to illusory, is no longer the foundational question, as it had been for modern philosophy. This work, within which Mol has points out, can only be answered when the process of the articulation of a given entity, in science and/or politics, has come to a conclusion. Indeed, Mol’s insistence 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 distinct 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. From Karl Popper, John Dewey and Merleau-Ponty the modern Churchillland, etc. Mol’s project rather stands out preoccupation with the mind, and have argued that subjects are embodied, and as such should be understood as being enfolded in the world. These thinkers rejected the understanding of the human subject as locked outside reality. However, Mol’s commitment to the embedding 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 refines 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’s project can be concise answer to the question what difference it makes to appreciate the multiplicity of objects. She argues that if we accept that knowledge is formed by different ways in different practices, we come to realize that each given enactment of an object, and configuration of the world, is different. That is, from the existence of many differing versions of a given object, Mol derives that alternative enforcements of the world emerge. The difference is that Mol’s concept of reality is that access to objective reality in her case becomes a distinct 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. From Karl Popper, John Dewey and Merleau-Ponty the modern
"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, sincerely 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 out that the goals of medicine are “essentially contested.” (p.175). However, in the preceding chapters Mol had precisely argued that controversy is extremely rare in the hospital. Because differing versions of a given object are distributed over different practices, they rarely come into contact with one another. Accordingly, Mol then pointed out, there is little occasion for disagreement among those diverse objects of the object to come into contact with the fire. But this raises the question, why would the same not apply to “the goals of medical intervention”? Why do we 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 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 many doctors 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 attherosclerosis, and to the threat it poses to current treatments, such as surgery and walking therapy, Mol does not register a political potential problem. Instead, she observes that one set of enactments of the disease will be replaced by “a quite different configuration” (p.114). 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 animate 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 the Body Multiple, she derives a simple but solid normative claim; social-material practices of the enactment of objects are legitimate. 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 overturn this base-line multiplicity: practices of unification, and practices of an 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
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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 science web approach and the science-can-be-distinguished-from-society approach occurred 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.’ 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 framework where our usual, taken-for-granted trust in science has become problematic. He suggested that we have to look closely at the connections 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-OM 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 express valid concerns. Above all, even if the public (it remained one single public throughout the problem) did not 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.wageningenur.nl/uk/organisation/
often made; they routinely take uncertainty for granted and experience unpredicted consequences of every action. 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 are real. In short, there is a problem with the institutional culture of science. Scientists try 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 reproaches. It is a constructive dialogue between scientists and the public in which science leaves room for self-understanding and active participation. This does not mean, however, that the public will get sovereignty in the laboratories, only that scientists listen to them, respond and negotiate with them. The questions, 'does the scientist trust the public?' and 'does the politician trust the public?'. are just as problematic as the question whether the public trusts the scientists and the politicians.

In fact the opening speech by the Vice Chancellor emphasized 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 knowledge are produced and used in different areas. The knowledge 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 Grim (University of Amsterdam), Bram Peer (Erasmus University Rotterdam and former mayor of Rotterdam), Carlo van Prag (Social and Cultural Planning Office), Mathijs Wagemans (Innovation Network Green Space and Agroclaster), and Louis Meuleman (Advisory Council for Research on Spatial Planning). The session was chaired by Nicole Aarts and Cees Leeuwen. 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 Prag, 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. Paper gave an example of a time when someone presented scientific information to a bunch of policy-makers. They were interested and informed, but they returned to their day-to-day work afterwards (in which the scientific information played no role). This illustrated that the relation between the activities 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 society in which the expert-citizen and the citizen-expert emerge. For this to happen, people need to know how to act as citizens. In short, people need to gain technological competence if they want to participate and be able to influence them. People need to link different expertise; they need to link ethical and technological discussions. The sentence ‘if you want to 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 knowledge 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 discussions may be conducted and citizens may need to be made aware of their own position in an ideal speech situation. What is the value of the non-experts if they have to become experts? Is it a distinction or fragmentation of what experts do? 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 discarding (and thus a 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 him responsible and liable for his own health. In that
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 Massen. 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, anthroplogy, 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 Omnouose of Donna Haraway. I could not help but wonder how the organiser 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 I had voted for another drawing, just to see what would have happened.

Every day 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 Henrik Kaaklik (University of Pennsylvania, USA) spoke about The Body in Place: explaining Fieldwork in the Late Nineteenth Century. This was followed by Lena 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 Gugler’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 do our academic research from an island in the ocean as long as we have a computer and internet connection? Personally, I don’t think it is something called tacit knowledge that seems to be 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 Messersi (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 geographic technique. He addressed the following question: How are texts mobilised in different locations and cultures and by different audiences? (University of Westminster, London, England) spoke about The UK GM Nation. In the afternoon amongst others sessions on Knowledge 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 given 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 and the weather in his talk Knowledge and Space: Movements, Multiplicity and Measurability 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 institutes 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 knowledge at various sites and
Recent Dissertations

Elena Janez Gamsno, 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 an established 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 them 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, Gamsno 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 homogeneous group completely different from a similarly homogeneous 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, Gamsno shows how the different actors tell very different and heterogeneous stories about girls’ relationship to ICTs. The political problematisation is not spread undifferentiated to the other actors engaged in or interested by the focus on girls and computing. Gamsno 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 Gamsno 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 conceptions 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 comprehension 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.

The research was financed through the Norwegian research council’s SKIDT-programme and the EU-IST project Strategies of Inclusion: Gender and the Information Society (SIGIS, http://www.rssn.ed.ac.uk/sigis/index.php).
PUBLIC PROOFS – SCIENCE, TECHNOLOGY AND DEMOCRACY

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

S1 Property and Ownership in the Life Sciences I AND II
TUPASLAA, Anu; WERLE, Raymond
S2 Powers of code: software cultures
MACKENZIE, Adrian; HUNINGER, Jeremy
S3 The Interface: Questions of agency in computing and new media art
SUCHMAN, Larry; MACKENZIE, Adrian
FUINURA, Joan
S4 Pranks of Presentation in Art, Science and Architecture
S5 Politics and Technologies of Participation
NELIS, Anamika; HAGENODK, Rob; DE VREES, Gert
S6 Informed Consent and Trust
BRUMMEN, Michael; ASVELD, Lotte; MAZUR, Dennis
S7 The Complex Politicisation of Governance and Technical Government
MARZOUKI, Mustapha; MEADE, Cécile
S8 The Theory, Practice and Normativity in STS
BRUIN JENSEN, Casper; BOWKER, Geoffrey C.
S9 Gender in the Information Society: Inclusion Strategies Co-constructing Gender and ICT
FAULKNER, Wendy; SIRENSEN, Knut H
S10 On social and economic sciences shaping market(s)/praxis governmentality
GRANDCLAM-CHAFFY, Catherine
HELOSSON, Claes-Fredrik; KIELBERG, Hans
S11 Managing Healthy Bodies
STENGEL, Katrin; HODGSON, Paul; ROBERTS, Colin
S12 Feminist Technoscience Research in the Engaged Rooms of Technological Production?
WORMAN, Christina; MORTENSEN, Christine; ELOVAARA, Pirjo
S13 Technologies, Identity, and Hierarchies
HOPF, Karen
S14 Body/Technique–Presence
IDHE, Donna; SELINGER, Eva
S15 New Directions past the Science Wars
IBR, Donald; SELINGER, Eva
S16 Economic experiments
MUNIESA, Fabian; MILIO, Yorv; LEZAN, Javier
S17 Vulnerability of Technological Cultures
WACKERS, Ger; HOMMES, Antje
S18 Assessment of interdisciplinary research
LAUDEL, Grit; ORIGO, Gloria
S19 Emerging Stem Cell Strategies: Practices, Rhetorics, Policies

GOTTWEIS, Herbert; HOGUE, Linda
S20 Trusting Online Health Information: the Internet Between the Public and the Experts
KIVITS, Joëlle; ADAMS, Samantha; JOESEPPSEN, Ulrik
S21 Plenty of Benefits from a Scarcie World: Spatial Limitation in the Sustainability Discourse
HABER, Sabine
S22 Experiences with Interactive Technology Assessment: critical reflections and lessons for the future
RIJ, Ari; GRIN, John
S23 Onto optics & 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, Kristine; MIROWSKI, Philip
S25 Subjectivity and citizenship
TAUSIG, Karen-Sue; SREENANDAN, Kamath
S26 Varieties of Ethnographies
GLASER, Jochen; LAUDEL, Grit; GRIN, John
S27 Agricultural Biotechnology: Uncertainty, Development and Governance
PAPAGIORGIOU, Kyriakos; SMITH, Elke;
HUNINGER, Jeremy
S28 Innovations and catching-up process
LOUIN, Jean
S29 Performativities of Economies
MACKENZIE, Donald; SIU, 1 socia
S30 Critical theory and STS: great expectations or dangerous liaisons?
NUNES, João; SCHWARZ, Christine
S31 ICTs and the markets: on following new technological mediations in economic activities
MALLARD, Alexandre; PROUDQUOUILLY, Sophie; LICOPPE, Christian
S32 Ant and Psychology
ARENDT, Ronald; MORAES, Marcia; FERREREIRA, Arthur
S33 Discourse and Practice: Research of Interdisciplinary Cooperation in Science
LENWICK, Martin; GUDDENHEIM, Michael; MAASEN, Sabine
S34 Nanotechnology - risk, rhetoric and imagination
KEARNS, Matthew; MACNAUGHTEN, Phil
S35 Reflecting on Dorothy Nelkin: Science in public culture
LINDÉ, Nora
S36 Evidence in Action: proofs and practices
MÖRT, Maggie; MOREIRA, Tiago; GREGORY, Judith
S37 Intimate technologies: Modulating


Chemical Selves
SCHULL, Natasha; FRISHMAN, Jennifer
S39 Patient Organisations, Science and the co-production of knowledge
GIBBON, Sahra; NOVA, Cato
S40 Heterogeneous Objects, Diverse Publics
ADIRNS, Lisa; ROISGARTEN, Markus; VITTELLONI, Nicole
S41 Mobile Technologies as Hybrid Collectives
UENO, Naoi
S42 Latin America: what kind of knowledge? why? for whom?
KREMBER, Pablo; VEISSURI, Hebe; D’AGNINO, Renato
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
NAURABAD, Sharif
S45 Contexted 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
SCHRANKSTORF, Andre; VAN DEN BESSELAAAR, Piet;
BOMMEL, Paul
S49 "Author meets Critics" session for
Annamaria M's "The Body Multiple: Ontology in Medical Practice"
EPESTEIN, Steven
S50 Information Visualization
SACK, Werner; JEREMJENKO, Natalie; EGLASH, Ron
S51 Public expertise across nations.
HALFPENN, Willem
S52 "Global Context of Public Participation: Challenge from Japanese STS Handbook"
FUJIOKA, Yoko
S53 Free/Libre Open Source Software: Community, Democracy, Expertise and Freedom
LIN, Yu-Yi; VAN WENDEL DE JOODE, Roben; SHAY, David
S54 Producing fail-safe technologies: in question the proven in the debates and controversies
CHATEAUFRANCOIS, Francis
S55 Political Ecology of Bio-Commerce
BELLER, Chaim; DOERGER, Michael
S56 Incompleteness of Standards


Implementations - Exploring the Problem
EOYEDI, Tinuke; JAKOBS, Kai
S59 The interface between standardisation and research
JAKOBS, Kai
S60 ICT Standards Setting and the Social Sciences
GERST, Martin; JAKOBS, Kai
S61 Civic Epistemology: Testing and Making Knowledge for Collective Choices
MILLER, Clint; HIJAS, Alan
S62 Experts and Anecdotes
STILOU, Jack; MOORE, Alfred
S63 Changing energy production and consumption: A heretical challenge?
BERKER, Thomas; ROHRACHER, Harold
S64 Pharmaceutical Marketing: Managing Conflicts and Creating Consumers
SSSMONDO, Sergio
S65 "Roundtable session: Twenty years after the "social construction of facts and artefacts"/The present, past, and future of SCOT
BOCKZOWSKI, Pablo I.; DUDSHOVEN, Nolty
S66 Hormonal Effects/Local Biologies: Marking Difference in the Science of Hormones
MORGAN, Lynn M.; ROBERTS, Elizabeth
S67 Testing Medical and Social Categories, Making Persons
WINANCE, Myriam
S68 Studying the science and culture of biobanks
RATTO, Mathew; TUTTON, Richard
S69 Innovation, sustainability: models and dynamics
BERKOVITZ, Frans
S70 Models and Simulations as Mediators
MATTILA, Edita; HASSE, Catherine; LENHARD and organiser M. TREU, Martina, Federal Institute of Technology, Lausanne, Switzerland
S71 Evaluating funded pending: Evil? Beneficial?: Necessary?
GLASER, Jochen; WEINGART, Peter
S72 Commodities
ARNOLD, Michael; SHEARMAN, Claire; STAPFEN, Sascha
S73 SCOT and ANT in 5 minutes: a new counter-networking techniques for STS
WAKEFORD, Nick; DUMIT, Joseph
S74 "Race" and "sex"/gender" in the German life sciences
BAUER, Susanne
S75 Reconfiguring intervention: IT in healthcare
LAURITSEN, Peter; WENTSCHER, Bell Ross
S76 Taiwanese Studies of STS and Comparative Studies in Asia
LEI, Sean-Hsing
S77 The Production, Consumption, and Use of Health Information: Case studies of Technology Use in the Health Care Sector
FENG, Patrick; BALKA, Ellen
S78 Criticisation of global business organizations
WILLIAMS, Robin; MONTEIRO, Eric; NAENS,
BASTOS, Cristina; S121 Human Subjects Research and the Boundaries between Science and Ethics NAKAE, Richard; S122 The Ontology of Scientific Objects WAHREN, Joanne; S123 The Technological Animal TIESCHER, John; S124 The politics of knowledge GRUNDMANN, Reinier; STEHR, Nino; S125 Economic issues of science and technology towards a knowledge-based society JANSKA, Andrea; H; S126 SNS and the War on Terrorism GUESTERSON, Hugh; CLOUD, John; S127 Roundtable: Technical Education Futures? JEREMIOUSI, Natalia; DONOG, Park; S128 Technologies as tools in medical and scientific practices THERLANDER, Sabrina; S129 When socio-technical controversies challenge the role of responsibility in democracy ASSOLUNE, Gerald; TRUSSART, Nathalie; S130 Cyberinfrastructure and E-Science BOWKER, Geoffrey C; RIDES, David PS132 Spacing, Timing and Organizing MCLAIN, Chris; QUATRONE, Pascale; S133 „Nano-technology could be huge“: public understandings of, and reactions to, nanosciences ERICKSON, Mark; TOUMY, Chris; S134 Formats of proof and formats of trust: when public proofs are put to test DOODY, Eric; ORANIOU, Celine; DUCOURNOU, Pascal; S135 Values pluralism and Participatory Technology Assessment. Scientific Challenge for Sociology and Philosophy BREDER, Bernard; S136 Attorney to the politicians of technology. How techno-scientific issues turn political in situated practices GOMART, Emilie; MARRIS, Noortje S137 The Ground for the Interdisciplinary Research: Technology, Ethics and Politics SON, Wha-Chul; HEIKERÖ, Topi; S138 Fikis Wars: Exploring the Soci-Ethics of Genetics Research TUTTON, Richard; HOYER, Einar; S139 Scientific Misconduct and Evaluation (Peer Review, Impact) FROGELE, Gudrun; S140 Claims of Truth – Forms of Evidence – Manufacturing the Scientific Subject in Visual, Material and Written Narratives of Facts GISLER, Priska; WIEDMER, Caroline; S141 RESEARCH AND INFORMATION TECHNOLOGIES, NETWORKS AND DEMOCRACY AGUTTON, 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 MOHR, Axllson; CARVALHO, Sandra; SCHIPPI, Jean S143 Regulating and standardizing the use of drugs: socio-historical trajectories GAUDIELLE, Joc-Pat; LOWNY, Inna S144 Social Robotics CAPRAEIS, Lamia R. S145 ICTs in local settings S146 Information infrastructures: libraries S147 ICTs and literacy S148 ICTs and social inclusion S149 Textual bodies - genetics and diagnostics S150 Pharmacogenomics: between drugs and genes S151 Organizing bioethicology: regionality and difference S152 Genetic governance-in-the-making S153 Anomalous bodies S154 Representing genetics S155 Sex, Intersex and Public Proofs MARSHALL, Barbara L S156 Regional innovation systems and policies S157 From National to International R&D S158 University spin-off firms. Between tension and motivation S159 Network, Work team and regimes of innovation S160 Ethics, conflict of interest and democratisation S161 Alternative / Green energy S162 Governance of environmental issues S163 Expanding knowledge S164 Building science. Established and Non-established science S165 STS tools for exploring the future S166 The transformations of judicial and penal systems through science and technology S167 Techniques of surveillance and public trust S168 Control and traceability: in and out of the laboratory S169 Exploring the varieties of discourses on public participation in scientific policy S170 Scientificities S180 Building science and technology communities S181 Technology politics S182 Science policies S184 Bodies, subjectivities, technologies S185 ICT designers 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 Jenn Langford: "Fluent Bodies: Ayurvedic Remedies for Postcolonial Identities" SUMMERFORD, June
Conferences and Calls for Papers

The Nature of Mathematical Proof is the title of the two symposiums organized by Alan Bundy, Donald MacKenzie, Sir Michael Atiyah OM FRS and Angus Macintyre, and held at The Royal Institution 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 rigour, 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 Susi White, Events Officer, tel +44 20 7541 2581, fax +44 20 7541 2692, http://www.royalasoc.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 white coat, hardly aware of the social questions their work arouses. No matter this persistent image, reality is different. Ever more scientists are taking into account how their research is part of a world that affects them too, and are increasingly sensitive to the social consequences of their work. Simultaneously, these is a growing need to rethink 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 aspects. 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 Science 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 discursive analysis or deconstruction of questionnaires, study historical development of narrative styles 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 underpinning of new statistical techniques. In particular we wish to encourage two types of papers: reflexive 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 (wolly.olsen@duke.ac.uk), The Cathie Marsh Centre for Census & Survey Research, University of Manchester, Manchester M13 9PL, tel + 44 (0)161-275-2683, fax +44 (0)161-275-2685, and Prof. Dave Byrne (dave.byrne@durham.ac.uk) Department of Sociology and Social Policy, University of Durham, 52 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 Collection: London University" (SEC) 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/~sicur.

Biblical Exegesis and the Emergence of Science in the Early Modern Era. We invite submissions for papers for a conference to be held at Birbeck College, University of London, on November 27th 2004. This 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, microscopes and data of corporeality from atomism to monism. Topics might include: Exegesis and the natural world * Scripture and the Scientific Image of Nature * The book of Nature * The Bible and Animals * Natural philosophy in biblical commentaries * Scripture and the nature of corporeal being * Interpretation as prediction about comets, astronomy, apocalyptic and biblical commentary. * Alchemy, cabala and excesses * 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, 1990). Deadline for proposals: 15th June 2004. Reply to k.sillett@english.bbk.ac.uk or PeterForsdick@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 in the case with Mark Granovetter'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 power of the social groups and classical sociologists on economic sociology, on the relationship of interest, trust, law and contract to economic life. The conference will also take up the question of globalization, is a topic and area in which contributions are also welcomed, while micro- as well as macro approaches are most welcome too. This is also true about the role of the economic sociology of European construction, the role of the analysis of the ex-state socialist countries and the ever-presaging 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 capitalism; 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 held at the University of Crete Rethymno Conference Contact Address: Economic.
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, 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. Those 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 Hellwell (sue@ca.york.ac.uk).

The E-conference entitled Technological Responsibility: Relevance of the Research, Social Dialogue, Competitiveness and Fairness, will start on July 10, 2004 and will go ahead until September 15, 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. It is also possible to send 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 loc.info@isceil.nl. 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 final technological products. Linked with this core issue are other questions that will be considered in the e-conference. These are that the quality of scientific and technological research and its relevance with respect to society's needs; that of social dialogue; and the role of tools for such dialogue involving 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.gruppeecz.org/ecsca绥/ect2. This project was financially supported by the Latium Regional Administration and the European Social Fund is carried out through a temporary association with ASSFORSEO (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 chosen on topics related to the annual conference of the Border/Crossings: Culture - Media - Economy, the 6th International, 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 'globalisation,' including such diverse phenomena as migration, inter-cultural communication, transformation or hybridisation. 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 on current theoretical and/or empirical perspectives, critically analysing the concept and/or the construction of the border. 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: Ethnicity; Postcolonialism; Production/Distribution/Consumption; Constructs of Knowledge; Biopolitics; Gender/Transgressivities; Discourse Analyses; Power Structures; Materialities & Criticisms of Ideology; Language/Rituals & Representations; Hybrid Cultures; Ethics after Postmodernism; Postcolonialisms, MediaFormation; MediaExperiences and MediaPerspectives; and Free and Open Source-Software Development. Please register your interest and send the online submission form at http://www.gradnet.de. The deadline for paper proposals (1-3 page abstracts) is August 31, 2004 (requests 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 (5 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 gradabsta@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.

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:SUSSEX: 2004: UBQIETY. 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 international 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 the intimate family or the nation? Does the Internet change the way we live? How do the families, governments, societies and nation-states? What are the implications of 'internet everywhere'? Submissions to the conference will address the above and other questions regarding the internet are welcome. Internet Research 5.0 will feature a variety of interdisciplinary and disciplinary perspectives on the Internet. Examining and challenging the viability and prevalence of the Internet and Internet discourses, the conferences 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.acir.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 agendas and 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 history 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, Print and print culture, Translation practices, Traveling instruments, research technology and laboratory materials, National societies and their international contacts and ambitions, International conferences, Networks in Europe:

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 encyclopedias or nineteenth century schoolbooks? How did the cultural space of Europe contribute 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 a 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 universality 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 (historical) 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 30 minute paper at this conference are invited to submit a one-page proposal to the program committee before 1 May 2004. The final programmes 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.eu.

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.eu for details.

Program Committee
Prof. Dr. E. Houwarta, chair (Amsterdam), Prof. Dr. J. Bowne (London), Prof. Dr. C. Deber (Paris), Prof. Dr. R. Fox (Oxford), Prof. Dr. K. Gavroglu (Athens), Prof. Dr. H. Krug (Aarhus), Prof. Dr. A. Labisch (Düsseldorf), Dr. G. Somsen (Maastricht), Dr. I. Stahnhus (Amsterdam), Dr. B. van Tiggelen (Louvain-la-Neuve), Prof. Dr. G. Vanpaemel (Leuven/Nijmegen), and Dr. J. Wacholder (Maastricht).

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Further information can also be obtained from Dr. R. Knooff, Faculty of Culture and Arts, P.O. box 616, 6200 MD Maastricht, The Netherlands.
Fax +31 43 3804816.
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. She 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. Zuckerberg will hold a position relevant to the post, such as engineering, management, economics, or decision and policy analysis. She has a proven record of co-authoring publications 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 3655). Applications including a cv, publication list and names of three referees should be mailed to the registry of HUT by 26.06.2004 (HUT Registry, P.O. Box 1000, 00251 HUT, Finland).

As part of the BBS 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 BBS 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 Fallesen, 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.ifo.ac.at/index.php?id=400). For any further information 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 58204). 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 appointment will be based in the Centre of the History of Science, Technology and Medicine, but will work across the newly established 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 £34,858 per annum (under review). Informal inquiries can be made to Professor Michael Worboys. Email: michael.worboys@man.ac.uk Completed applications should include a curriculum vitae, and details of the applicant's experience in Science Communication. Examples of work may be submitted. Details at - http://www.manchester.ac.uk/news/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 2814 (for the hearing impaired): ++44 (0) 161 275 7889; email: personnel@man.ac.uk Quote ref 3660/04. Closing date 25 June 2004.

The BHS Singer Prize, of up to £300, is awarded by the BHS every two years to the writer of a published 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 BHS 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 be 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 BHS Secretary, Dr. Sally Horrocks, School of Historical Studies, Leicester University, Leicester, LE1 7RH. Enquiries only by email to nb@bhs.ac.uk. Do not send essays as email attachments.

The James Martin Institute for Science and Civilization at the Said Business School, University of Oxford, seeks applications for a University Lectureship in Science and Technology Studies (with special reference to science and technology governance), in association with King's College Cambridge. The post would start on 1 January 2005, or as soon as possible thereafter. The James Martin Institute for Science and Civilization, established under the direction of Professor Sir Charlesome Sanders (SBS), its mission is to bring together research on socially significant science and technology issues. The lecturership is one of three new positions being created to form, along with the Director, the core faculty of the James Martin Institute. Candidates are encouraged to demonstrate enhanced or potential excellence or potential in research and teaching in the area of science and technology studies and governance (with special reference to science and technology governance). The University Lectureship is associated with a Non-Tutorial Fellowship at King's College College. The salary would be at a level to be negotiated. This includes a vacancy for a 3-year salary supplement if he/she fulfills certain conditions and if funds are available in the limited budget for the scheme. Candidates are encouraged to (and soon be expected to have) a Ph.D. in any area science and technology relevant to the mission of the James Martin Institute. We seek candidates with a strong research orientation. The Said 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 around the world, rendering our intellectual agenda and perspectives truly international. Candidates will be considered for the post based 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, Said Business School, Park End Street, Oxford OX1 1IP (tel: 01865 288813, fax: 01865 288810, e-mail: acvac2@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 Said 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 of 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 Rohkrinner 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 addresses 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 cognitive disciplines. Further details: http://www.kcl.ac.uk/management/courses/msc_ot.htm. For e-mail enquiries please contact: otmsc@kcl.ac.uk.

A large exhibition on ancient glass and science entitled Vitrum: Il vetro fra arte e scienza nel mondo romano (http://brunelleschi.imus.fi.it/vitrum) has opened in Florence at Palazzo Pitti. Several scientific instruments, including Archimedes’s model of the universe and some chemical glasware, 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 Antiquity to Early Modern Era (edited by Marco Berretta), Florence, Leo S. Olschki (www.oschki.it), explores the same topic over a longer time span.